### Day 1: Thursday, March 1, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00-8:15 AM</td>
<td>Introduction</td>
<td>Neil Powe MD</td>
</tr>
<tr>
<td>8:15-8:45 AM</td>
<td>Overview of Care of Vulnerable Patients</td>
<td>Dean Schillinger, MD</td>
</tr>
<tr>
<td>8:45-9:30 AM</td>
<td>Understanding homelessness and its effects on health</td>
<td>Margot Kushel, MD</td>
</tr>
<tr>
<td>9:30-10:15 AM</td>
<td>Care of Patient with Chronic Pain</td>
<td>Soraya Azari, MD</td>
</tr>
<tr>
<td>10:15-10:30 AM</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>10:30-11:15 AM</td>
<td>Updates in HIV Medicine</td>
<td>Monica Gandhi, MD</td>
</tr>
<tr>
<td>11:15-12:00 AM</td>
<td>Safety in the Safety Net</td>
<td>Urmimala Sarkar, MD</td>
</tr>
<tr>
<td>12:00-1:00 PM</td>
<td>LUNCH</td>
<td></td>
</tr>
<tr>
<td>1:00-1:15 PM</td>
<td>Notes from a Career in the Safety Net</td>
<td>Meg Newman, MD, FACP</td>
</tr>
<tr>
<td>1:15-2:00 PM</td>
<td>ACA, Single-Payer and other Health Policy Initiatives</td>
<td>James Kahn, MD</td>
</tr>
<tr>
<td>2:00-2:45 PM</td>
<td>Care of Underserved Patient with COPD</td>
<td>Neeta Thakur, MD</td>
</tr>
<tr>
<td>2:45-3:30 PM</td>
<td>Feeling Disconnected? How EHRs Affect Our Relationships and Satisfaction and What to Do About it</td>
<td>Neda Ratanawongsa, MD</td>
</tr>
<tr>
<td>3:30-3:45 PM</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>3:45-4:30 PM</td>
<td>Disability, Health, and How We Can Better Care for Patients with Functional Impairments</td>
<td>Nathaniel Gleason MD</td>
</tr>
<tr>
<td>4:30-5:00 PM</td>
<td>Audience Stories and Reflections or Cool Cases from the Safety Net</td>
<td></td>
</tr>
<tr>
<td>5:00-6:00 PM</td>
<td>Cases in Women’s Health Workshop</td>
<td>Pilar Bernal de Pheils NP, Andrea Kuster NP, Elizabeth Harleman MD</td>
</tr>
</tbody>
</table>

### Day 2: Friday, March 2, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00-8:15 AM</td>
<td>Notes from the Safety Net</td>
<td>Dayna Long MD</td>
</tr>
<tr>
<td>8:15-9:00 AM</td>
<td>Public health update and emerging threats</td>
<td>Tomas Aragon, MD</td>
</tr>
<tr>
<td>9:00-9:45 AM</td>
<td>Advance Care Planning in Vulnerable Populations</td>
<td>Rebecca Sudore, MD</td>
</tr>
<tr>
<td>9:45-10:30 AM</td>
<td>Caring for Patient with Food Insecurity</td>
<td>Hilary Seligman, MD</td>
</tr>
<tr>
<td>10:30 -10:45 AM</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>10:45-11:30 AM</td>
<td>Aging and dying in the criminal justice system</td>
<td>Brie Williams, MD</td>
</tr>
<tr>
<td>11:30-12:15 PM</td>
<td>Implicit Bias and Medical Care</td>
<td>Kate Lupton, MD, Sarah Schaeffer, MD</td>
</tr>
<tr>
<td>12:15-1:15 PM</td>
<td>LUNCH</td>
<td></td>
</tr>
<tr>
<td>1:15 -1:30 PM</td>
<td>Narratives from the Safety Net</td>
<td>Susan Shea RN</td>
</tr>
<tr>
<td>1:30-2:15 PM</td>
<td>Trauma Informed Care</td>
<td>Leigh Kimberg, MD</td>
</tr>
<tr>
<td>2:15-3:00 PM</td>
<td>Caring for the Racist Patient</td>
<td>Alicia Fernandez MD</td>
</tr>
<tr>
<td>Time</td>
<td>Topic</td>
<td>Presenter</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>3:00-3:45 PM</td>
<td>Caring for the Patient with Obesity</td>
<td>Michelle Guy MD</td>
</tr>
<tr>
<td>3:45-4:00 PM</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>4:00-4:45 PM</td>
<td>Dental Health the Forgotten Need</td>
<td>Susan Fisher-Owens MD</td>
</tr>
<tr>
<td>4:45-5:15 PM</td>
<td>Reflections from the Audience</td>
<td></td>
</tr>
<tr>
<td>5:15-6:00 PM</td>
<td>Workshop: Fluoride Varnish for the Non-Dentist</td>
<td>Susan Fisher-Owens MD</td>
</tr>
</tbody>
</table>

**Day 3: Saturday, March 3, 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00-8:15 AM</td>
<td>Notes from the Safety Net</td>
<td>Susan Erhlich MD</td>
</tr>
<tr>
<td>8:15-9:00 AM</td>
<td>Caring for the Patient With Depression</td>
<td>Lisa Ochoa-Frongia MD</td>
</tr>
<tr>
<td>9:00-9:45 AM</td>
<td>What’s the role of the health care system in identifying and</td>
<td>Laura Gottlieb MD</td>
</tr>
<tr>
<td></td>
<td>intervening on patients’ SDH?</td>
<td></td>
</tr>
<tr>
<td>9:45-10:30 AM</td>
<td>Preventing Burn-out When Working in the Safety Net</td>
<td>Diana Coffa, MD</td>
</tr>
<tr>
<td>10:30-10:45 AM</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>10:45-11:30 AM</td>
<td>Caring for the Socially Complicated Inpatient</td>
<td>Larry Haber MD</td>
</tr>
<tr>
<td>11:30-12:15 PM</td>
<td>Care of the Patient with Developmental Disabilities</td>
<td>Clarissa Kripke MD</td>
</tr>
<tr>
<td>12:15-1:15 PM</td>
<td>LUNCH</td>
<td></td>
</tr>
<tr>
<td>1:15-1:45 PM</td>
<td>Narratives from the Safety Net ( Patient Narrative)</td>
<td>Elizabeth Grisby</td>
</tr>
<tr>
<td>1:45-2:30 PM</td>
<td>Dementia in the Underserved</td>
<td>Anna Chodos, MD</td>
</tr>
<tr>
<td>2:30-3:15 PM</td>
<td>DM and CAD</td>
<td>Binh An Phan, MD</td>
</tr>
<tr>
<td>3:15-3:30 PM</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>3:30-4:15 PM</td>
<td>Workplace Safety and Health of Vulnerable Workers</td>
<td>Robert Harrison MD</td>
</tr>
<tr>
<td>4:15-4:45 PM</td>
<td>Reflections from the Audience</td>
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</tr>
<tr>
<td>4:45-5:45 PM</td>
<td>Working with Patients Resistant to Change</td>
<td>Scott Steiger MD; Paula Lum MD; Addiction medicine fellows</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Finding the Sweet Spot
When Caring for Vulnerable Patients

Dean Schillinger MD, UCSF Professor of Medicine in Residence
Chief, Division of General Internal Medicine
Director, Health Communications Research Program
UCSF Center for Vulnerable Populations @ SF General Hospital

Objectives

- Deconstruct the construct of vulnerable populations
- Present an integrated approach to vulnerable patients
- Demonstrate the importance of eliciting the patient’s narrative, assessing for vulnerabilities and identifying points of resilience
- Provide 3 examples of social vulnerabilities & impacts
  - Limited health literacy
  - Food insecurity
  - Intimate Partner Violence
- Find joy and a feeling of alignment in one’s work

Vulnerable Populations Defined

- Vulnerable Populations are subgroups of the larger population that, because of social, economic, political, structural and historical forces, are exposed to “greater risk of risks”, and are thereby at a disadvantage with respect to their health and health care.

Disclosures

- While I am a deeply conflicted person, I have no conflicts of interest to disclose
Exemplar Case

- Ms J is a 57 yo English-speaking Latina, mother of 5, with 3 grandchildren, with HTN, depression, DJD and IDDM with A1c of 8.6%. She presents for the first time after having been hospitalized for 3 days for hypoglycemia. The inpatient service was unable to identify a trigger for the hypoglycemia.

- Question for you is WHY?

Mnemonic Devices Can Make you a Better Clinician!

- My
- Neurons
- Erase
- Memory.
- Only
- Names
- Improve
- Cognition

Common Social Vulnerabilities

- Violence & Trauma
- Uninsured
- Literacy and Language
- Neglect
- Economic hardship/food insecurity
- Race/ethnic discordance, discrimination
- Addiction
- Mental disorders, e.g. depression, dementia
- Immigrant
- Legal status
- Social/Informal caregiving burden
- Transportation problems
- Illness Model
- Eyes and Ears
- Isolation
- Shelter

What are We Up Against? Reversing The Inverse Care Law

- “Access to and quality of healthcare is inversely proportional to the needs of the population”

- Tudor-Hart, 1971
“Somebody has to do something, and it’s just incredibly pathetic that it has to be us.”

Jerry Garcia

This approach uniformly allows a clinician to navigate the social distance and create the human connection that underlies therapeutic relationships.
**Finding Resilience**

- Religion
- Expertise/Employment
- Social support & Network
- Intimates
- Laughter
- Institutions
- Energy & Enthusiasm
- Navigate Life’s Difficulties
- Cultural Assets
- Entertainment/Enjoyment

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- Illness Model
- Eyes and Ears
- Shelter

**What is Health Literacy?**

- "The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make [informed] health decisions."

- 3 domains: oral (speaking, listening); written (reading, writing); numerical (quantitative)

- ?Web? Patient portals?

- Capacity/Preparedness ↔ Demand Mismatch

**Patients with Diabetes and Low Literacy Less Likely to Know Correct Management**

*Need to Know:* symptoms of low blood sugar (hypoglycemia)

*Need to Do:* correct action for hypoglycemic symptoms

Williams et al., Archive of Internal Medicine, 1998
Limited Health Literacy Patients Experience More Serious Hypoglycemia/year N>14,000

Problems learning  Help reading  Not confident with forms

- Adequate
- Limited

P for all < 0.001

Sarkar, Adler, Schillinger, JGIM 2010

Exemplar Case: Clearly this was Limited Health Literacy, right?

- Ms J is a 57 yo English-speaking Latina, mother of 5, with 3 grandchildren, with HTN, depression, DJD and IDDM with A1c of 8.6%. She presents to you for the first time after having been hospitalized for 3 days for hypoglycemia. The inpatient service was unable to identify a trigger for the hypoglycemia.

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- Yes and Ears
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Schillinger 2007

The Old Face of Hunger

- The uneasy or painful sensation caused by lack of food, or the recurrent and involuntary lack of access to food.
The New Face of Food Insecurity

- The limited or uncertain availability of nutritionally adequate and safe foods or
- Ability to acquire acceptable foods in socially acceptable ways

Cycles of Food Adequacy & Inadequacy Wreak Havoc

- Compensatory Strategies during Food Adequacy
  - Avoidance of food waste
  - Systematic overconsumption

- Compensatory Strategies during Food Shortage
  - Skipped meals
  - Reduced caloric intake

Hyperglycemia

Hypoglycemia

Cycles of Food Adequacy & Inadequacy Wreak Havoc

- Patients with diabetes in a safety net hospital
  - 1/3 of those who reported hypoglycemia attributed it to the inability to afford food

- Primary care patients with diabetes at community health centers (38% food insecure)
  - Blood sugar ever gotten too low because you couldn’t afford food? (33% FI vs. 5% FS)
  - Ever been to the ER because your blood sugar was too low? (28% FI vs. 5% FS)

Hypoglycemia & Food Insecurity

 pacientes with diabetes in a safety net hospital
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- Primary care patients with diabetes at community health centers (38% food insecure)
  - Blood sugar ever gotten too low because you couldn’t afford food? (33% FI vs. 5% FS)
  - Ever been to the ER because your blood sugar was too low? (28% FI vs. 5% FS)

**Risk Factors for Severe Hypoglycemia**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>AOR</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Insecurity</td>
<td>3.0</td>
<td>(1.5-5.9)</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>2.2</td>
<td>(1.1-4.5)</td>
</tr>
<tr>
<td>Comorbid illnesses</td>
<td>1.5</td>
<td>(1.1-2.0)</td>
</tr>
<tr>
<td>Obesity</td>
<td>0.3</td>
<td>(0.1-0.7)</td>
</tr>
</tbody>
</table>

Seligman, Arch Int Med, 2011

**Exemplar Case: Clearly this was Food Insecurity, right?**

- Ms J is a 57 yo English-speaking Latina, mother of 5, with 3 grandchildren, with HTN, depression, DJD and IDDM with A1c of 8.6%. She presents to you for the first time after having been hospitalized for 3 days for hypoglycemia. The inpatient service was unable to identify a trigger for the hypoglycemia.

**Common Social Vulnerabilities**

- Violence & Trauma
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- Illness Model
- Eyes and Ears
- Isolation

**What is intimate partner violence (IPV)?**

**PATTERN of abusive behaviors**
- including physical, sexual, verbal, emotional, economic, and/or psychological abuse
- Includes interfering with medical care
- Used by adults or adolescents
- Against current or former intimate partners, and sometimes against other family members
- In ANY intimate relationship: LGBTQ/straight/all gender identities

Schillinger 2007
Exemplar Case: Clearly this was Intimate Partner Violence, right?

- Ms J is a 57 yo English-speaking Latina, mother of 5, with 3 grandchildren, with HTN, depression, DID and IDDM with A1c of 8.6%. She presents to you for the first time after having been hospitalized for 3 days for hypoglycemia. The inpatient service was unable to identify a trigger for the hypoglycemia.

Where Have We Been?

- Deconstruct the construct of vulnerable populations
- Present an integrated approach to vulnerable patients
- Demonstrate the importance of eliciting the patient’s narrative, assessing for vulnerabilities and identifying points of resilience
- Provide 3 examples of social vulnerabilities & impacts
  - Limited health literacy
  - Food insecurity
  - Intimate Partner Violence
- Find joy and a feeling of alignment in one’s work

Care of Vulnerable Patients

- “There needs to be a little Don Quixote in all health practitioners... locked in on the mission, undaunted by the doubters and the half-hearted”

  - Fitzhugh Mullan, MD

TWO DEAD MEN
A POEM....

One: a refugee from Cuba.
Always in white,
Skin black and smooth,
Fitting the mold from bottom top:
White leather shoes,
White pants,
White linen shirt,
Crowned with a Havana,
Of course.

The other: tall, lanky,
Happy and old.
A former ball player
In the West Coast Negro League.
Pitched for the Sea Lions
Until he threw his shoulder
Out of its socket,
And could throw no more.
The First: always smiling,
Laughing even.
Gold sparkling from a tooth.
Bejeweled with bling
Like epaulettes
From his favorite pastime:
Reno with Maria

The Second: never sure of his age,
Either 93 or 88,
His Louisiana birth certificate,
Unable to read it,
But he knows it bears false witness.
Keeps his daughter’s number safe:
Pearline - on the inside brim
Of his omnipresent
Baseball cap.

The Former: still alive
’Cause he quit tobacco 25 years ago
After being filleted open
To plumb his heart.
Proud of his medical survival skills,
And grateful for his doctor.
While smacking his big round belly,
Pregnant with hope and worry.

The Latter: still alive
’Cause he quit smoking 25 years ago
After being told his lungs are vanishing.
Owe my life to my doctor,
So he says and so he believes.
Now chained to an oxygen tank,
Not sure if it’s worth it,
Anymore.

Two Brothers,
Resilient,
Living in parallel,
Struggling in parallel,
Full lives behind them.
Now both suddenly dead,
Within days of each other.
Leaving behind their doctor
How can it be
That these two men,
Bedeviled by society
Could become the favorites
Of their doctor?
What can fill the absences,
When one is robbed of one’s favorites
And their love is lost?

END
Homelessness in older adults: an emerging crisis

Margot Kushel, MD
Professor of Medicine, UCSF

@mkushel

No conflicts to disclose

“I’m old and I’m tired and I got my disability...I can’t, I can’t do it no more...”

—55 year old woman experiencing homelessness in HOPE HOME Study

Overview

- Why is the homeless population aging?
- Introduction to HOPE HOME Study
- Demographics of older homeless in Oakland
- Pathways into homelessness
- Health status
  - Chronic diseases
  - Geriatric conditions
  - Symptoms
  - Mental health and substance use problems
- Health care utilization
- Housing outcomes
- Interventions/Solutions
Overview

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The homeless population is aging

- Percentage of people in SF experiencing homelessness who were over age 50:
  - 1990 11%
  - 2003 37%

Generational effect

- Americans born in the second half of the baby boom (1954 - 1963) have had elevated risk of homelessness throughout their lifetime
  - 30-40% of homeless individuals* born 1954-1963
  - Estimated that about half are aged 50 and over

Housing assistance stagnant as compared to other federal outlays for low income individuals

*Doesn't include people living in homeless families or unaccompanied youth

Three out of four at-risk renters don’t get rental assistance

California has 21 units available for every 100 extremely low income households

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HOPE HOME Study

- Health Outcomes of People Experiencing Homelessness in Older Middle age
  - Longitudinal cohort study in Oakland, CA
  - 350 participants homeless and aged 50 and older enrolled July 2013 to June 2014, following participants every six months
  - Recruiting an additional 100 participants
Overview

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Two thirds are 60 and under, but 12% are older than 65 years at study entry: Median age 57

Study population

- 77% men
- 80% African American
- 13% currently work for pay
- 28% currently looking for work
- 90% income less than $1150/month

Almost a third of the sample lost stable housing* in the past year

<table>
<thead>
<tr>
<th>Years since last stable housing</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6 months</td>
<td>18</td>
</tr>
<tr>
<td>6 mo to &lt;1 yr</td>
<td>15</td>
</tr>
<tr>
<td>1 yr to &lt;5 yrs</td>
<td>39</td>
</tr>
<tr>
<td>5 yrs to &lt;10 yrs</td>
<td>14</td>
</tr>
<tr>
<td>10+ years</td>
<td>15</td>
</tr>
</tbody>
</table>

*Defined as non-institutional place that you lived for a year or more
Economic challenges and interpersonal conflict are most common reasons to have left last stable housing

<table>
<thead>
<tr>
<th>Reason</th>
<th>% of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couldn’t pay rent/mortgage</td>
<td>28</td>
</tr>
<tr>
<td>Rent increased</td>
<td>2</td>
</tr>
<tr>
<td>Lost job</td>
<td>7</td>
</tr>
<tr>
<td>Became sick/disabled</td>
<td>1</td>
</tr>
<tr>
<td>Other bills (not medical)</td>
<td>1</td>
</tr>
<tr>
<td>Someone else stopped paying rent/mort</td>
<td>15</td>
</tr>
<tr>
<td>Family abuse/violence</td>
<td>1</td>
</tr>
<tr>
<td>Kicked out (not related to money)</td>
<td>41</td>
</tr>
<tr>
<td>Didn’t get along/asked to leave</td>
<td>11</td>
</tr>
<tr>
<td>Drinking/drug abuse</td>
<td>4</td>
</tr>
<tr>
<td>Evicted</td>
<td>7</td>
</tr>
<tr>
<td>Housemates’ substance use/stealing</td>
<td>1</td>
</tr>
<tr>
<td>Building condemned/destroyed/foreclosed</td>
<td>6</td>
</tr>
<tr>
<td>Other reasons</td>
<td>21</td>
</tr>
<tr>
<td>Moved to new city/more desirable place</td>
<td>6</td>
</tr>
<tr>
<td>Hospital/treatment program</td>
<td>3</td>
</tr>
<tr>
<td>Incarcerated</td>
<td>4</td>
</tr>
<tr>
<td>Conditions were poor</td>
<td>4</td>
</tr>
</tbody>
</table>

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- Why is the homeless population aging?
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    - Health status
      - Chronic diseases
      - Geriatric conditions
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    - Health care utilization
    - Housing outcomes
    - Interventions/Solutions

44% with first episode of homelessness after age 50

Those with early homeless (<50)

- More adverse life experiences
- Low income attainment in early adulthood
- No spouse partner
- Mental health problems
- Traumatic brain injury
- Imprisonment
- Alcohol use problem

Brown RT, Goodman L, Guzman D, Tieu L, Ponath C, Kushel MB. Pathways to Homelessness among Older Homeless Adults: Results from the HOPE HOME Study. PLoS One. 2016 May 10;11(5)
I only did like 5-6 months in YA [juvenile justice] when I was 13, but then after that I started getting violations over the years, that’s where the four years [in juvenile justice system] came in at, going back and forth.... Yeah, when I got to be 17 then they took me off.... When I got 21, that’s when I started using drugs...At that time I was doing burglaries and all kind of petty thefts and …I don’t know, back then it was like every ninety days I end up back in San Quentin. It wasn’t like, “Oh, I can’t wait until I go get high,” or nothing like that, but eventually I got high. Then that one time led to one another and a thousand other too many. So I was in that mentality, trapped in that mentality for over forty years.

(My father said): “Next time you, if you runaway, I’ll beat you with a car chain or I’m going to throw you out the window.”

Okay, so I, I was, I wouldn’t use the word ‘reasonable’ but I put things in perspective real quick and I would say, “Could I survive a car chain? Probably not.”

Then I looked out the window and said, and we lived on the 13th floor, I said, “I ain’t playing with this man.” He went to work, I had whatever I had on me, I was out the door.

Late onset homelessness

- Low wage work throughout life
- Crisis
  - Job loss
  - Marital breakdown
  - Illness (participant, spouse)
  - Death (spouse, parent)

Late onset homelessness

- Lack of advocacy
- Evictions for reasons other than non-payment of rent
- Not getting benefits
- Multiple bureaucratic hurdles
- Low social support
- Shame prevented them from accessing social support
- Less likely to have imprisonment/long incarceration, but housing hampered by one-time charges (i.e. one drug charge) or unexplained arrest
“It was a lot of different things but basically the new owners took over, we were being evicted.

My wife, she had just got out of the hospital, had the stroke and was blind…so, the daughter came up and said, ‘Don’t fight it, y’all can come stay with me for a couple months and save your money.’ So we said, ‘Okay’ …[and didn’t fight the eviction].

After we moved out of the place, turned in the keys and everything we went over to her house and she said, ‘Y’all can’t stay here.’ And I said, ‘I got $9 in my pocket,’ I said, ‘At least let your mother spend the night because we don’t have enough money to get a motel room.’ She said, ‘No.’ So that was the beginning.”

“…When they bought the company out they cut our hours back and they would bring in temp workers and they would give them all the hours and they weren’t giving us our hours, which caused me to lose my place I was staying in because I couldn’t afford to pay the rent, because, you know, from, you’re going from almost 80-100 (hours) a week down to 20 hours a week, it’s kind of hard to pay bills.”

While late onset homeless individuals tend to have fewer vulnerabilities, many had significant health challenges related to their homelessness.
Poor health in every measure

56% report health as fair or poor

Self-reported chronic diseases are common but may be underreported

High proportion with functional impairments

2 or more impairments
1 impairment

Activities of Daily Living  Independent Activities of Daily Living

High prevalence of cognitive impairment

3MS (measures global impairments)

Trait B (measures executive function)
Overall poor functional status:

“50 is the new 75”

Median age of sample: 57
Prevalence of geriatric conditions worse than those in general population samples in their 70s and 80s

Alcohol and drug use problems common

- 65% with moderate or greater severity of drug use symptoms
  - Cocaine (43%), cannabis (39%), and opioids (13%) moderate or severe use symptoms
- 26% moderate or greater severity alcohol use symptoms
  - 15% severe symptoms


Prevalence of illicit drug and alcohol use problems lower than samples of younger homeless adults, but higher than age-matched (and dramatically higher than those of general population ages 70s and 80s).

Mental Health Problems are common
Overview

- Why is the homeless population aging?
- Introduction to HOPE HOME Study
- Demographics of older homeless in Oakland
- Pathways into homelessness
- Health status
  - Chronic diseases
  - Geriatric conditions
  - Symptoms
  - Mental health and substance use problems
- Health care utilization
- Housing outcomes
- Interventions/Solutions

High rates of acute healthcare utilization

- 72% had a non-ED source for care
- 53% reported a PCP
- Half of all participants had visited an ED (confirmed) in the prior six months
- <7% of participants accounted for half of all ED visits
- 24% of visits for worsening of chronic illness
- 10% were hospitalized for physical condition in prior six months

High mortality rate and institutional care

- 48-54 months after study entry, 31 confirmed deaths
- Multiple diagnoses of metastatic cancer, strokes, heart attacks, kidney failure, etc.
- Several living in nursing homes

Overview

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- Housing outcomes
- Interventions/Solutions
Housing Status

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Overview

- Why is the homeless population aging?
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  - Chronic diseases
  - Geriatric conditions
  - Symptoms
  - Mental health and substance use problems
- Health care utilization
- Housing outcomes

Interventions/Solutions

What are possible solutions?

- Preventing new homelessness
  - Affordable housing
    - Cutbacks in HUD threaten development
    - Action at local and state level
    - Health systems involved
  - Eviction prevention (legal, monetary assistance)
    - Medical legal clinics

What are possible solutions?

- For those with new onset homelessness, focus on rehousing quickly
  - Rental subsidies performed better than rapid rehousing in large RCT (Family Options Study)
  - Family assistance to increase likelihood of familial support
  - Benefit eligibility
Housing First

- For those with long-term homelessness and disabling conditions
  - Permanent supportive housing
    - Subsidized housing with on-site or closely linked supportive services
    - Housing First model — start with the housing
    - Shown to be effective at keeping people housed
    - Adapt for needs of older adults

What can health care providers do?

- Screen for and document homelessness and risk of homelessness

VA Screener:
1. In the past two months, have you been living in stable housing that you own, rent, or stay in as part of a household? (“No” indicates homelessness.)
2. Are you worried or concerned that in the next two months you may NOT have stable housing that you own, rent, or stay in as part of a household? (“Yes” indicates risk.)

Answer to either requires follow-up


National Association Community Health Centers Screening Tool: PRAPARE

What is your housing situation today?
- I have housing
- I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park)
- I choose not to answer this question

Are you worried about losing your housing? (Yes, No, Choose to not answer)

What address do you live at? (include street and zip code)

My questions

- Ask questions to assess both homelessness and risk of homelessness
- Do not ask “are you homeless?”
  - “Many of our patients are finding it difficult to have a regular place to stay.”
  - “Have you been without a regular place to stay in the past month? Have you stayed in a shelter/outdoors/car?”
  - If staying with friends/family ask: “Can you stay there as long as you would like? Do you stay the same place every day?”

Code it!

- Housing Circumstance Affecting Care Z59.9
- Homelessness Z59.0

What can health care providers do?

- Know your community resources
  - Refer to legal assistance, social work
- Advocate
  - Understand the underlying structural factors that create and sustain homelessness
  - Push back against individual narrative
    - We know how to treat SMI!
  - Use your voice to advocate for real solutions
    - Health effects of homelessness
    - "Housing is the best medicine"

Final thoughts

- Homelessness reaching crisis proportions
- Aging population increases urgency
- Suffering is immense
- Use of healthcare system can be chaotic
- While mental health and substance use disorders are common, underlying causes are structural
- Solutions will not be easy, but are doable
- Must match solution to the problem

Questions?

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@mkushel
HOPE HOME papers currently available or in press


HOPE HOME papers currently available or in press


Complex Chronic Pain: Cases from the Field
Soraya Azari, MD
Associate Professor of Medicine

Objectives
- To be able to explain the risks associated with long-term opioid therapy to patients
- To understand the current best approach to tapers for patients on opioids
- To improve recognition and diagnosis of an opioid use disorder in patients with chronic pain on opioids
- To review the “four quadrants” of chronic pain treatment
- To develop empathic and sensitive ways of communicating with patients suffering from chronic pain

Case 1
- SE is a 64yo F with a h of sciatica, depression, HTN, COPD, tobacco use disorder, and hx of trauma presenting for follow-up. 10 years ago she was started on hydrocodone-APAP for arthritis (low dose), and then 8 years ago (2010) she was admitted for spinal surgery. She had difficult to control pain and was discharged on:
  - Oxycodone CR 80mg 1 tab PO 4x/day
  - Oxycodone IR 30mg 1 tab PO 4x/day
  - Morphine equivalent dose: 660mg/day
- From 2010-2015 she is maintained on this dose.

Case Continued
- Her primary care provider is worried about the high dose of opioids that she is on.
- The patient is/has:
  - Not requesting early refills
  - No reported history of excess sedation or overdose
  - Urine drug screens that are intermittently positive for opioids (“from my husband’s hydrocodone when pain is bad”), but also she her prescribed meds
  - Attending most of her appointments, though misses somewhat frequently due to taking care of grandchildren & living far away
  - She is retired, cares for grandkids
Cases Continued

Which of the following represents the best course of action?
- A) Start tapering due to extremely high dose
- B) Discuss the risks and benefits of high dose opioids
- C) Transition to buprenorphine-naloxone given concerns for opioid use disorder

Risks of High Dose

- Excess mortality (LA opioids, 60% increased risk all-cause mort)
- Unintentional overdose (~0.7%/year 20-100MED) and re-exposure (91% w/rx at 10mos. post OD)
- Opioid use disorder (~20%)
- Secondary Hypogonadism (~50% of men)
- Dec bone mineral density & inc. fracture risk
- Sleep-disordered breathing (60-70% of patients)
- Pneumonia (case-control)
- Others
  - Opioid-induced hyperalgesia?
  - Cardiac toxicity with methadone

Medical Documentation Requirements
- Full assessment of pain complaint including underlying diagnosis, work-up, and multi-modal treatment approach
- Mental health and substance use screening
- Patient-Provider Agreement
- Urine drug screen monitoring
- CURES review before rx and q4 months (SB 482)
- Documentation of the risks/benefits of treatment

Recent Developments
- State of CA medical board is investigating all providers that wrote prescriptions for patients that have died of overdose
- Pharmacies are rejecting high-dose prescriptions without medical justification

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Does it Work?
- Nonrandomized intervention study of naloxone provided in safety-net primary care clinics in SF
  - Patients receiving naloxone had 63% fewer opioid-related ED events in yr after receipt
- Communication
  - “worst case scenario”

Case Continued
- The provider and the patient discussed the risks associated with high dose opioid therapy.
- The patient had never been told about the risks of the medications and she was concerned. With some reluctance, she agreed to try and taper her medications for her overall health.
The State of Tapering

- Evidence-base
  - Systematic review (Aug 2017)
    - 67 studies (3 good, 13 fair, 51 poor)
      - dose reduction is possible
      - Patient outcomes (low qual evidence): less pain, more function, better QOL
  - CAVEATS
    - These were VOLUNTARY tapers
    - These were SLOW tapers
    - Interventions were somewhat labor-intensive:
      - multi-disciplinary (integrative pain programs w/behavioral therapies like CBT & meditation)
      - frequent follow-up
- Do patients want this? Survey of patients on >50MME/day: 49% wanted to cut back or stop
- So what should I do?

Tapering Cont’d

- How to do it
  - Education & Support
    - Counsel the patient in advance about the possibility of an OUD and the need to transition to a different treatment
  - Team-based care: IPMP?, Behavioral health?, RNs?, PharmD?
  - Alternative agents for pain management
- Schedule
  - 10% per week cited by many guidelines (**no strong evidence base**)
  - CDC Taper Guide:
  - On-line schedule generator:

Example Tapers for Opioids

![Example Tapers for Opioids](image_url)

- Slowest Taper
  - Reduce by 2 to 10% every 4 to 8 weeks
  - Consider patients taking high doses of long-acting opioids for many years
  - Example: morphine 50 mg Q8h = 270 MEOED
- Slower Taper (over months or years)
  - Reduce by 5% to 20% every 4 weeks with pauses in taper as needed
  - MOST COMMON TAPER
    - Week 1:
      - Morphine 50 mg Q8h (16% reduction)
    - Week 2:
      - Morphine 25 mg Q8h
    - Week 3:
      - Morphine 12.5 mg Q8h
    - Week 4:
      - Morphine 6.25 mg Q8h
- Faster Taper (over weeks)
  - Reduce by 10% to 20% every week
  - Example: morphine 50 mg Q8h (16% reduction)
  - Week 1:
    - Morphine 25 mg Q8h
  - Week 2:
    - Morphine 12.5 mg Q8h
  - Week 3:
    - Morphine 6.25 mg Q8h
  - Week 4:
    - Morphine 3.125 mg Q8h
- Rapid Taper (over days)
  - Reduce by 20 to 50% of first dose if needed, then reduce by 10 to 20% every day
  - Example: morphine 50 mg Q8h
  - Day 1:
    - Morphine 40 mg Q8h (16% reduction)
  - Day 2:
    - Morphine 32 mg Q8h
  - Day 3:
    - Morphine 25 mg Q8h
  - Day 4:
    - Morphine 20 mg Q8h
  - Day 5:
    - Morphine 16 mg Q8h


VA Opioid Taper Decision Tool. See references for URL.
I will kill you if I continue these meds. I will die if I don’t have these meds.

The closest I’ve ever come to describing it to a friend is: You know when you’re underwater, and you need to come up for a breath? And it’s taking too long to get to the surface? That feeling, of having no oxygen left, your whole body feeling like fire, salty and aching with the desperate need to breathe? That’s it, only not exactly, because it’s worse. –Sarah Beach xoJane Oct 2013

Tapering

- So what should I do?
  - Be kind & empathetic (remember quote)
  - Use your motivational interviewing skills!
    - Ask permission
      - Would it be ok if we talked more about your opioid pain pills?
    - Open-ended questions
      - How are things going? What do you like about your pills? What do you not like?
    - Affirmation
      - You’re attending appointments and taking care of your grandchild despite your pain.
    - Reflections
      - You are scared to not have the pills, but you’re tired of running out each month
  - Summary
    - It sounds like you think the meds are necessary for your pain on the one hand, and then on the other hand you’re worried about the risks I’ve described. Can I tell you about how we could decrease the dose safely & maybe improve your pain?

Case Continued

- The patient started a slow opioid taper (~10% reduction/month). There was no integrative pain program to assist with her taper and she came q 4 weeks for refills.
- She complained of worsening pain and running out of her pills early each month. Her urine drug screens were positive for hydrocodone on a consistent basis.
- Alternative pain management interventions were attempted with aqua therapy, spine clinic referral, and behavioral health, but the patient did not attend any of the appointments. She perseverated on opioids being only acceptable treatment.
- She requests that her dose be escalated.
Which of the following represents the best course of action?
- A) Slow down the taper and refer to behavioral health
- B) Convert the patient to treatment for an opioid use disorder
- C) Increase the dose of her opioids

**Pain v. Addiction**

Distinguishing between pain and an opioid use disorder?

- Opioid use disorder
  - 4 Rs
    - Risk of bodily harm
    - Relationship trouble
    - Role failure
    - Repeated attempts to cut back
  - 4 Cs
    - Loss of Control
    - Continued use despite harm
    - Compulsion (time & activities)
    - Craving
    - I need more opioids (not other pain tx)

Withdrawal and tolerance

---

**OUD**

- 2015 estimates (NSDUH)
  - 91 million (37% adults) adults used rx opioids
  - 11 million (4.5%) misuse
  - 1.9 million (0.8% OUD)
  - ~400K heroin use

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[Image: goo.gl/NNpwgx]
Treatment of OUD & Chronic Pain

- Methadone
  - Higher level of care
  - Other SUD, especially etoh & BZDs
  - Active psychiatric illness
  - Need for monitoring
  - Daily, observed dosing liquid med (lifestyle)

- Buprenorphine-naloxone
  - Office-based treatment from primary care
  - Dissolvable tab or film used sublingually
  - Provider must have waiver to prescribe
  - Safe storage

Treatment Program Locator

- Buprenorphine-certified providers (SAMHSA):
  - To get trained: [www.buppractice.com](http://www.buppractice.com), SGIM this year, ASAM website, CSAM medication-assisted treatment webinars
  - To get a mentor: PCSS-B website
  - Opioid treatment program directory (SAMHSA):
    - [http://dpt2.samhsa.gov/treatment/directory.aspx](http://dpt2.samhsa.gov/treatment/directory.aspx)
  - Substance use treatment warm line: 1-855-300-3595, 10a-6pm EST

Tapering in Patients with OUD

- Standard of care for OUD: maintenance treatment

With support, the primary care provider converted the patient to buprenorphine-naloxone via a home induction.
- The patient went on bupe-nal and ended up taking 24mg/day.
- She then said she wanted to go back on her prior opioid prescription because she didn't think she had a problem.
- Provider gave her a trial on old regimen, and then requested switch back to bupe-nal.
- Patient continues maintenance bupe-nal and thinks “this medication is actually ok.”
**Take Home Points**

- Risks of long-term chronic opioid therapy include unintentional overdose, hypogonadism, and sleep disordered breathing, among others.
- Tapers of opioids work best when they are voluntary. Use your MI skills to elicit reasons & build motivation for change.
- Diagnosis of an opioid use disorder in a patient with chronic pain is an essential function of the primary care provider.
- There are highly effective treatments for OUD.

**Case 2**

- UJ is a 73yo F with a hx of incontinence, DM, HTN, Paget’s disease, obesity, L buttock and leg pain, and social isolation coming for primary care.
- Main complaint is overwhelming pain. It starts in the buttock and radiates down the R leg. It is sharp, “electric,” “sometimes numb”. She has to massage her thigh to make it feel better or lay down. It is preventing her from leaving the house to go on her daily errands. It also disrupts her sleep at night.

**Case Continued**

- Exam notable for: normal MSK exam, normal neuro exam, neg SLR bilaterally, no spinal TTP.
- MRI shows advanced DJD and moderate canal stenosis. SPECT scan shows no evidence of Paget’s Disease.

**Evaluation**

- Empower
  - What are you doing to control your pain?
  - Acknowledge suffering while focusing on strength and recovery
- Educate
  - Back pain is common (mean point prevalence 18%; lifetime prevalence 39%) 
  - At 1 mo. ~1/3 with mod. pain (20% activity); 1 year, ~1/3 with mod. pain
- Opioid efficacy
- Evaluate
  - Function (work, apt), substance use, and psychiatric
Treatment: The Broader Context of Pain

Relies on caretakers for social interaction. Fam in NY and Eng. Independent, “successful” one
Lonely, but reluctant to engage in social activities

Sensory radiculopathy v. Entrapment neuropathy

What Are My Alternatives?

Pharmacologic

- NSAIDs
- Neuroleptics
- Antidepressants
- Muscle relaxants
- Topicals
- Opioid medications/Tramadol
- Pumps (baclofen, lidocaine)
- Buprenorphine

Physical

- Physical Therapy
- Joint injections
- Directed Exercise Program
- Pacing daily activity
- Heat or ice
- Trigger point injections

Complementary and Alternative Medicine

- Acupuncture (community and schools)
- Mindfulness Based Stress Reduction and meditation
- Yoga
- Massage
- Supplements (glucosamine chondroitin, SAM-e)
- Guided imagery
- Breathing exercises

Cognitive and Behavioral

- Pain Groups
- Cognitive and behavioral therapy
- Visualization, deep breathing, meditation
- Sleep hygiene
- Gardening, being outdoors, going to church, spending time with friends and family, etc.
- Pain Toolkit

Check out: https://healthinsight.org/Internal/assets/SMART/Pain%20Guidelines%20to%20alternative%20to%20opioids-final.pdf
Can it work?

- Biopsychosocial Treatment
  - Patients with chronic neck or back pain >3mos (taken sick leave)(~50% depressed)
  - 3 week **inpatient** multidisciplinary treatment (5d/w; 8h/d)
    - Physical exercises
    - Ergonomic training
    - Psychotherapy
    - Patient education
    - Behavioral therapy
    - Workplace-based interventions
  - At 6 months: 67% returned to work; SF-36 score improved

Case continued

- Patient tried the following treatments over 6 months:
  - Cognitive and Behavioral: behavioral health visits
  - Physical Treatments: Aqua therapy, ESI, trochanteric bursa injection, fibular bursa injection
  - Topicals: muscle analgesic rub, lidocaine gel, lidocaine patches
  - Pharm: tylenol, NSAIDs, gabapentin, nortriptylline, pregabalin
  - For every monthly visit, the patient returned with the same complaints of horrible pain.

Question

- Which of the following is the best course of action?
  - A) Continue with plan explaining it takes time to see improvement
  - B) Add diazepam for muscle pain
  - C) Check a urine drug screen
  - D) Something else
Case continued

Given ongoing, functional impairment from her leg pain, she had the following done:
- Urine drug screen (neg)
- Substance use screen (neg), PHQ-9 (6)
- DIRE questionnaire (low risk)
- CURES report w/no prescriptions
- Patient was given a trial of acetaminophen-codeine after a conversation about the risks and benefits.

Remember the Guidelines

- CDC Opioid Guidelines*
  - Opioids not 1st line
  - Non-pharm. and non-opioid tx are preferred
  - Chronic opioids often start with acute rxs. Use lowest dose, <3d
  - Limit MME to <50mg daily
  - Monitor closely: urine drug screen, PDMP, risk/benefit

Take-Home Points

- Zero pain should not be the patient’s goal (OR YOUR GOAL)
- Multi-modal pain management is now the standard of care
- Opioids may still be indicated for patients that do not respond to multi-modal interventions

**Footnote:**
Case 3

- GC is a 58yo F with depression, HTN (poorly controlled), COPD and tobacco use disorder, HCV (cured), and low back pain presenting for f/u. She is on the following:
  - Hydrocodone-APAP 10-325 1 tab po q4hr PRN pain (#180/month)
- She attends most appointments – has gone to physical therapy once (but missed follow-up), and went for f/u on her HTN. She has intermittently engaged with behavioral health. She is on disability and lives with her daughter.
- A urine drug screen returns positive for hydrocodone and cocaine.

Question

- Which of the following represents the best course of action?
  - A) Stop medication immediately
  - B) Assess the patient, renew the contents of the agreement, and increase monitoring
  - C) Increase dose of opioids

Cocaine/Meth Positivity in LTOT

- Licit and illicit substance use is common in patients taking chronic opioid therapy
  - Cannabis 6-39%; urine ETG 12%
- Why do we care?
  - Overdose deaths: 74% have another substance involved → cocaine (35%), BZD (27%), etoh (19%)
  - Cocaine positivity is predictor of failure to resolve ADRB
- DO: Establish if patient has an active substance use disorder, typically through increased monitoring (dec refill interval, mandatory urine drug screen)
  - YES → taper/stop opioids
  - NO → continue close monitoring, risks/benefits

**Take-Home Points**

- Use of other substances is common with chronic opioid therapy. Weigh the risks and benefits of continuing opioids in light of substance use.
- Note that cases of opioid overdose commonly involve additional substances.

**Summary**

- Use of chronic opioid therapy – especially at high dose – is associated with several possible harms, including unintentional overdose, infection, addiction, and sleep-disordered breathing.
- There is no clear evidence base recommending the speed or design of opioid tapers.
- Low-quality evidence suggests that pain and function are improved in patients undergoing voluntary tapers.
- Use motivational interviewing to engage the patient in a possible taper.

**Summary cont’d**

- Apply the biopsychosocial model to chronic pain to inform management.
- Treatment for pain should be multi-modal and include pharmacologic, physical, complementary and alternative, and cognitive and behavioral techniques.
- In patients with an active substance use or mental health disorder, these should be treated/stabilized prior to prescribing chronic opioid therapy.
- Keep in mind your patients are suffering every day. Empower them to do the best they can via their own strengths and resources.

**Questions?**
Resources

Patients:
- Pain Toolkit:
- Chronic Pain Facebook Groups
- YouTube videos to educate patients about pain:
  - Chronic pain in 5 minutes: https://www.youtube.com/watch?v=C_3phB93rvI
  - Treatment options: https://vimeo.com/74825810

Providers:
- SFHP patient/provider resources: http://www.sfhp.org/providers/pain-management/resource-tools/

Resources Continued

- Tapers Info:
- Chronic pain group manuals

With permission from Peter Moore.
Update in HIV Medicine

3rd Annual Medical Care of Vulnerable and Underserved Populations
March 1, 2018

Monica Gandhi MD, MPH
Medical director, “Ward 86” HIV Clinic, ZSFG
Professor of Medicine, Division of HIV, Infectious Diseases, and Global Medicine,

Outline

- History of HIV
- Epidemiology:
  - Global
  - U.S.
  - San Francisco
- HIV testing:
  - When and how often?
- HIV Prevention:
  - Where are we in 2017?
- HIV Treatment and a glimpse of the Cure
  - Where are we in 2017?

History and Epidemiology

No financial disclosures
ARS: How many people are currently living with HIV worldwide?

1. 15 million
2. 20 million
3. 30 million
4. 37 million
5. 50 million

Where did HIV come from?

- HIV – “lentivirus”, subgroup of retroviruses
  - Lentivirus means SLOW virus (long interval between initial infection and onset of serious symptoms)

5 major lineages of primate lentiviruses

1) Chimpanzees; gorillas
2) Monkeys; Mandrills
3) African green monkeys; baboons
4) Sooty mangabeys
5) Sykes’ monkeys

So major types of HIV closest to various SIV strains

HIV-1
- Pandemic strain (90% of world infections)
  - Group M
  - Group N
  - Group O
  - Group P

HIV-2
- 7 subtypes (A-G)

SIV from chimpanzees
SIV from gorillas
SIV from sooty mangabeys

How did these viruses get from there to here?

First theory – “The River”
- The River: A Journey to the Source of HIV and AIDS (Edward Hooper, 1999)
- Polish scientist competing with Sabin for first oral polio vaccine (Sabin won)
- Scientist (Koprowski) administered his vaccine to 1 million people in Belgium-controlled Africa
- Likely not reason (wrong primate; wrong timing) but led to greater safety with primate cells

What was the cross over event?
- Likely “bushmeat” trade-hunting primates for food
- Hunters and other highly exposed populations: many SIV strains incorporated
- General human population – one cross over event and SPREAD due to social disruption, colonization, city growth

Plotkin SA. CHAT oral polio vaccine was not the source of human immunodeficiency virus type 1 group M for humans. Clin. Infect. Dis 2001

When did it get to us?

- Outbreak in region of origin difficult to distinguish from tropical diseases
- **Case report (Lancet, 1959)**
  - 25 year old man (naval seaman)
  - “Severely emaciated”, “Remorseless anal lesion”, pneumonia, ulcer eating into upper lip
  - Post-mortem revealed cytomegalovirus and pneumocystis in the lungs
  - Pathologists from Manchester Royal Infirmary (Lancet 1983) said specimens HIV+
  - Methods questioned, apologies to fiancee’ demanded, no more tissue available

To know when – we need to go back in time and get human specimens!

- 1213 plasma specimens from Kinshasa, DRC, UW, 1959
- HIV-1 found in 1 patient (“Bantu male”, ZR59)
- “Phylogenetic analysis”
  - ZR59 and SIV in chimpanzees
  - ZR59 and modern human strains
- Estimated HIV entered humans ~1930

Found another human specimen!

- Lymph node in paraffin found, adult female, Kinshasa, 1960 “DRC60”
- DRC60 very different than ZR59
- Family tree constructed, rate of mutation calculated
- Ancestor of HIV-1 M probably entered humans 1884-1924

The rest is West African history

- No city in region before 1910 had population > 10,000
- Kinshasa (and other) populations ↑ in 2nd half of 20th C. (trade, colonial)
- HIV-1 M from Cameroon brought by traveler down-river to Kinshasa – entered urban sexual network and spread
- By 1960’s, ~2000 people infected in Africa
- By 1970s, first probable outbreak in Kinshasa (OIs seen)
What happened from there?

- Carried from West to Eastern Africa in ‘70’s
- Spread fast in E. Africa, epidemic form in early ‘80’s
  - Labor migration (35% truck drivers positive Uganda ‘88)
  - High ratio of men urban centers, sex trade, STDs
  - Low status of women, low rates circumcision
  - 85% Nairobi sex workers infected by ‘86)
- By mid and late ’80’s, on to sub-Saharan Africa
  - Tanzam road between Tanzania and Zambia

Piot P. Retrospective seroepidemiology of AIDS virus infection in Nairobi populations. Journal of Infectious Diseases 1987

Global HIV prevalence in adults, 1985

Global HIV prevalence in adults, 1995

Global HIV prevalence in adults, 2005
WHY PEOPLE LIVING WITH HIV ARE BEING LEFT BEHIND

THE TOP 4 REASONS

01 Human rights violations, stigma and discrimination
02 Access to treatment and services
03 Gender-based inequalities
04 Criminalization and exclusion

WHEN TO BEGIN TREATMENT FOR ASYMPTOMATIC PATIENTS - U.S. GUIDELINES – 2012

HIV Infection

ART is recommended for all HIV-positive individuals

PRIORITY TO 3/12, START WHEN CD4 COUNT < 500

Universal ART policy adopted in San Francisco through HIV Division leadership (Havlir, Hare) and SFDPH January 2010

DHHS. Guidelines for the use of antiretroviral agents in HIV-1 infected adults and adolescents; Available at: https://aidsinfo.nih.gov; May 2015
When to Begin Treatment for **asymptomatic** patients – WHO guidelines—September 30, 2015

HIV Infection

Prior to 9/30/15, start when CD4 count <500

ART is recommended for all HIV-positive individuals

Prioritize CD4 <350 or stage 3, 4; pregnant and breastfeeding women; all children especially < 1 year

World Health Organization. Guidelines on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV. September 30, 2015

---

ARS: If goal of 90:90:90 is 73% virologic suppression, where are we in 2018?

1. 44%
2. 55%
3. 66%
4. 73%
5. 84%
6. 100% - the world is right and just

---

Fast-Track Targets

by 2020

90-90-90
HIV treatment

500 000
New HIV infections or fewer

ZERO
Discrimination

by 2030

95-95-95
HIV treatment

200 000
New HIV infections or fewer

ZERO
Discrimination

---

RIGHT TO HEALTH

CLAIMING THE RIGHT TO HIV TREATMENT

Number of people (all ages) accessing antiretroviral therapy globally, 1995 to 2017

20.9 MILLION PEOPLE ON TREATMENT

---
Current UNAIDS targets

- Knowledge of HIV status, treatment coverage and viral load suppression, global, 2016

Risks in U.S. cluster with poverty, disempowerment

- HIV, especially in women clusters with poverty\(^1\); interpersonal violence\(^2\); incarceration\(^4-7\); self-esteem, alcohol/drugs\(^8\)

In SF, better outcomes, but not in homeless

Table 3.7 Estimate of ART use among persons living with HIV as of December 2016 and diagnosed in 2015 by demographic and risk characteristics, San Francisco

<table>
<thead>
<tr>
<th>Housing Status</th>
<th>Lower level estimate (N=12,950)</th>
<th>Upper level estimate (N=13,010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housed</td>
<td>86%</td>
<td>87%</td>
</tr>
<tr>
<td>Homeless</td>
<td>84%</td>
<td>87%</td>
</tr>
</tbody>
</table>

Table 3.4 Care indicators among persons living with HIV in 2015 who were last known to reside in San Francisco, by demographic and risk characteristics

<table>
<thead>
<tr>
<th>Housing Status, Most Recent</th>
<th>% with ≥1 viral load test in 2015</th>
<th>% with ≤2 viral load tests in 2015</th>
<th>% Virally suppressed (most recent viral load test in 2015) ≤200 copies/mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housed</td>
<td>81%</td>
<td>52%</td>
<td>76%</td>
</tr>
<tr>
<td>Homeless</td>
<td>70%</td>
<td>41%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Case

- A 34 year old MSM in San Francisco recently exited 10 year monogamous relationship
- He was HIV-negative 2 years ago but hasn’t been tested since and has had new sexual partners (insertive, condomless) x 3 over past 2 months
- Needs HIV testing and has heard of the blue pill for protecting himself
ARS: What is the most common way that we test for new HIV infection in U.S.?

1. HIV EIA followed by confirmatory Western Blot
2. Rapid EIA followed by confirmatory Western Blot
3. HIV RNA level
4. 4th generation HIV Ab/Ag test followed by confirmatory/differentiation
5. p24 antigen

Lab-based 4th generation HIV Test
- Faster, cheaper than RNA
- Can run individual or batched samples
- 2H for negative test
- 4H if preliminary positive

Blood sample
- HIV 1 Antibodies
- HIV gp160 (gp120 + gp41)
- HIV 2 Antibodies
- P24 protein ("antigen")

If +, confirmed by differentiation immunoassay

At our center, Architect Ag/Ab followed by Geenius (signal/cut-off ratio elevated in Architect suggestive of true infection even when Ab negative)

Recommendations changed April 2013
- Routine testing once for everyone age 15-65 ("grade A" recommendation)
- Paved way for coverage under ACA
- Repeat testing based for
  - Those higher risk for HIV infection
  - Those actively engaged in risky behavior
  - Those living in high-prevalence setting – test and test often

What is the most effective modality of HIV prevention in RCTs?

1. Male and female condoms
2. Circumcision
3. HIV vaccine
4. Pre-exposure prophylaxis
5. Treating HIV-infected individuals

What is the most effective modality of HIV prevention in RCTs?

1. Male and female condoms
2. Circumcision
3. HIV vaccine
4. Pre-exposure prophylaxis
5. Treating HIV-infected individuals

- HPTN052 – 96% reduction with treatment
- Partner Study- no transmission if undetectable
- Opposites Attract- no transmission 16,889 condomless sex acts; 343 MSM

Focus on pre-exposure prophylaxis: PrEP

- Giving an HIV-negative individual a pill (daily, or coitally?) to prevent HIV infection
- Only agent approved: Tenofovir disoproxil fumarate (TDF)/ emtricitabine (FTC)
- Approved by FDA 2012, guidelines by CDC, recommended by WHO 2015

Slide courtesy of Catherine Koss MD

Only if PrEP is taken on by primary care providers can we expand this needed prevention tool adequately:
PrEP advice line at Ward 86: (415) 206-2453

Slide courtesy of Catherine Koss MD
Event-based or intermittent PrEP

**IPERGAY Extension Study**

*TDF/FTC* with dosing around the time of sex in MSM

361 MSM; 18 pills/month; 97% reduction in new HIV infections with intermittent PrEP (compared to control arm of IPERGAY RCT)

Condomless sex increased from 77% to 86% (STIs didn’t increase, but have in other studies with PrEP) – Community is doing this!!

- 2-24 hours before sex: 2 tabs
- 24 hours after 1st dose: 1 tab
- 48 hours after 1st dose: 1 tab

Ongoing risk: continue 1 tab daily until 48 hours after last exposure

**Being on the Correct Side of History**

Condomless sex increased from 77% to 86% (STIs didn’t increase, but have in other studies with PrEP) – Community is doing this!!

**Treatment and Cure**

Hardly EVER (TB meningitis, other space-occupying lesions with inflammation, cryptococcal meningitis)
The history of ARV approvals - the ascent of the integrase inhibitor and the descent of EFV/Atazanavir

Ascent of the integrase inhibitor

- Three and one imminent

DHHS Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV

October 17, 2017

Recommended Initial Regimens for Most People with HIV

Recommended regimens are those with demonstrated durable virologic efficacy, favorable tolerability and toxicity profiles, and ease of use.

INTEGRASE INHIBITORS:

- DTG/ABC/3TC (A) - if HLA-B*5701 negative
- DTG + tenofovir/FTC (All for both TAF/FTC and TDF/FTC)
- EVG + tenofovir/FTC (All for both TAF/FTC and TDF/FTC)
- RAL + tenofovir/FTC (All for TDF/FTC, AAll for TAF/FTC)

Recommended Initial Regimens in Certain Clinical Situations

These regimens are effective and tolerable, but have some disadvantages when compared with the regimens listed above, or have less supporting data from randomized clinical trials. However, in certain clinical situations, one of these regimens may be preferred (see Table 7 for examples):

Boosted PI + 2 NRTIs: Generally, boosted DRV is preferred over boosted ATV

- (DRV/c or DRV/r) + tenofovir/FTC (All for DRV/r and All for DRV/c)
- (ATV/c or ATV/r) + tenofovir/FTC (Only)
- (DRV/c or DRV/r) + ABC/3TC - if HLA-B*5701 - negative (Better)
- (ATV/c or ATV/r) + ABC/3TC - if HLA-B*5701 - negative and HIV RNA < 100,000 copies/mL (Only for ATV/c and Omitted for ATV/r)
Cure research initiative

- **Strategies being pursued**
  - Early ART may be curative
  - Stem cell transplants to reduce reservoir
  - Drugs to flush out HIV from latent reservoirs
  - Vaccines to enhance host clearance

- **Barriers anticipated**
  - Current ART not fully suppressive
  - No high through-put reliable assays to examine reservoir
  - Flush out drugs may not work as monotherapy

Thank you to Diane Havlir MD and Division of HIV, Infectious Disease, and Global Medicine, SFGH
Outpatient Safety and Care of the Underserved
Urmimala Sarkar, MD, MPH

Disclosures
- Spouse works at Genentech (Roche)
- I will NOT be discussing any products/interests related to this disclosure

Learning Objectives
- Define patient safety for outpatients
- Identify safety concerns specific to vulnerable populations
- Establish gaps in current safety practices in your setting
- Employ best practices in the specific areas of medication communication, results tracking, and error disclosure

Roadmap
- Rationale and definitions
- Case, current evidence, and best practices
  - Adverse drug events
  - Missed and delayed diagnoses
  - Event disclosure/second victim support
Outpatient care is the majority of medicine

- Patient/caregiver self-management
- Multiple players and settings
- Less emphasis on aviation/industrial models
- More emphasis on communication

Patient Safety Definitions

- IOM: “The prevention of harm to patients"
  - Errors of Commission
  - Errors of Omission

- IHI guiding question: “If I were the patient, would I be happy if this happened to me?”

Patient Safety Definitions

- Errors
- Harm
- Near Miss
- Adverse event
- Preventable

Case “I did not think to tell my doctor”

- Mr. M. has a syncopal episode on Muni
- Taken by EMS to ED
- Hypoglycemia
- Has run out of money for food
- Taking all diabetes medicines
- Did not discuss his eating patterns for the month with his primary care doctor

Gertler S and Sarkar et al. J Pat Safety 2014
Root cause analysis: Fishbone diagram with diabetes

Intersection of Poverty and Safety

- Hospital admissions for hypoglycemia more common at the end of the pay cycle
  - 15th of the month
  - End of the month
- Only among low-income populations

Medication use leading to ED visits

- 65 yrs or older
- 177,504 ED visits/yr for ADEs
- 33% of visits were from 3 meds
  - Warfarin 17.3%
  - Insulin 13%
  - Digoxin 3.2%

Medication Safety and Communication

- Limited literacy patients less likely to have concordance with clinicians about what medicines they are taking for chronic diseases
  - Benazepril 5 mg

References:
Gertler S and Sarkar et al. J Pat Safety 2014
Seligman et al. Health Affairs 2014
**Best Practice: Universal Medication Schedule**

<table>
<thead>
<tr>
<th>Standard</th>
<th>UMS</th>
<th>UMS + Graphic Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take one tablet by mouth daily.</td>
<td>Take 1 tablet at bedtime.</td>
<td></td>
</tr>
<tr>
<td>Take one tablet by mouth three times daily.</td>
<td>Take 1 tablet in the morning.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 tablet at noon.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 tablet in the evening.</td>
<td></td>
</tr>
<tr>
<td>Take two tablets by mouth twice daily.</td>
<td>Take 2 tablets in the morning.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>And 2 tablets at bedtime.</td>
<td></td>
</tr>
</tbody>
</table>

Wolf MS et al Arch Intern Med. 2010

**Best Practice: Warfarin Visual Medication Schedule**

- Can you tell me exactly how you take your warfarin/Coumadin® by pointing to the pill or pills your doctor told you to take?
  - On which days of the week did your doctor tell you to take it?
  - How many pills did your doctor tell you to take on those days?

Machtinger and Schillinger, Joint Commission J 2007

**In the visit: Medication Communication**

- 5 aspects of every new medication
  - Name
  - Purpose
  - Duration
  - Possible Adverse Effects
  - Dose (Frequency/number of tablets or sprays)
- 3.1 of these 5 elements usually described
- Lower in the safety net

Tam et al JAMA 2006, Sarkar et al PEC 2011

**Roadmap**

- Rationale and definitions
- Case, evidence, and best practices
  - Adverse drug events
  - Missed and delayed diagnoses
  - Event disclosure/ second victim support
Case: What you don’t know can hurt you

- Mrs. P severe knee OA
- Planned knee replacement
- Pre-op CXR→ mass
- Radiology dictation: “Dr. X informed”
- Surgery cancelled
- Radiology report not sent to PCP
- 3 months later, PCP visit
- Patient tells PCP about abnl CXR
- Primary lung cancer
- Resected successfully


Diagnostic delays and errors

- Most common cause of malpractice claims
- Most often missed or delayed cancer dx
- What if the patient doesn’t follow up?
- 46% patient-related factors (84/181)
  - 22% non-adherence
  - 15% atypical clinical presentation
  - 10% complicated medical history


Survey of MDs on a missed or delayed diagnosis

- 6-item written survey across U.S.
- Most Common:
  - pulmonary embolism
  - drug reactions or overdose
  - lung, breast & colorectal cancers
  - acute coronary syndrome
- Errors occurred most frequently in the testing phase (failure to order, report, and follow-up laboratory results)

Schiff G. et al. JAMA. 2009

Time is not money- time is diagnosis

- “Greater than half my time is spent on clerical matters or matters that a reliable intelligent teenager could perform.”
- “Patients must be seen within two weeks of any referral submitted, not longer.”
- “Allow primary care provider's paid time to review growing amounts of data pertaining to patient care, labs/x-ray/test outside records.”

Sarkar et al. BMJ Quality and Safety 2012
Test tracking

“--It took three months for the CAT scan results to come back. At which point of time, the CAT scan was suspicious for malignancy. And so it was a little embarrassing for me to call a patient and say “Hi, we found it and no one read it, someone read it and now they think you need to be seen right away.”


Unclear responsibility for work-up

“--I made an assumption, clearly erroneous, that the loop would be closed after the patient saw the consultant. And that would sort of be a trigger to go on to the next step--either, you know, following his recommendation or seeing that I need to sort of proceed onward on my own.”


Continuity

“--Having the same person see you all the time not only develops the trust but you do get to know them, and you don't do the unnecessary tests that may actually cause complications. And you do things like send them to the ER, because it ends up being the right call, because you know it's not their normal behavior, the normal way they've been presenting the symptoms”


Best Practices: Diagnostic Safety

- Leverage health IT to support diagnosis
  - Decision support
  - Test tracking
- Leverage team-based care to support diagnosis
  - Outreach for patient-related delays
  - Re-distribute non-physician work
What you can do to improve diagnosis

- Tell your patients about test results
- Document non-visit follow-up actions
- Be a better diagnostician!
  - Follow-up to see if your diagnoses are correct
  - Ask colleagues for feedback if you see their patients
  - Consider a case review or ambulatory M&M process

Roadmap

- Rationale and definitions
- Case, evidence, and best practices
  - Adverse drug events
  - Missed and delayed diagnoses
  - Event disclosure/second victim support

Case: A big miss

- Mr. F: substance use, marginally housed, poorly controlled hypertension, renal insufficiency, poor appointment adherence
- ED with shortness of breath
  - BP >200 systolic
  - PE ruled out
- Seen in clinic: ED follow-up, med rec, SW
- Misses 3 appts- MD calls multiple times
- Presents 10 months later w/ wt loss-> metastatic lung cancer
- Review of CTA from ED visit shows pulmonary nodule

Error disclosure

- What?
  - Tell the patient you made an error
  - Apologize
- Why?
  - Better patient outcomes
  - Better provider outcomes
  - Less likely to face litigation
- How?
  - Preparation
  - Support

Kachalia A et al, Annals IM 2010
Second Victim

- MDs suffer after patients experience preventable harm, **regardless of whether they committed an error**
- Anecdotally, safety-net providers worse
- Risk factor for leaving clinical practice
- Counseling - usually through risk management
- Peer support

Second Victim Experiences

- "Missed an abnormal eye finding that was later picked up by my peer while I was on maternity leave. No change in patient outcome but every time I see that patient, I feel disappointed and inadequate."

- "Was not called on a CT result for a week. I may not have been fully responsible but I felt sick when I found out."

- "Patient did not do full work up I recommended and I didn't push for frequent enough followup"

Gupta K et al, in preparation

Take Homes for your System

- Medication safety
  - Literacy-friendly instructions
  - Visual medication schedule
- Diagnosis
  - Use teams for follow-up
  - Try technology for results management
- Disclosure after events
  - Training
  - Support programs
Take homes for your daily work

- **Medication safety**
  - Name, purpose, dose, duration, side effects
  - Teach-back

- **Diagnosis**
  - Seek feedback
  - Document non-visit tracking/ follow-up

- **Disclosure after events**
  - Cognitive aid
  - Offer/ seek peer support

Thank you
What's Love and Justice Got to Do with It?

Meg D. Newman, M.D., FACP
UCSF- Zuckerberg
San Francisco General Hospital

Exercise # 1  4-7-8 Breathing

- Respiration: The gateway to the autonomic nervous system (ANS)
- 4-7-8 breathing will turn on the parasympathetic nervous system (PNS)
  - Feed, breed, rest and repose
  - diminish anxiety
  - decrease HR and increase heart rate variability
  - diminish B/P
  - increase peripheral blood dilation and flow

AHA Supports Meditation as CV Risk Reduction

- Meditation and Cardiovascular Risk Reduction - A Scientific Statement From the American Heart Association
- Glenn N. Levine, MD, FAHA,
- Abstract—( J Am Heart Assoc. 2017;6:e002218. DOI: 10.1161/JAHA.117.002218.)

Breath Work

- Dr. Weil has written & video instructions @ the FREE links below or just google 4-7-8 breathing.
- https://www.drweil.com/videos-features/videos/the-4-7-8-breath-health-benefits-demonstration/
**4-7-8 Breathing**

- Don’t do more than 4 breaths at a time for at least the first month.
- After a month, you can increase to 8 breaths. Never more than 8 breaths.
- If you have a tendency toward light headedness perform sitting or laying down.
- To reap the benefits, perform this at least twice per day. Takes 1-2 minutes.

**4-7-8 Breathing**

- Place tongue above the back of the front teeth.
- Exhale completely and then Inhale for 4 seconds.
- Hold for 7 seconds.
- Exhale for 8 seconds. The exhale rate should always be 2 X the length of the inhale. Repeat 3 more times- 4 total.
Rich Joseph, MD, 24-Feb-2018, NY Times, on the wisdom of Bernard Lown, MD, 96 years old, Nobel Laureate as a founder of Physicians for the Prevention of Nuclear War:

"To restore balance between the art and the science of medicine, we should [...] make room for training in communication, interpersonal dynamics and leadership.

Such skills would not only help doctors care for our fellow human beings but would also strengthen our ability to advocate for health care as a human right and begin to rectify the broken economics and perverse incentives of the system."

(my bolding)
Overview

1. Goals of a health care financing system
2. Current multi-payer health care financing
3. Reform options
4. Next Steps

By What Criteria Should We Judge Reform Proposals? The IOM Report: 2004:

- Health care coverage should be universal.
- Health care coverage should be continuous.
- Health care coverage should be affordable to individuals and families.
- The health insurance strategy should be affordable and sustainable for society.
- Health insurance should enhance health and well-being by promoting access to high-quality care that is effective, efficient, safe, timely, patient-centered, and equitable.

Practical Goals

- Easy access to care, chosen provider
- Efficiency (low cost)
- Fair financing (contribution ∝ capacity)
- Facilitate quality clinical care

Overview

1. Goals of a health care financing system
2. Current multi-payer health care financing
3. Reform options
4. Next Steps
U.S. Health Care Financing

Multi-payer health care financing

**Funds**
- Employer
- Premium contrib.
- Income taxes
- Out-of-pocket

**Payers**
- Multiple private payers
- Many benefit plans
- PPO vs capitated
- Many blends/variants

**Providers**
- Doctors
- Hospitals
- Pharmacies
- Device vendors
- Skilled Nursing Fac.
- Other

Many "pools"

Admin costs of insurance 15%

Admin costs overall 30%

Key features of US Health Care Financing

- ~17% of GDP and rising, 2017 ~$3.5 T, $10,100 per capita
- Public – 43% (27% federal, 16% state/local)
  - CMS (Center for Medicare and Medicaid Services)
    - Medicare – federal, aged & disabled ($502 B)
    - Medicaid – state/federal, poor & long term care ($374 B)
  - Veteran’s Admin, Military, Indian Health Svc, ...
  - State and local safety net
- Private – 34%
  - Employers – 21%
  - Families – premium contribution – 13%
  - Families – uninsured services & copays etc – 15%
  - Other private – 7%

Good News from (former) POTUS

Data from the Kaiser Family Foundation-AHCCS Research and Education Trust Employee Health Benefits Survey. 12

What’s wrong with health care financing programs for the poor?

E.g., Medicaid, ACA exchange with big subsidies, disease-specific

- Accomplish LOTS of good
  - Improved insurance coverage, access, and financial protection, vs. nothing or charity care.

- BUT ... not a shared experience – the wealthy have other ways to obtain health care. Thus:
  - Underfunded ⇒ narrow eligibility, low reimbursement, under-insurance and narrow networks ...
  - Restricted access and quality
  - Variation and uncertainty over time
  - Anxiety and coverage gaps

AND ... the overall multi-payer system is ineffective & expensive

$$$≠Quality

SOURCE: The Commonwealth Fund
US standing on health care outcomes

Rank of 13 industrialized nations

- Low birth weight %
- Infant mortality
- Years of potential life lost
- Age adjusted mortality
- Life expectancy @ 1 yr
- Life expectancy @ 40 yrs
- Life expectancy @ 65 yrs
- Life expectancy @ 80 yrs
- Average for all indicators

Poorest (U.S. in Red) => Best

U.S. vs Other OECD countries

- **Spending** per cap vs GDP/cap ~60% higher
- Generally **fewer** doctor visits and hospital days
- **Difference in spending due to:**
  - price (costs of doctor, procedure, drugs)
  - use of high technology
  - administrative costs (later)
- Health care outcomes **same or worse**

Drug prices: U.S. vs OECD

Table 1. Examples of Country-Specific Average Drug Prices for Top-Selling Drugs in 2015

<table>
<thead>
<tr>
<th>Drug</th>
<th>Monthly Price, US $</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>United States</td>
</tr>
<tr>
<td></td>
<td>Nondiscounted Price</td>
</tr>
<tr>
<td>Adalimumab (Humira), 40 mg biweekly</td>
<td>3430.82</td>
</tr>
<tr>
<td>Fibratecnic (Ponstel), 250 mg, 50 µg daily</td>
<td>309.80</td>
</tr>
<tr>
<td>Insulin-glargin (Lantus), 50 insulin units daily</td>
<td>372.75</td>
</tr>
<tr>
<td>Rosuvastatin (Crestor), 10 mg daily</td>
<td>216.00</td>
</tr>
<tr>
<td>Sitagliptin (Januvia), 100 mg daily</td>
<td>330.60</td>
</tr>
<tr>
<td>Sofosbuvir (Sovaldi), 400 mg daily</td>
<td>30000.00</td>
</tr>
<tr>
<td>Trastuzumab (Herceptin), 450 mg every 3 wks</td>
<td>5593.45</td>
</tr>
</tbody>
</table>

**Billing & Insurance-Related (BIR) inefficiency**

- **How big is $400 billion in annual billing-related waste?**
  - >$1 billion per day.
  - ~$1400 per individual per year.
  - All the health spending in California.

Source: BMCHSR 2014
Elements of Provider BIR - 1

- **Complexity of the insurance process:** multiple steps, often detailed & demanding:
  - Contracting, maintaining benefits database, patient insurance determination, collection of copayments, formulary and prior authorization procedures, procedure coding, submitting claims, receiving payments, paying subcontracted providers, appealing denials and underpayments, negotiating end-of-year resolution of unsettled claims, and collecting from patients, ...

<table>
<thead>
<tr>
<th>Physician offices</th>
<th>13.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed care admin</td>
<td>1.0%</td>
</tr>
<tr>
<td>Claims billing / payment</td>
<td>3.5%</td>
</tr>
<tr>
<td>Providers (claims, formulary, approvals)</td>
<td>3.7%</td>
</tr>
<tr>
<td>Information technology</td>
<td>1.7%</td>
</tr>
<tr>
<td>Receptionists</td>
<td>1.1%</td>
</tr>
<tr>
<td>Broad admin &amp; other</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hospitals</th>
<th>8.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient accounting</td>
<td>1.6%</td>
</tr>
<tr>
<td>Credit &amp; collections</td>
<td>1.0%</td>
</tr>
<tr>
<td>Admitting</td>
<td>0.5%</td>
</tr>
<tr>
<td>Utilization management</td>
<td>0.7%</td>
</tr>
<tr>
<td>Medical records</td>
<td>0.4%</td>
</tr>
<tr>
<td>Broad admin &amp; other</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Source: Kahn Health Affairs 2005.

**ACA check-in**

- Solved: no pre-existing illness exclusion / prohibit cost; no recission; no annual $ caps.
- Helped: coverage up (but partial & spare); Plans more standard. More subsidies.
- Persistent or worse: admin costs, profits, system costs rising.
- Surprise gain: support for govt insurance - Medicaid for near poor.
- Unraveling? loss of individual mandate, loss of minimum plan features

![Figure 4. Full-Year Coverage among Adults Ages 18 to 64, Quarter 3 2013 and Quarter 1 2016, by Income and State Medicaid Expansion Status](source)
How financing affects clinical care
One story

- Colchicine for gout
- 1500 BC: Described for treatment of rheumatism and swelling in Egyptian Ebers Papyrus
- 1820: chemically isolated.
- 2010: FDA orders generic off the market. URL Pharma raises price from $0.10 to $5 per pill. Legal battles continue.
- 2018: QD to BID: 20 minutes.

Source: Ali Rezapour MD, 2018

Household costs, current

<table>
<thead>
<tr>
<th>Current insurance</th>
<th>Premium (after assistance)</th>
<th>Out-of-pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family of five, healthy, median income, silver-level plan through job</td>
<td>$13,320</td>
<td>$326</td>
</tr>
<tr>
<td>Family of four, healthy, income 35th percentile, bronze plan in Exchange, full premium subsidy</td>
<td>$0</td>
<td>$372</td>
</tr>
<tr>
<td>Family of four, many medical problems, income 40th percentile, silver plan in Exchange, full premium subsidy</td>
<td>$0</td>
<td>$3,029</td>
</tr>
<tr>
<td>Family of four, healthy, income 95th percentile, gold plan through work</td>
<td>$14,124</td>
<td>$271</td>
</tr>
</tbody>
</table>

What is single payer?

- One government or quasi-government payer.
- “Improved Medicare for all” – everyone is covered, like Medicare for seniors with simplified and strengthened coverage.
- Funds from existing program + new taxes replacing private insurance premiums.
- Universal and lifelong eligibility.
- Doctors all in or all out.
- Single, comprehensive benefits package.
- Single, streamlined billing and payment process.
- Providers deal with only one payer.
The single payer transition: Taiwan

- Changed from multi- to single-payer in 1995
- Tracked satisfaction, costs, and health outcomes
- Satisfaction initially 70%, rising to 80%.

Taiwan - costs

- Billing-related administrative total 1-4%, vs. 18% in U.S.
- Bend the cost curve

Lu & Hsiao HA2003
Taiwan – Trends in mortality 1981-2005

- Amenable causes fell faster with NHI, 5.83% per year
- Fewer deaths from circulatory disorders & infections.
- Effect highest among young & old, lowest for working age – following coverage changes

Lee BMCHSR 2010

<table>
<thead>
<tr>
<th>Name of program</th>
<th>Type of Program</th>
<th>Change in # insured</th>
<th>Overall program cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PacAdvantage</td>
<td>Work premium subsidy</td>
<td>0.1 m</td>
<td>$0.2 B</td>
</tr>
<tr>
<td>Mgd Care Expansion Plan</td>
<td>Medi-Cal / HF expansion</td>
<td>1.9 m</td>
<td>$3.6 B</td>
</tr>
<tr>
<td>Cal-Health</td>
<td>Enroll eligibles</td>
<td>0.4 m</td>
<td>-$0.1 B</td>
</tr>
<tr>
<td>Insure the Uninsured Project</td>
<td>Work premium subsidies, individual tax credits</td>
<td>2.6 m</td>
<td>$3.2 B</td>
</tr>
<tr>
<td>Healthy California 1</td>
<td>expand Medi-Cal</td>
<td>1.2 m</td>
<td>$2.0 B</td>
</tr>
<tr>
<td>Choice</td>
<td>expand work insurance</td>
<td>4.6 m</td>
<td>$5.1 B</td>
</tr>
<tr>
<td>Healthy California 2</td>
<td>expand work insurance</td>
<td>5.7 m</td>
<td>$3.5 B</td>
</tr>
<tr>
<td>Cal-Care</td>
<td>Single Payer</td>
<td>6.6 m</td>
<td>-$3.7 B</td>
</tr>
<tr>
<td>Calif Single Payer Plan</td>
<td>Single Payer</td>
<td>6.6 m</td>
<td>-$7.6 B</td>
</tr>
<tr>
<td>Calif Health Service Plan</td>
<td>Single Payer</td>
<td>6.6 m</td>
<td>-$7.5 B</td>
</tr>
</tbody>
</table>

California SB 562 Economics

- Comprehensive benefits, initially no long-term care
- No cost-sharing (eg copays)
- Bill does not specify financing
- Financing is proposed in economic analysis
  - Sales tax, 2.3%, exempt basic goods & low income
  - Gross receipts tax, 2.3%, exempt small businesses
  - Moderately progressive (less so than past SP plans)
Household costs, current vs. single payer

<table>
<thead>
<tr>
<th>Current insurance</th>
<th>SB 562</th>
<th>Difference (SB 562 savings if y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium (after assistance)</td>
<td>$13,320</td>
<td>$326</td>
</tr>
<tr>
<td>Out-of-Pocket</td>
<td>$372</td>
<td>$2,615</td>
</tr>
<tr>
<td>Added Taxes</td>
<td>$14,124</td>
<td>$271</td>
</tr>
</tbody>
</table>

Calif Assembly 2018 Hearings

- Review of current coverage problems
- Review of challenges to single payer
  - No final financing plan
  - Requires federal cooperation (regulatory, perhaps statutory)
- Review of incremental solutions
  - Continued regulation eg premiums, quality in Medi-Cal
  - Medi-Cal public option
- Formal report pending

Political feasibility of single payer

- Current conventional wisdom: political non-starter
- Yet, polling support high ~50%
- SB 562 passed Senate, stalled in Assembly.
- Hold-up in Calif - hospitals / Kaiser careful, plus presumed influence of insurers
- As noted - requires federal cooperation to work optimally.
- If resistance immutable, then give up ... but we keep being profoundly surprised by the impossible happening - civil rights, marriage equality, Trump, #metoo, #neveragain

Challenges

- Reasonable balance of cost control, provider sustainability, and timely access
- Overcome the American tradition of distrusting government (while insisting on Medicare)
Will single payer solve all health problems of the vulnerable?

- No, because health care access doesn’t address economic inequality and other fundamental issues underlying vulnerability.
- But a very fine start.

Incremental reform could fail human subjects review

- no equipoise – unproven theories vs. large amounts of data from real practice in multiple countries.
- substantial risks to participants
- inadequate informed consent (incomprehensible explanations, intervention details & functioning poorly understood by investigators)

Overview

1. Goals of a health care financing system
2. Current multi-payer health care financing
3. Reform options
4. Next Steps

What to do

- Stay informed
- If your support single payer, join PNHP
- Talk to your patients, colleagues, professional association, elected & appointed representatives
Learning Objectives

• To review the burden of COPD

• To review the updates in COPD guidelines using a case-base approach
  - Screening
  - Categorizing
  - Treatment

• To learn the evidence for and options for implementing adjunct therapies for patients with COPD from vulnerable populations
  - Education
  - Exercise

• Emerging Threats COPD and Climate Change
  - Hot Days
  - Trigger exposure
  - Air Pollution

Disclosures

• Neeta Thakur, MD MPH
  - Spouse is employee at Roche/Genentech

In the U.S., people of low SES represent 20% of the population, but make up 2/3 of the population with COPD.
Exposures over the life course lead to COPD in adulthood and worsen disease.

Risk Factors for COPD

Environmental
- TOBACCO
  - Cigarette, pipe, cigar, secondhand tobacco exposure
  - Biomass fuel cooking
- SES
  - Occupational dusts and fumes
- Previous hx of TB

Host Factors
- Alpha-1 antitrypsin deficiency (young age, smoking hx not congruent with symptoms, degree of obstruction)
- HIV – accelerated decline
- Long-standing asthma

Methods for addressing Disparity
- **Improve** Case Detection
- **Improve** access to evidence-based care and management
- **Increase** smoking cessation efforts, **decrease** exposure to bio-mass fuel and occupational exposure

Case 1
- A 58 yo M presents with 9 months progressive SOB and fatigue
- Reports cough productive of thick white sputum every morning

Tobacco Hx
- 30 pack-yr,
- Current ¼ ppd smoker

ROS
- Denies chest pain, weight loss, F/C/NS
When to Consider COPD

Patients >40 years + 20 pack-year history of smoking, visiting a primary care physician for any reason (n=1003)

Screening for COPD

Previous diagnosis of COPD (n=67; 32.7%)

No previous diagnosis of COPD (n=141; 67.3%)

Overall Prevalence

Classification of severity of airflow limitation in COPD

Based on post-bronchodilator FEV1

GOLD 1: Mild FEV1 ≥ 80%
GOLD 2: Moderate 50% ≤ FEV1 < 80%
GOLD 3: Severe 30% ≤ FEV1 < 50%
GOLD 4: Very severe FEV1 < 30%

Next diagnostic steps could include

- CXR – for alternative diagnoses
- Chest CT – another method for alternative diagnoses
- Full PFTs – not essential for management but can further characterize severity
- Spirometry with bronchodilator reversibility testing – essential for management

Post-bronchodilator FEV1/FVC < 0.70 confirms presence of persistent airflow limitation

When to Consider COPD

Does everyone need to be screened? NO

When should we screen?

- Age > 40 yo
- SYMPTOMATIC: Dyspnea worse with exercise, chronic cough, chronic sputum production
- CASE FINDING: History of exposure to known risk factors

Does everyone need to be screened? NO

When should we screen?

- Age > 40 yo
- SYMPTOMATIC: Dyspnea worse with exercise, chronic cough, chronic sputum production
- CASE FINDING: History of exposure to known risk factors
Case 1, revisited

- A 55 yo M presents with 9 months progressive SOB
- Also c/o cough productive of thick white sputum QAM
- 30 pk yr smoking history, current ¼ ppd smoker
- Denies chest pain, weight loss, F/C/NS

But what if he does not meet spirometric criteria for COPD? What should we make of his symptoms?

COPD Assessment Test (CAT) 50 vs 65%

Clinical Significance of Symptoms in Smokers with Preserved Pulmonary Function

Symptomatic ever-smokers with preserved spirometry
- 42% used bronchodilators
- 23% used inhaled glucocorticoids

...They are currently using a range of respiratory medications without any evidence base.

Target Smoking Cessation
Case 2

- 64 yo W 40 pk-yr smoker with COPD, quit 2 yrs ago
- c/o cough, chest tightness, fatigue, and DOE
- Exercise tolerance of 2 blocks
- ED visits x 2 in the past 6 months for COPD flares
- HTN, hyperlipidemia, CAD
- CXR w/large lung volumes and flattened diaphragms
- Post-bronchodilator FEV1 0.81 (27%)
- ratio 0.29

Combined COPD assessment

- Spirometric Grade
  - Airflow limitation using GOLD classification (post-FEV1)
  - Population-level outcomes
  - Useful for prognosis

- Symptoms & Future risk
  - Modified British Medical Research Council (mMRC) Dyspnea Scale
  - COPD Assessment Test (CAT)
  - Exacerbations in the previous 12 months
  - Guide treatment

Classification of severity of airflow limitation in COPD

<table>
<thead>
<tr>
<th>Grade</th>
<th>Intensity or amount of activity that provokes SOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Strenuous physical activity</td>
</tr>
<tr>
<td>1</td>
<td>Hurrying on the level or walking up slight incline</td>
</tr>
<tr>
<td>2</td>
<td>Walking at own pace on the level</td>
</tr>
<tr>
<td>3</td>
<td>Walking a few minutes on the level</td>
</tr>
<tr>
<td>4</td>
<td>Unable to leave the house or getting dressed/undressed</td>
</tr>
</tbody>
</table>

mMRC Dyspnea Scale
### Symptoms: COPD Assessment Test

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Score</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never cough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No phlegm (mucus)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No chest tightness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No SOB up a hill or 1 flight of stairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not limited doing any activities at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confident leaving home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleep soundly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lots of energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Assess Risk for Exacerbations

- Past events treated with oral steroids predicts future risk
  - **HIGH** risk based on frequency and severity:
    - ≥ 2 per year
    - ≥ 1 hospitalization

### GOLD: “Combined assessment”

| Symptom | mMRC 0-1 | CAT ≤10 | Exac 
|---------|----------|---------|------
| No hosp | Hosp ≥ 1/yr | Exac ≥ 2/yr |   |
| mAsthm  | Hosp ≥ 1/yr | Exac ≥ 2/yr |   |
| Hosp < 1 | Exac ≤ 1 | No hosp |   |
| Hosp ≥ 1 | Exac ≥ 2 | CAT ≥10 |   |
| Hosp < 1 | Exac ≤ 1 | No hosp |   |
| mAsthm  | Hosp ≥ 1 | Exac ≥ 2 | CAT ≥10 |   |
Case 2
- 64 yo W 40 pk-yr smoker with COPD, quit 2 yrs ago
- c/o cough, chest tightness, fatigue, and DOE (CAT > 10)
- Exercise tolerance of 2 blocks (mMRC ≥ 2)
- ED visits x 2 in the past 6 months for COPD flares (≥ 2)
- HTN, hyperlipidemia, CAD
- CXR w/large lung volumes and flattened diaphragms
- Post-bronchodilator FEV1 0.81 (27%) (< 30%)
- ratio 0.29

Management of Stable COPD

<table>
<thead>
<tr>
<th>Grade 4</th>
<th>Class D</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAAC or LABA</td>
<td>ICS + LABA or LAAC</td>
<td>Alternates: LAAC &amp; LABA</td>
<td>Alternates: LAAC &amp; LABA or ICS + LABA &amp; PDE-4 inhibitor</td>
<td>Alternates: LAAC &amp; PDE-4 inhibitor or ICS + LABA &amp; PDE-4 inhibitor</td>
<td></td>
</tr>
<tr>
<td>ICS + LABA and/or LAAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Patient Groups A, B, C, D: Tobacco cessation, ↓ of risk factors, physical activity, Flu & Pneumococcal vaccines
Patient Groups B, C, D: Referral to pulmonary rehabilitation, Better Breather Courses
Patient Groups C, D: Home oxygen if SpO2 ≤ 88%RA

<table>
<thead>
<tr>
<th>↓ sx/Low risk</th>
<th>↑ sx/Low risk</th>
<th>↓ sx/High risk</th>
<th>↑ sx/High risk</th>
</tr>
</thead>
</table>

Future risk (exacerbations)

GOLD: “Combined assessment”

<table>
<thead>
<tr>
<th>Hosp ≥ 1/yr</th>
<th>Hosp ≥ 1/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exac ≥ 2/yr</td>
<td>Exac ≥ 2/yr</td>
</tr>
<tr>
<td>mMRC 0-1</td>
<td>mMRC ≥ 2</td>
</tr>
<tr>
<td>CAT &lt;10</td>
<td>CAT ≥10</td>
</tr>
</tbody>
</table>

No hosp

Adherence / Technique

CAT <10

mMRC 0-1

mMRC ≥2

CAT <10

mMRC <10

Exac/yr ≤ 1

Exac/yr ≤ 1

No hosp

Future risk (exacerbations)

GOLD: “Combined assessment”

Symptoms (mMRC, CAT)
Case 2
64 yo woman
40 pack-year smoker
Quit 2 years ago

Do you screen for lung cancer?

National Lung Screening Trial (NLST)

**Inclusion:**
- Age 55 - 74 years
- History of cigarette smoking ≥ 30 pack yrs
- If former smokers, quit within 15 years

**Exclusions:**
- Prior diagnosis of lung cancer
- Chest CT within 18 months
- Hemoptysis
- Unexplained weight loss

**USPSTF:**
- STOP once a person has not smoked for 15 years
- Health problem (functional status) that substantially limits life expectancy or the ability or willingness to have curative lung surgery

National Lung Screening Trial

Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening

The National Lung Screening Trial Research Team

53,454 randomized to annual CXR vs. CT scans

**Table 2. Results of Three Rounds of Screening:**

<table>
<thead>
<tr>
<th>Screening Round</th>
<th>Total No. Screened</th>
<th>Clinically Significant Abnormality</th>
<th>No or Minor Abnormality</th>
<th>Total No. Screened</th>
<th>Clinically Significant Abnormality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pos/No (%)</td>
<td>Pos/No (%)</td>
<td></td>
<td>Pos/No (%)</td>
</tr>
<tr>
<td>Low-Dose CT</td>
<td>26,216</td>
<td>1605 (6.2)</td>
<td>16,423 (62.4)</td>
<td>16,065</td>
<td>2387 (1.5)</td>
</tr>
<tr>
<td>T1</td>
<td>24,713</td>
<td>1519 (6.1)</td>
<td>16,265 (65.9)</td>
<td>14,862</td>
<td>1482 (6.0)</td>
</tr>
<tr>
<td>T2</td>
<td>24,102</td>
<td>1408 (5.8)</td>
<td>18,040 (77.3)</td>
<td>21,546</td>
<td>1374 (6.4)</td>
</tr>
<tr>
<td>Chest Radiography</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>26,216</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Dose CT</td>
<td>16,065</td>
<td>16,065</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>14,862</td>
<td>14,862</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td>21,546</td>
<td>21,546</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The screenings were performed at 1-year intervals, with the first screening (T0) performed soon after the time of randomization. Results of screening tests that were technically inadequate (T in the low-dose CT group and 26 in the radiography group, across the three screening rounds) are not included in this table. A screening test with low-dose CT was considered to be positive if it revealed a nodule at least 4 mm in any diameter or other abnormalities that were suspicious for lung cancer. A screening test with chest radiography was considered to be positive if it revealed a nodule or mass of any size or other abnormalities suggestive of lung cancer.

Overall 39% with positive results
96% were FALSE positive
What happens with Screening?

- **39%** CTs “positive” (Nodules ≥4 mm) *up to 3% malignant*
- Additional evaluation
  - 80% imaging
  - 4% Bronchoscopy
  - 4% Surgery
  - 2% CT guided biopsy

What are the Risks?

- False-positive results: benign nodules
- Futile detection of small aggressive tumors or indolent disease
- Complications from diagnostic work-up
- Anxiety of test findings
- Radiation exposure
- Cost

What’s the cost-benefit for our population?

- **2012-2014 CMS (MEDICARE) beneficiary data**
- 50% uptake of screening
- Age 55-80, >30pk yr, quit<15yrs
  - 4.9 million beneficiaries met criteria for screening in 2014 (10% of beneficiaries)
- Cost of Screening
  - NLST
  - I-ELCAP
  - Smoking Cessation counseling
- Cost of Treatment
  - 2014 data on cost by Cancer State
- Current average life expectancy of 3 years → **INCREASE by 4 years**

$241/screen OR 19,000K for each year saved

USPSTF Grade B recommendation

- **20%** Relative Reduction in Lung Ca mortality
- **6%** Reduction in all cause mortality
- ARR = 0.46%
- NNS = 217

Increased detection of lung cancer
Is it Covered?

Medicare Part B covers a lung cancer screening with Low Dose Computed Tomography (LDCT) once per year

Who’s eligible?
People with Part B who meet all of these conditions:
• Age 55-77
• Asymptomatic
• Current smoker or quit smoking within the last 15 years
• 30 pack years history

Case 2, revisited

64 yo woman
40 pack-year smoker
Quit 2 years ago

• c/o cough, chest tightness, fatigue, and DOE
• Exercise tolerance now of < ½ block

What else can we do?

Multidisciplinary Approaches for better care
Who is part of the health care team for COPD?

- Primary Care Provider
- Lung/COPD Specialist
- Nursing
- Respiratory Therapist
- Physical Therapist
- Social Work / Case Management

Patient Education

- <10% of patients have perfect use of inhalers
- Even with proper training, this wanes with time
- GOLD 2017 guideline recommends regular teaching

Evidence for Patient Education

Solution

- For all patients: Better Breathers
  - www.lung.org for classes in your area

Better Breathers

- Goal: Improve self-management through education for patients and caregivers.
- American Lung Association
  http://www.lung.org/support-and-community/better-breathers-club/

For patients that qualify:
- Pulmonary Rehabilitation
Inactivity predicts mortality in COPD

The survivors walked about 1,600 steps more each day than the non-survivors.

Pulmonary Rehabilitation

- COPD patients benefit from exercise training
- Improves exercise tolerance, QOL and symptoms of dyspnea and fatigue
- 6 weeks is effective, but the longer the program continues, the more effective the results
- If exercise training is maintained at home, the patient’s health status remains above pre-rehabilitation levels

What are my options?

- Medicare A&B →
  - Pays for rehab (up to 16 weeks in lifetime)
- Look for alternatives
  - YMCA
  - Walking groups
  - PBS sit and be fit (am show)
- Encourage step goals using free mobile apps

HEALTH SYSTEM BARRIERS:
- Our patient’s frequently do not qualify for Pulmonary Rehabilitation.
- Inadequate insurance
- Lifetime max of 2 sessions for Medicare patients

COMMUNITY BARRIERS:
Our patient’s frequently lack access to community exercise opportunities due to disease specific restrictions.
Emerging Threat – Climate Change

**What is it?**
- Shifts in the global and local temperature and weather patterns
- Greenhouse gases (mostly CO2) are responsible for much of this shift in the last century
  - Traps heat at the Earth’s surface
  - Melting of artic sea and land ice
  - Removal of moisture from Earth to air

**Natural Disasters**

- **Extreme Heat**
  - In San Francisco
    - 1961–1980: 4 extreme heat days per year (>85°F)
    - 1981–2010: 1 recorded day >90°F
    - 2017: 14 extreme heat days (>85°F) and 5 recorded days >90°F
  - **Record Breaking 106 degrees on September 1, 2017**
Emerging Threat – Climate Change

• Why we care?
  • Vulnerable populations are at highest risk
  • Housing
  • Poor air quality
  • Ozone
  • Fires
  • Boosted aeroallergen production
  • Prolong pollen season from warmer weather and CO₂
  • Access to clean water
  • Drought in California
  • Flooding in PR

• What to do, how to prepare patients?

How to prepare our patients

• Extreme Heat Days
  • Set a plan with patients
  • Cool refuge (libraries, malls, community centers)
  • Fans not as effective if temps >90°F
  • Stay hydrated (avoid alcohol)
  • Azdhs.gov - Heat Safety - Older Adult Toolkit

• Fires/Air pollution/Aeroallergens
  • HEPA filters
  • Keep windows closed
  • Watch for mold growth
  • N-95 mask (not the best option)

• Stay Indoors

Summary

• Who to Screen?
  • Symptomatic adults (>40yrs) with risk factors
  • Spirometry

• How to Categorize?
  • Spirometry
  • Exacerbations
  • Symptoms

• What are Management options?
  • Know the care team
  • Education
  • Exercise

Questions?

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• http://www.lung.org/support-and-community/better-breathers-club/
Feeling Disconnected? How EHRS Affect Our Relationships & Satisfaction And What to Do About It

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No conflicts of interest to disclose.

Research funded by:
• AHRQ Grants 1K08HS022561
• AHRQ Grant P30HS023558

The Cost of Technology

© 2011 Thomas G. Murphy, MD. JAMA. 2012;307(23):2497-2498

Objectives

• Describe how electronic health record systems (EHRs) affect care experience of patients and clinical care teams
• Describe strategies to promote relationship-centered care in the EHR era
Getting HITECH: Meaningful Use in Medicine?

• 2009 Health Information Technology for Economic and Clinical Health Act: $30B
  – EHR in office-based practices: 21% → 83%
  – 56% certified EHR in 2015

Dashboard.HealthIT.gov

In your experience …

What are the benefits of EHRs in caring for vulnerable patients?

What are the challenges of EHRs in caring for vulnerable patients?

EHRs Are Here to Stay

• Impact on quality of care? Mixed results
• Benefits
  – Accessible information, across transitions
  – Power of big data
  – Patient engagement
• Challenges
  – Communication
  – Clinician / staff burnout
  – Safety net settings


Systematic Review: EHR & Pt Relationship

• 25 studies of pt perception: 16 unchanged, 1 mixed, 5 “positive deviants”:
  – UK, Canada, Germany
  – Pt engagement w technology
  – Kaiser clinician training
• Limitations: Most in primary care, non-training, pre-HITECH and variety of biases
• 28 studies with behavioral analysis of communication

Alkureishi L, J Gen Intern Med, 2016
EHRs Shape Visit Agendas

- 2010 Australian and UK Primary Care
- Computer actively shaped 7% openings
  - Reminders
- Computer passively shaped 10% openings
  - Test results, gaps in record
- Agenda setting is important to engage pts & reduce “doorknob” questions

Pearce C, Eur Fed for Informatics, 2010

Screen Gaze & Silence: Lower Satisfaction

- 2014 VA Study of 125 PCP encounters:
  - Screen gaze 39% of encounter (12.7 min)
  - Silence 32% of encounter (9.6 min)
  - Both associated with lower patient satisfaction
  - Silence associated with increased PCP control of talk and decreased patient-centeredness

Street RL, Pat Educ Couns, 2014

Photo: Michael Marsicano for The Wall Street Journal

EHRs Amplify Clinician Skills

- 2005 study before & after implementation:
  - Domains:
    - Visit organization
    - Verbal and non-verbal behavior
  - Clinicians with more patient-centered skills used EHR in patient-centered ways
  - Clinicians with less patient-centered skills worsened
  - Little change from 1 month to 7 month

Frankel R, J Gen Intern Med, 2005

EHRs & Clinician Time

- July-Aug 2015 observation of 57 MDs on 7 EHRs and 1 non-EHR
  - 49% of total time on EHR & desk work
  - Within the exam room:
    - 37% on EHR & desk work
    - 9% administrative
    - 53% direct face time with patients
  - Documentation support increased pt face time

EHRs & Clinician Well-Being

• Aug-Oct 2014 national survey of 6375 MDs
  – EHR: 85% use → 44% dissatisfied
  – Computerized Provider Order Entry (CPOE): 75% use → 42% dissatisfied
  – Dissatisfaction with clerical task time: 47-56%
  – Burnout: 55%
  – MDs using EHRs & CPOE less satisfied with clerical task time & higher rates of burnout
    • CPOE use AOR 1.29 for burnout


45% SF Primary Language Not English

Interpreter Services 65133

What is the Interpreter Services menu of languages?

SFPDH San Francisco Community Health Assessment & Profile 2012

EHRs in Safety Net Care

• Benefits for care of limited health literacy (LHL) & limited English proficiency (LEP) pts
  – LEP felt PCPs used computer ≥half visit BUT
  – Less concerned PCPs not listening

• Risks:
  ↘️Communication barriers
  ↘️Digital divide


Basic EHR Use by Safety Net Clinicians

• Higher clinician computer use was associated with:
  – Greater patient-clinician chit-chat
  – More clinician disagreement with patients
  – Lower patient ratings of the quality of care
  – More biomedical focus with LEP/LHL patients

Multitasking with Interpretation

Signals of Silent EHR Use

Breaking the Silence: Small Talk, Big Talk

Can silence be golden?

- Silent EHR use may create space to allow patient concerns to emerge
- Do you:
  - Multitask and continue EHR task while talking?
  - Stop using EHR and focus on talking w/ pt?
  - Focus on EHR and then talk with patient after?
- Can we still be open & compassionate?
Missing Empathic Opportunities

- It’s hard to identify emotional cues
  - Vary in length and intensity
  - Symptoms/illness descriptions may represent emotion but lack specific “emotion words”
  - Even “emotion words” may vary & be “fuzzy”
- Empathic statements are associated with shorter visits (1.5-2.5 minutes)
- How to pick these up when using EHRs?

Stone Patient Educ Couns 2012; Levinson JAMA 2000

A Dilemma

CME Question 1

Your patient with diabetes just agreed to start short-acting insulin. She wants to go to the pharmacy after this visit. As you search for the right insulin formulation, covered by her insurance, she asks: “How are your kids?...Oh I need a work excuse for today...And my cane broke this morning.”

Safety literature suggests you should:
  a. Address each issue as it arises
  b. Ask your patient to keep a list of issues so you can finish the prescription safely first


Multitasking Continuum

- Interleaved: switching tasks quickly
  - ↑ risk of error with each switch
  - ↑ time completing each task
- Concurrent: performing two tasks together
  - Bottleneck retrieving right response
  - ↓ accuracy
  - ↓ reaction time to external stimuli
  - Really just very fast switching
- Are you really saving time?

Douglas, Applied Ergonomics, 2017
What could you say if you need to read a complicated discharge summary or prescribe a complicated medication?

CME Question 2
You know you need to focus on writing the insulin instructions carefully. Before you begin, you say:

a. “I will send the insulin prescription to the pharmacy through the computer. I want to focus for just 1 minute so I can make sure I get it right.”

b. “While I prescribe your insulin, could you take off your shoes & socks so I can check your feet after.”

c. “While I do this, think about 1 other change you want to make to lower your sugars.”

d. Any of the above

Where do we go from here?

Room Redesign

Kumarapeli JAMIA 2013; Frankel 2016 in Safety of Health IT (A Agarwal)
Scribes

- Benefits to clinician satisfaction & productivity, but
  - Absence of controlled evaluation
  - Limited rigor in outcomes & statistical analyses
- 2016 studies: increased patient face time, higher quality notes, workflow challenges
- 2017 SFHN primary care:
  - Less time out of clinic completing notes (14 vs 30 min)
  - Lower cycle time (24 vs. 26 min)
  - No change in unlocked notes or pt satisfaction


EHR Redesign

- Visit notes:
  - Less is more and data parsimony
  - Reconceptualize chronic illness documentation
  - Sharing data entry
  - Care beyond visits and virtual care
- Social history and social determinants
- Improve problem list
- Patient access & contribution
- Shared decision making and adherence


POISED

- Prepare
- Orient
- Info-gathering
- Share
- Educate
- Debrief

Frankel JAMA Intern Med 2016

Prepare

- Read EHR before visit
- Set priorities together
  - Medical assistants
  - Portal
  - Tablets & kiosks
- “Golden minute”

Frankel JAMA Intern Med 2016; Grant RW Contemp Clin Trials 2016; Lyles JMIR Mhealth Uhealth 2016
Orient

• Beginning:
  - “I’m opening your chart. The computer helps me keep track of your concerns.”

• Middle:
  - “I’m sorry. I need 1 minute so I can make sure this prescription is right …”

• End:
  - “I’m closing the computer to protect your information …”

Information-Gathering

• Type patient agenda into note
• Questionnaires
• Leverage computer:
  - Hospital & other notes
  - When pts get medications from pharmacy
• Beware of multitasking & missed pt cues

Share & Educate

• “Triangle of Trust”
• Graphs of results
• Images
• Pt education
• Talk as you type:
  • Assessment & Plan
  • After Visit Summary instructions

Transparency to Avoid Multitasking


Debrief

• Teachback
  - “I’d like to check how I did explaining your new medication …”
• Feedback
  - “Sometimes computers can get in the way. What can I do better next time?”

Frankel JAMA Intern Med 2016

Summary

• EHRs offer challenges & opportunities for relationship-centered safety net care
• Mindful & transparent when:
  – EHRs require your focus
  – Patients require your focus
• POISED: Prepare, Orient, Info-gathering, Share, Educate, and Debrief
• Advocate: better EHRs & systems

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Disability, Health, and How We Can Better Care for Patients with Functional Impairments

Objectives

• Cultural competencies, accommodations, and adaptive strategies
  - Visual impairments
  - Mobility Impairments
  - Deaf and Hard-of-Hearing

Objectives

• Challenges commonly encountered by people with disabilities in clinical care
• New understanding of prevalence
• Disparities in care
• What can disability advocates teach us about our broader patient population?

Self-identify as “disabled” — a spectrum

Identifies as a person with a disability.
Often knows more than we do.
Chronic disease with an evolving functional impairment.
Declining function.
Unaware / Unacknowledged.
Spinal cord injury at age 20
Full independence
Bilateral knee OA at age 70
Frustrating, Engaged,
Unaware / unacknowledged gait impairment and fall risk

Self-identify as “disabled” — a spectrum

Cultural Competency is a good fit for those who self-identify

“People with disabilities do have a distinctive culture, founded on their shared history of discrimination and common experiences of stigmatization, poverty, social isolation, lack of self determination”

—Woodard, Havercamp, Zwgart & Perkins (2012)

Blindness and Visual Impairment

The “sighted-guide” technique
The “sighted-guide” technique

Cultural Competencies
- Announce yourself
- Announce your departure
- The group conversation
- Be precise with directions
  - The clock face
- Announce physical contact

Getting to know your patient
- Blind does not mean total loss of vision
- “Legal blindness” tells us fairly little
  - 20/200 or field < 20 degrees
- Method of reading?
- Orientation and mobility?

Adaptive strategies for reading
- Digital Magnification
- Closed circuit television (CCTV)
- Adaptive computer software
- Large print
- Audio
  - Bookshare
Adaptive strategies for “Orientation and Mobility”

Orientation and Mobility

“The white cane tells me everything I need to know about my surroundings.”

“It represents independence.”

“A signifier that does the explaining”

Language

• Evolving
  - Handicap
  - Disabled
  - People with disabilities
  - Visually impaired, low-vision, legally blind partially sighted, totally blind
Mobility Impairments

Cultural Competencies
- A wheelchair is considered personal space
- Place yourself at the patient’s eye level when talking for more than a moment.
- Is a transfer to the exam table necessary?

Language
- Wheelchair bound
- Confined to a wheelchair
- Wheelchair user
- Mobility

The Deaf and Hard of Hearing
Getting to know your patient

- Age at onset
- Educational history
  - Understanding of written English
- Cultural identification
  - Raised with ASL?
- Preferred communication modality

Clinical Accommodations

- Reduce background noise
- Face the person
- Speak naturally but clearly. Don’t shout or exaggerate
- Ask the patient how best to communicate
- If an interpreter is used, talk to the deaf person, not to the interpreter

Adaptive Strategies and Devices

- TTY (teletypewriter) systems
  - Relay operator — dial 711
- Email / Text messaging
- Video calls
- Video ASL Interpreters
Language

- Hearing impaired
- Hard of hearing
- Deaf with a capital D
- Disabled?

Common Themes

- Is the patient’s disability relevant to the visit?
- Omissions
  - Drugs
  - Sex
  - Employment

2011 HHS standard for defining disability in public health surveys

- Deaf or serious difficulty in hearing
- Blind or serious difficulty in seeing, even when wearing glasses
- Serious difficulty walking or climbing stairs
- Difficulty dressing or bathing
- Because of a physical, mental, or emotional condition, do you have
  - serious difficulty in concentrating, remembering, or making decisions
  - difficulty doing errands alone such as visiting a doctor’s office or shopping
Functional Impairment: age 50-64

- Health and Retirement Study
- Patients 50-56 at enrollment with no ADL or iADL limitations (n=6874)
- Interviewed every 2 years through age 64
- 46% women, 80% white, stratified by SES, 29% HTN, 25% OA, 16% depression
Cumulative incidence of first ADL impairment


Disparities in Care

• 77% of adults with disabilities describe physical or program barriers that limited access to local health programs

• 47% experienced delays in primary and preventive care

• Increased susceptibility to secondary health problems

• Poorer health outcomes

• Important intersection with poverty

National Health Interview Survey (NHIS), CDC, 2011
Strongest predictors of ADL impairment

- Low income
- Stroke
- Arthritis
- Chronic medical conditions
- Sensory impairment
- Depression
- Obesity
- Infrequent physical activity
- Lack of health insurance
- Residence in a neighborhood with fair or poor safety.

"The real problem of blindness is not the loss of eyesight. The real problem is the misunderstanding and lack of information that exist. If a blind person has proper training and opportunity, blindness can be reduced to a physical nuisance."

-National Federation of the Blind
Visual Impairment: re-approaching the patient with evolving vision loss

- Focus on:
  - Reading
  - Orientation & mobility
- Tools: magnification, large print, audio, adaptive software
- Resources:
  - Lighthouse for the Blind
  - Independent living skills centers

Re-approaching the patient with loss of mobility
Screening

“Timed Up and Go” (TUG) Test
  a. rise from chair
  b. walk 10 feet
  c. turn around
  d. return to seated position

>12 seconds = ↑ risk of falls

Mobility Aids

- Improve safety
- Decrease pain
- Decrease energy expenditure
- Restore independence

Canes

- Standard cane
- Offset cane
- Quad cane

Mobility Aids

- Standard walker
- Rollator
Proper fitting of canes & walkers

- Align with the wrist crease (with arm relaxed at side), wearing typical shoes
- Elbow flexed 15-30 degrees while walking

Social stigma & mobility aids

- Reframe the issue
  - Describe the aids as tools
  - “increased mobility”
  - “maximize potential”
- Not all or nothing.
Hearing Aid Revolution

- 20% of with hearing loss have a hearing aid
- Many of those don't use it regularly
  - ambient noise, discomfort, symbolism
- New devices
  - Interface via bluetooth
    - Phone calls. Tailoring to environment
    - Small and discrete

Clinical Accommodations

- Reduce background noise
- Face the person
- Speak naturally but clearly. Don’t shout or exaggerate
Take home

- Disability = Functional Limit + Environment
- Address disability independent of pathology
  - e.g. add *mobility* to the problem list
- Cultural competencies exist and are commonly cited by patients who identify with “disability”
- Most patients will not self identify, unlike other at-risk groups, but you have many tools, accommodations, insights, and resources to offer
A Case in Women’s Health: 
Gestational Diabetes Mellitus before, during and after pregnancy

Pilar Bernal de Pheils, RN, MS, FNP, FAAN
Elizabeth Harleman, MD
Andrea Kuster, MSN, RN, FNP, IBCLC
UCSF CME: Medical Care of Vulnerable and Underserved Populations 2018

Our Case –
Chapter 1: During pregnancy

- 30 y.o. G2P1 presented to PCP for missed menses at 8 weeks gestation
- Extensive medical problem list, including hx GDM in previous pregnancy
- Multiple social stressors, including homelessness
- Many strengths: Even when she couldn’t make it to her appts, she stayed in touch

GDM: Prevalence

- Complication unique to pregnancy
- 7% of US pregnancies affected
- Racial and ethnic minority groups disproportionately affected
  - Latinas in California 8.3% incidence GDM (5.7% white women)
- One of fastest growing pregnancy complications nationally

- Rate of increase mirrors DM2
  - Obesity
  - Lack of awareness/testing

Disclosures

- We have nothing to disclose.
GDM: Risks

- In pregnancy
  - Macrosomia/Shoulder dystocia/Birth injury
  - Neonatal hypoglycemia
  - C-section delivery
  - Hypertensive disorders (i.e. preeclampsia)
- After pregnancy
  - Mom: increased risk (50-70%) of developing DM2
  - Baby: increased risk of DM2

Diagnostic and Management Considerations

- Diagnostic and management considerations
  - Who do we test for GDM?
  - When do we test?
  - What diagnostics we utilize?

Who is at risk for GDM?

- First-degree relative with diabetes
- High-risk race/ethnicity (e.g., AA, Latino, NA, Asian A, PI)
- History of GDM or pre-diabetes, stillbirth or fetal malformation
- Women with PCOS, Htn, HLD, CVD
- Other clinical conditions associated with insulin resistance (e.g., overweight or obesity, chronic steroid or atypical antipsychotic use, acanthosis nigricans).
- Physical inactivity

Gestational Diabetes: When do we test?

- Test for undiagnosed diabetes at the first prenatal visit in those with risk factors, using standard diagnostic criteria. B
- Test for gestational diabetes mellitus at 24–28 weeks of gestation in pregnant women not previously known to have diabetes. A
Screening for DM: How do we test?

Initial OB Visit
- Routine: HgA1C
- At risk: Add FBS
  - HgA1C ≥ 5.7% FBS < 92 GTT
  - FBS ≥ 92 ANY Hg A1C Pre-existing pre-gestational diabetes

Routine (24 to 28 W)
- "One-step" 75-g OGTT or
- 2. "Two-step" approach with a 50-g (nonfasting) screen followed by a 100-g OGTT for those who screen positive

How Do We Manage GDM?
- Lifestyle change is an essential component of management of gestational diabetes mellitus and may suffice for the treatment for many women. Medications should be added if needed to achieve glycemic targets. A

  - Insulin is the preferred medication for treating hyperglycemia in gestational diabetes mellitus, as it does not cross the placenta to a measurable extent. Metformin and glyburide may be used, but both cross the placenta to the fetus, with metformin likely crossing to a greater extent than glyburide. All oral agents lack long-term safety data. A

How Do We Manage GDM?
- Metformin, when used to treat polycystic ovary syndrome and induce ovulation, need not be continued once pregnancy has been confirmed. A

  - Fasting and postprandial self-monitoring of blood glucose are recommended in both gestational diabetes mellitus and preexisting diabetes in pregnancy to achieve glycemic control. B

Clinical Pearls from our case
- Back to our patient and her barriers:
  - Challenges with screening
  - Obstacles to care
    - Cultural/religion
    - Housing and transportation
- Strengths supporting her care
  - Patient Centered Care
    - Continuity of care
    - Clinic resources/CA State supported resources in pregnancy
  - Support based on her values/respectful of her decisions
Our Case – Chapter 2: After the birth

Returns to PCP at 2-3 months post-partum (didn’t f/u with OB)
- Post-partum GTT was ordered by L&D, not done yet
- Breastfeeding frequently, mostly at night, and mom feeding formula during the day
- Desires Mirena IUD

What are your priorities?

Clinical Pearls:
Start Education and Planning during Pregnancy - Don’t Wait until Post-Partum!

- GDM and life-long risk
  - Preview post-partum f/u, importance of weight management through diet and exercise, and annual f/u with PCP including A1c
- Contraception
  - Know the plan before the birth!
- Breastfeeding
  - Emphasize additional benefits for mom and baby

Our Case – Chapter 3: Contemplating another pregnancy

Patient returns to you two years later, contemplating third pregnancy

What pre-conception counseling would you do?

If you take care of women of reproductive age, it’s not a question of whether you provide preconception care, rather it’s a question of what kind of preconception care you are providing.

Joseph Stanford
Preconception Care for All

• Assess risk
  • Health, pregnancy intention, contraception

• Give protection
  • Folic acid, immunizations

• Manage conditions
  • Diabetes, obesity, hypothyroidism, STI

• Avoid harmful exposures
  • Medications, alcohol, tobacco

Preconception in Diabetes

• Starting at puberty, preconception counseling should be incorporated into routine diabetes care for all girls of childbearing potential.

• Family planning should be discussed and effective contraception should be prescribed and used until a woman is prepared and ready to become pregnant.

• Preconception counseling should address the importance of glycemic control as close to normal as is safely possible, ideally A1C 6.0-6.5%, to reduce the risk of pregnancy loss and congenital anomalies.

Preconception

• Women with preexisting type 1 or type 2 diabetes who are planning pregnancy or who have become pregnant should be counseled on the risk of development and/or progression of diabetic retinopathy.

• Dilated eye examinations should occur before pregnancy or in the first trimester, and then patients should be monitored every trimester and for 1 year postpartum as indicated by degree of retinopathy and as recommended by the eye care provider.

Case continued

• You send a HgBA1C to aid in preconception counseling

• It returns at 8.2%
Clinical Pearl

Never (almost never) tell a woman with a medical illness she shouldn’t get pregnant.

Case continued

- After counseling about the risks of birth defects and pregnancy loss, your patient decides to use contraception until getting her newly diagnosed DM under better control
- What are her options for contraception?

U.S. MEC: Categories

<table>
<thead>
<tr>
<th></th>
<th>No restriction for the use of the contraceptive method for a woman with that condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Advantages of using the method generally outweigh the theoretical or proven risks</td>
</tr>
<tr>
<td>3</td>
<td>Theoretical or proven risks of the method usually outweigh the advantages – not usually recommended unless more appropriate methods are not available or acceptable</td>
</tr>
<tr>
<td>4</td>
<td>Unacceptable health risk if the contraceptive method is used by a woman with that condition</td>
</tr>
</tbody>
</table>

Example: Smoking and Contraceptive Use

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cu-IUD</th>
<th>LNG-IUD</th>
<th>Implants</th>
<th>DMPA</th>
<th>POPs</th>
<th>CHCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Age &lt;35</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>b. Age ≥35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. &lt;15 cigarettes/day</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>ii. ≥15 cigarettes/day</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Cu-IUD: Copper IUD;
LNG-IUD: Levonorgestrel IUD;
DMPA: Depo-Medroxyprogesterone Acetate;
POPs: Progestin-only pills;
CHCs: Combined hormonal contraceptives including pills, patch, and ring.
Diabetes and Contraception

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cu-IUD</th>
<th>LNG-IUD</th>
<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of gestational disease</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nonvascular disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noninsulin-dependent</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Insulin-dependent</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Nephropathy/retinopathy/neuropathy*</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3/4†</td>
</tr>
<tr>
<td>Other vascular disease or diabetes of &gt;20 yrs' duration*</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3/4†</td>
</tr>
</tbody>
</table>

§ This condition is associated with increased risk for adverse health events as a result of pregnancy
† This category should be assessed according to the severity of the condition

Importance of screening for SDH: TAILORING TREATMENT TO REDUCE DISPARITIES

- Providers should assess social context, including potential food insecurity, housing stability, and financial barriers, and apply that information to treatment decisions. A
- Patients should be referred to local community resources when available. B
- Patients should be provided with self-management support from lay health coaches, navigators, or community health workers when available. A

Importance of screening for SDH: TAILORING TREATMENT TO REDUCE DISPARITIES

- Treatment plans should align with the Chronic Care Model, emphasizing productive interactions between a prepared proactive practice team and an informed activated patient. A
- When feasible, care systems should support team-based care, community involvement, patient registries, and decision support tools to meet patient needs. B
ACOG, 2018 Importance of Social Determinants of Health and Cultural Awareness in the Delivery of Reproductive Health Care

- Inquire about and document social and structural determinants of health that may influence a patient’s health and use of health care such as access to stable housing, access to food and safe drinking water, utility needs, safety in the home and community, immigration status, and employment conditions.
- Maximize referrals to social services to help improve patients’ abilities to fulfill these needs.
- Provide access to interpreter services for all patient interactions when patient language is not the clinician’s language.
- Acknowledge that race, institutionalized racism, and other forms of discrimination serve as social determinants of health.
- Recognize that stereotyping patients based on presumed cultural beliefs can negatively affect patient interactions, especially when patients’ behaviors are attributed solely to individual choices without recognizing the role of social and structural factors.
- Advocate for policy changes that promote safe and healthy living environments.

References/Resources

- Standards of Medical Care in Diabetes (2017). Diabetes Care 40, Supplement 1. Accessible online at care.diabetesjournals.org
Another Day in the FQHC

Dayna Long, MD
UCSF Benioff Children’s Hospital Oakland
Medical Director, Center for Community Health and Engagement

March 2nd

Agenda

• Describe the research and clinical transformations in practice at the UCSF BCHO Primary Care Clinic

Disclosure

I have nothing to disclose
Compared to a white child in the affluent Oakland Hills, a black child born in the flatlands is...

**INFANT**
- 2 times more likely to be born low birth weight
- 12 times less likely to have a mother who graduated from college

**CHILD**
- 13 times more likely to live in poverty
- 4 times less likely to read at grade level
- 3 times more likely to die of stroke

**ADULT**
- 6 times more likely to be unemployed
- 12 times less likely to have a mother who graduated from college

*Cumulative impact: 14 year difference in life expectancy*

Source: Alameda County Vital Statistics files, 2010-2012

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**Opportunity Assessment**

- Food Insecurity
- Housing Instability
- Transportation
- Diapers
- Activities
- Utilities
- Substance Abuse
- Safety
- Transportation
- Medical Legal Issues
- Early Literacy and Math
- Development
- Mental Health
- Joy

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**Food**

Are you concerned about running out of food before the end of the month? [Yes] [No]

I'd like to share some information about the Alameda County Food Bank with you, as well as information about local emergency food pantries through food banks and community organizations.

Are you currently signed up for CalFresh (also known as SNAP, Supplemental Nutrition Assistance Program), which used to be known as food stamps? [Yes] [No]

If your child currently signed up for the free or reduced school breakfast and lunch programs? [Yes] [No]

Since you are on CalFresh, your child is eligible to receive free or reduced school breakfasts and lunches.

Would you like for us to make you an appointment to meet with a staff member from our team who can help you apply?

Let's complete a packet to get the process started: Screen for CalFresh eligibility, Navigator, Screen for CalFresh eligibility, CalFresh Team, CalFresh Prescreening worksheet, CalFresh Application Form, Eligibility, schedule CalFresh appointment with fight to file clerk, Lunch Program Flyer, School Lunch Application Flyer.

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**Activities/Outdoors**

Are you interested in activities for you and your child to do that are free or low cost? [Yes] [No]

Great! I am going to go through a list of activities with you and you can let me know if you are interested in any. Please choose as many as you would like and I will give you more information about the ones you choose.

- Free Museum Day Calendar
- Group Free Social Program
- Coed/AA/4H Application
- Inflex
- Weekly Activity Flyer (Physical)
- Harbor SHRED
- SHRED Flyer

Should you like to learn more about our free future-shaping programs? [Yes] [No]

We'd love to provide you with an overview of the program and possibly schedule you an appointment to attend the next session.
**HOUSING**

Are you currently experiencing homelessness? Yes No
- Contact social worker or call. Call ACCESS with Family (800) 447-4000. Notify your primary care doctor.

Do you have concerns about unstable housing including evictions, foreclosure, and/or staying with friends or family? Yes No
- We’re here to connect you with some of our partners that may be able to offer some case assistance and consultation. We’d compile a list of these partners for you if you’re interested.

Do you have concerns about unhealthy living conditions like mold, pests, mice, or excess trash in your home? Yes No
- Do you live in Alameda County and have a child (ages 0-18 years) with asthma? Yes No

**UTILITIES**

Do you need assistance with your utility bills, such as electric, gas, water, or phone? Yes No
- Gas and Electric:
  - Provide PG&E CARE & ESGA Applications and check qualifications for Spectrum HEAP
  - Water:
  - Provide EBRIAD CAP Application
  - Phone:
  - Provide CA Link Application
  - Have you received a cut-off notice? Yes No

**CHILD’S DEVELOPMENT HEALTH**

If your child is under the age of five, are you interested in a developmental screening for your child? Yes No
- Has a doctor completed a developmental screening such as an AAS with your child within 8 months, 18 months, and/or 30 months? Yes No

Are you interested in doing a developmental screening for your child? Yes No
- Provide AAS for parent to complete. If the AAS results are in the WHITE ZONE, no follow-up needed but family can always return for concerns later. If the AAS results are in the RED ZONE, provide the caregiver with an activity tip sheet. Schedule a 2-3 month follow-up appointment with their doctor and repeat. In the appointment note to give AAS to family and send message to provider. If your AAS is in the BLACK ZONE, help the Care Give OnCall Database system.

Are you interested in scheduling an appointment with your child’s pediatrician about development? Yes No

Schedule an appointment for child with provider.

**Action Plans**

**SHINE NATURE PROGRAM**

- Shining Sunscreen Solutions
  - Contact Person: Melissa Alpass
  - Contact Email: melissa.alexander@ucsf.org
  - Contact Phone: (415) 353-3535

Notes from the Navigator:
- Include any services you plan to use.

When you have completed this referral, please let us know:
Text 876988 to (610) 254-6080

- 2017 flyer 36-page/2017 flyer 36-page
Original ACE Study Vs. Claremont Clinic Caregivers: ACEs Frequency

<table>
<thead>
<tr>
<th>Types of ACEs</th>
<th>ACEs Study</th>
<th>FIT Pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological abuse</td>
<td>11.10%</td>
<td>50%</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>10.80%</td>
<td>39.28%</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>22%</td>
<td>39.28%</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>25.60%</td>
<td>60.71%</td>
</tr>
<tr>
<td>Mental illness</td>
<td>18.80%</td>
<td>17.85%</td>
</tr>
<tr>
<td>Mother treated violently</td>
<td>12.50%</td>
<td>25%</td>
</tr>
<tr>
<td>Criminal behavior in the household</td>
<td>3.40%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Mental Health Care Coordination

Resilience Clinic

The Resiliency Clinic Workbook

Brilliant Baby Program

3 year Demonstration with 1500 Babies

Research Study in partnership with UCSF Children’s Hospital Oakland and the University of Chicago. Follow for 25 years.

At Scale: All 2200 babies born to MediCal eligible families in Oakland each year.
A cloud based innovative solution that empowers patients, care teams and their communities to collaboratively address social determinants of health

FINDconnect is redefining possible by...

North Star: Innovation has the potential to disrupt the link between adversity and poor health
“Of all the forms of inequality, injustice in health is the most shocking and the most inhumane”
-MLK
Public health update and emerging threats

*Structural, life-course, inter-generational, neurocognitive approach*

Tomás J. Aragón, M.D., Dr.P.H.
Medical Care of Vulnerable and Underserved Populations, UCSF, March 1-3, 2018

Health Officer, City & County of San Francisco
Director, Population Health Division (PHD)
San Francisco Department of Public Health
415-78-SALUD [415-787-2583] (telephone)
https://taragonmd.github.io (GitHub page)

PDF slides produced in Rmarkdown \LaTeX Beamer—Metropolis theme

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**Background: Structural trauma and health inequities**

**Substance use:** The “hacking” of the American mind

**Climate change:** heat waves, wild fires, and mudslides

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**Some definition**

**Health** is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (World Health Organization, 1946).

**Public health** is what we, as a society, do collectively to assure the conditions in which people can be healthy (Institute of Medicine, 1988).

**Population health**\(^1\) is a systems\(^2\) framework for studying and improving the health of populations through collective action and learning (Aragón and Garcia, 2017).\(^3\)

\(^1\)Essential population health goals include (1) protecting and promoting health and equity, (2) transforming people and place, (3) ensuring a healthy planet, and (4) achieving health equity.

\(^2\)VUCA: Volatility, Uncertainty, Complexity, and Ambiguity; VUCA response: Vision and purpose; hUility; Courage; and Adaptability

\(^3\)See https://escholarship.org/uc/item/825430qn
Health disparities are "differences that exist among specific population groups in the United States in the attainment of full health potential that can be measured by differences in incidence, prevalence, mortality, burden of disease, and other adverse health conditions."

Health equity is "the state in which everyone has the opportunity to attain full health potential and no one is disadvantaged from achieving this potential because of social position or any other socially defined circumstance."

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Population health socioecological framework

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Age-adjusted Expected Years of Life Lost (eYLL): Male (left), Female (right); ○ Black (colored red), △ Latino, × Asian/PI, + White; Source: Aragón TJ, et al. PubMed ID: 18402698
San Francisco residents do not have equitable opportunities for good health

Unevenly distributed obstacles to health (left); Health inequities (right)

<table>
<thead>
<tr>
<th>Unevenly Distributed Obstacles to Health</th>
<th>Health Inequities</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco Area</td>
<td>White</td>
</tr>
<tr>
<td>你文本内容</td>
<td>2%</td>
</tr>
<tr>
<td>Unemployment among men</td>
<td>23%</td>
</tr>
<tr>
<td>Unemployment among women</td>
<td>7%</td>
</tr>
<tr>
<td>Not married in the last 5 years</td>
<td>20,000</td>
</tr>
<tr>
<td>Child plays in off-street area</td>
<td>18%</td>
</tr>
<tr>
<td>Not vaccinated for tuberculosis</td>
<td>28%</td>
</tr>
<tr>
<td>Did not graduate from high school</td>
<td>10%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>4%</td>
</tr>
<tr>
<td>Child poverty</td>
<td>40%</td>
</tr>
<tr>
<td>Household income</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: San Francisco Community Health Needs Assessment, 2016 (http://sfhip.org)

The lifecourse, two-generation roots of health and well-being, 2004–2016

Structural trauma and traumatic stress—The roots of racial health inequities

Foundational themes

- Communities suffer from the effects of chronic trauma/stress
- Life-course of traumatic stress, structural racism, and discrimination
- Trauma effects are transmitted across generations socially and biologically
- Traumatic stress effects a child’s learning, behavior, and health for life
- Community- and family-centered life-course focus is essential
- Policy, systems, structural priorities must reach the most vulnerable

For us, this means having a relentless focus on prioritizing social policies that always reach the most vulnerable—children ages preconception to 5 years.

Childhood adversities and mental health outcomes in homeless adults

San Francisco, 2016 (Am J Geriatr Psychiatry 2016)

Birth: Trajectories and Outcomes
- Adverse Childhood Experiences
- Social, Emotional, and Cognitive Development
- Disrupted Neurodevelopment
- Social, Emotional, and Cognitive Development
- Death

Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-Being Throughout the Lifespan

Source: http://www.centerforyouthwellness.org/
**Trauma/traumatic stress affect neurodevelopment and executive function**

*Left figure: System 1 and System 2*

*Right figure: Neuroplasticity and executive function*

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**Executive function skill proficiency**

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>3</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>25</th>
<th>50</th>
<th>70</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIRTH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Comparison of System 1 versus System 2**

<table>
<thead>
<tr>
<th>System 1 (&quot;elephant&quot;)&lt;sup&gt;b&lt;/sup&gt;</th>
<th>System 2 (&quot;rider&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonconscious</td>
<td>Conscious</td>
</tr>
<tr>
<td>Fast, parallel processing</td>
<td>Slow, serial processing</td>
</tr>
<tr>
<td>Automatic</td>
<td>Controlled</td>
</tr>
<tr>
<td>Associative</td>
<td>Rules-based (reasoning)</td>
</tr>
<tr>
<td>Intuitive (&quot;gut&quot;)</td>
<td>Reflective (deliberative)</td>
</tr>
<tr>
<td>Energy efficient</td>
<td>Energy hog (exhausting)</td>
</tr>
<tr>
<td>Implicit knowledge</td>
<td>Explicit knowledge</td>
</tr>
<tr>
<td>Not linked to language</td>
<td>Linked to language</td>
</tr>
<tr>
<td>Uses stored memory (schemas)</td>
<td>Uses working memory</td>
</tr>
<tr>
<td>Emotional (&quot;fight-flee-freeze&quot;)</td>
<td>Rational</td>
</tr>
</tbody>
</table>

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*Some refer to System 1 and System 2 as "right-brain" and "left-brain" theory: this is a false theory.*

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**Cognitive biases**

Cognitive biases are nonconscious thinking processes that lead to systematic deviations from a standard of rationality or good judgment. Here are six groupings:

1. protection of mindset,
2. personality and habits,
3. faulty reasoning,
4. automatic associations,
5. relative thinking, and
6. social influences.

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**Protection of mindset:** "It’s not what you don’t know that’s dangerous; it’s what you know for certain that ain’t so."

**Mindsets** are "all the stuff in our heads: beliefs, mental models of reality, lessons learned, memories, preferences, prejudices, and unconscious assumptions. We use these to make sense of the world and to make judgments and decisions. Whenever we encounter something that conflicts with our mindset, the first impulse is to reject or attack it, as an antibody would attack an alien organism."<sup>a</sup> System 1 and System 2 team up to **protect our mindsets** using the following cognitive biases:<sup>b</sup>

1. avoiding dissonance,
2. confirmation bias,
3. overconfidence,
4. hindsight bias,
5. self-serving bias,
6. status quo bias, and
7. sunk cost bias.

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Substance use: The “hacking” of the American mind

Industry goals: increase normalization, demand, and consumption

Social Norms → Social Marketing

Perceptions → Price → Location → Supply

Resources → Access

Demand: Pleasure* (dopamine) → Consumption (age of initiation, potency, quantity, and frequency)

Problem Use (dependence, abuse) → Intoxication (risky behavior)

Happiness* (serotonin) → Toxicity (end-organ)

CDC: If one chooses to drink, they should do so in “moderation”

In US, 1 drink is 12oz 5% beer, 8oz 7% malt liquor, 5oz 12% wine, or 1.5oz 40% distilled spirits

How much alcohol is there in a standard drink?

1 unit contains 10 mL or 8 g of alcohol
14 units (UK guidance per week for men and women) is equivalent to 4 pints of high strength beer or 5 large glasses of 14% wine (see below)
24.5 units (US guidance for men) is equivalent to 7 pints of beer or 9 glasses of wine

Glass of wine (175 mL), 14%: 2.4

Pint of high strength beer/lager/cider (568 mL), 5.2%: 3.0

CDC: Excessive alcohol use includes:

- **Binge Drinking**
  - For women, 4 or more drinks consumed on one occasion
  - For men, 5 or more drinks consumed on one occasion

- **Heavy Drinking**
  - For women, 8 or more drinks per week
  - For men, 15 or more drinks per week

- Any alcohol used by pregnant women
- Any alcohol used by those under the age of 21 years

CDC: “Binge drinking is a bigger problem than previously thought.”

- More than 38 million US adults binge drink, about 4 times a month
- Largest number of drinks per binge is on average 8.

Binge drinking leads to injuries due to car crashes, violence, HIV and other STDs, unintended pregnancies, alcohol dependence, and fetal alcohol disorders.

Do moderate drinkers have reduced mortality risk? coronary heart disease?

**Do “Moderate” Drinkers Have Reduced Mortality Risk?**
A Systematic Review and Meta-Analysis of Alcohol Consumption and All-Cause Mortality

Contrary to popular myths: alcohol’s beneficial health effects are minimal to none, based on two recent systematic reviews. Even if health benefits were true, alcohol’s adverse effects far outweigh any small beneficial effect. Many people, including health professionals are misinformed. Our perceptions of alcohol are shaped by pervasive alcohol industry advertising.

Moderate alcohol consumption and adverse brain and cognitive outcomes


Results: Higher alcohol consumption over the 30 year follow-up was associated with increased odds of hippocampal atrophy in a dose dependent fashion. While those consuming over 30 units a week were at the highest risk compared with abstainers (odds ratio 5.8), even those drinking moderately had three times the odds of right sided hippocampal atrophy (3.4). There was no protective effect of light drinking over abstinence. **Conclusion:** Alcohol consumption, even at moderate levels, is associated with adverse brain outcomes including hippocampal atrophy. These results question the current limits recommended in the US.
Alcohol's short-term (left) and long-term (right) health risks (source: CDC)

Alcohol consumption is the third leading cause of death in the U.S., after poor nutrition and physical activity, and tobacco consumption. Here are the health effects:

**Injuries:** Motor vehicle crashes; Falls; Drownings; Burns
**Violence:** Homicide; Suicide; Sexual assault; Intimate partner violence
**Alcohol poisoning: Reproductive health:** Risky sexual behaviors; Unintended pregnancy; Sexually transmitted diseases, including HIV; Miscarriage; Stillbirth; Fetal alcohol spectrum disorders (FASDs)

**Chronic diseases:** High blood pressure; Heart disease; Stroke; Liver disease; Digestive problems
**Cancers:** Breast; Mouth and throat; Liver; Colon
**Learning and memory problems:** Dementia; Poor school performance
**Mental health:** Depression; Anxiety
**Social problems:** Lost productivity; Family problems; Unemployment
**Alcohol dependence:**

Economic burden

1. City program and administrative costs
2. Economic costs (direct and indirect costs)
3. Intangible costs (pain, suffering, quality of life)

Excessive alcohol consumption costs (in Millions), U.S., 2010

<table>
<thead>
<tr>
<th>Category of cost</th>
<th>Total ($)</th>
<th>Government ($)</th>
<th>Binge ($)</th>
<th>Underage ($)</th>
<th>Pregnant ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>249,026.4</td>
<td>100,674.8</td>
<td>191,126.9</td>
<td>24,268.3</td>
<td>5,494.1</td>
</tr>
<tr>
<td>- Health care</td>
<td>28,379.1</td>
<td>16,915.1</td>
<td>16,273.8</td>
<td>3,795.8</td>
<td>2,830.0</td>
</tr>
<tr>
<td>- Lost productivity</td>
<td>179,084.9</td>
<td>57,219.0</td>
<td>134,035.4</td>
<td>13,666.6</td>
<td>2,290.0</td>
</tr>
<tr>
<td>- Other</td>
<td>41,562.5</td>
<td>26,540.7</td>
<td>40,817.7</td>
<td>6,806.0</td>
<td>374.1</td>
</tr>
</tbody>
</table>

Total, Governmental, and Binge Drinking Costs of Excessive Alcohol Consumption in the United States, 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Total cost</th>
<th>Government cost</th>
<th>Binge drinking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost ($M)</td>
<td>Cost per drink ($M)</td>
<td>Cost per capita (%)</td>
</tr>
<tr>
<td>United States</td>
<td>249,026</td>
<td>2.05</td>
<td>807</td>
</tr>
<tr>
<td>State median</td>
<td>3,520</td>
<td>2.05</td>
<td>769</td>
</tr>
<tr>
<td>California</td>
<td>35,011</td>
<td>2.44</td>
<td>940</td>
</tr>
</tbody>
</table>


Alcohol-attributable deaths, incidents, and economics costs in California, 2005

<table>
<thead>
<tr>
<th>Problem</th>
<th>Deaths</th>
<th>Incidents</th>
<th>Medical cost ($)</th>
<th>Lost work, etc. ($)</th>
<th>Total costs ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>5382</td>
<td>44,152</td>
<td>1,913,424,807</td>
<td>18,180,400,959</td>
<td></td>
</tr>
<tr>
<td>Injury</td>
<td>2380</td>
<td>41,598</td>
<td>1,093,156,707</td>
<td>4,023,914,494</td>
<td></td>
</tr>
<tr>
<td>Violent crime</td>
<td>533</td>
<td>424,001</td>
<td>814,880,612</td>
<td>7,025,090,539</td>
<td></td>
</tr>
<tr>
<td>Property crime</td>
<td>n/a</td>
<td>225,203</td>
<td>2,708,944</td>
<td>801,322,734</td>
<td></td>
</tr>
<tr>
<td>Traffic collisions</td>
<td>1144</td>
<td>186,975</td>
<td>1,542,847,974</td>
<td>8,354,853,432</td>
<td></td>
</tr>
<tr>
<td>Prevention</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>73,786,997</td>
<td>73,786,997</td>
</tr>
<tr>
<td>Total</td>
<td>9439</td>
<td>921,929</td>
<td>5,367,019,044</td>
<td>38,459,369,155</td>
<td></td>
</tr>
</tbody>
</table>


Economic and Administrative Costs Related to Alcohol Abuse in the City and County of San Francisco, FY 2015-2016

<table>
<thead>
<tr>
<th>Alcohol related costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “We estimate $54,828,628 in total annual City administrative and programmatic costs . . .”</td>
</tr>
<tr>
<td>2. “We calculate broader [annual] economic costs of $655,316,528 from alcohol abuse and related incidents in the City, and total [annual] quality-of-life costs of $1,065,439,490 . . .”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “Alcohol-Related Tracking: Departments should explore the feasibility of adding an indicator to their databases to specify alcohol involvement. . . .”</td>
</tr>
<tr>
<td>2. “Alcohol Outlet Density: The City should consider exercising greater latitude to deny issuance of land use permits in areas of “undue concentration” or . . . have a higher concentration of low-income residents compared to other areas.”</td>
</tr>
<tr>
<td>3. “City’s Deemed Approved Ordinance (DAO): The DAO could be strengthened by extending the jurisdiction of the ordinance to both on and off-sale outlets and by making the [enforcement] . . . less cumbersome. The Board should review the annual fee and consider raising it . . .”</td>
</tr>
</tbody>
</table>


CDC: Preventing Excessive Alcohol Use

The Centers for Disease Control and Prevention (CDC) recommend seven evidence-based systems, policy, environmental strategies to mitigate alcohol harms to communities.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Can SF do better?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regulation of Alcohol Outlet Density</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Increasing Alcohol Taxes‡</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Dram Shop Liability (commercial host liability)</td>
<td>n/a (yet)</td>
</tr>
<tr>
<td>4. Maintaining Limits on Days of Sale</td>
<td>n/a (yet)</td>
</tr>
<tr>
<td>5. Maintaining Limits on Hours of Sale</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Electronic Screening and Brief Intervention (e-SBI)</td>
<td>n/a (yet)</td>
</tr>
<tr>
<td>7. Enhanced Enforcement of Laws Prohibiting Sales To Minors</td>
<td>n/a (yet)</td>
</tr>
</tbody>
</table>

‡California alcohol excise tax: beer $0.20, rank 28; wine $0.20, rank 43; spirits $3.30/gal, rank 39

https://www.cdc.gov/alcohol/fact-sheets/prevention.htm

4665 active ABC licences in San Francisco, 2015 (source: SF Police Dept.)

San Francisco has the highest geographic density of alcohol licenses in California. Increased alcohol outlet density contributes to excessive drinking (binge and heavy drinking), crime, violence, traumatic injury, poverty, and health inequities. Low-income communities are disproportionately affected. Alcohol policies that enable or promote excessive drinking contribute to community structural trauma and toxic stress.
San Francisco Chronicle:

**Gavin Newsom must veto S.F. alcohol tax**
Published 4:00 am, Friday, September 17, 2010

"San Francisco’s tax-of-the-month club—better known as its Board of Supervisors —has approved a humane-sounding but flawed idea: a nickel-a-drink fee to pay for alcohol treatment. The problem of passed-out street drunks is obvious, but the timing and method of this plan are the wrong ways to go. The city’s restaurant and bar business is clearly in the gun sights of City Hall revenue hunters. Sick pay rules and a health care levy were recently imposed, no doubt with the calculation that the city’s reputation as a wine-and-dine mecca could absorb the extra costs."

Board of Supervisors voted 7 to 3 in favor mitigation fee. Mayor Gavin Newsom vetoed this legislation.

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**Powdered alcohol banned in California, 2016**

San Francisco and community coalitions prevailed: Starbucks withdrew license application.

San Francisco and community coalitions prevailed: ABC did not approve license.
Cannabis Legalization in San Francisco: A Health Impact Assessment
by Cyndy Comerford and Max Gara

HIA goals:
1. Prevent youth access and exposure to cannabis
2. Minimize potential harms to communities from cannabis use
3. Prevent the renormalization of tobacco product use and reverse of declining use rates
4. Ensure perceptions of cannabis recognize risks associated with use

San Francisco Chronicle's GreenState.com (November, 2017)

On November 8, 2016, California voters passed Proposition 64, the "Adult Use of Marijuana Act," legalizing
- cultivation,
- production,
- manufacturing,
- sale, and
- consumption (ingestion, smoking/vaping)
of cannabis products for persons of ages 21 years or older.

San Francisco Chronicle's GreenState.com (November, 2017)

"Study: Mom's pot use doesn't hurt kids' future grades" by Emily Earlenbaugh

"Is using pot during pregnancy safe? Well, compared to what? We know alcohol, tobacco and other drugs can cause birth defects and a whole host of other problems. By contrast, a new study suggests cannabis use during pregnancy does not cause lasting effects on child’s brain development."

"I personally know several healthy babies whose mothers used cannabis throughout their pregnancy."

Safe Injection Services (SIS) in San Francisco
Led by Director of Health Barbara A. Garcia

Our public health approach:
- harm reduction and prevention, and
dignity, equity, compassion, humility.

Injection drug use in SF:
1. about 22,500 people inject drugs
2. about 160 to 200 overdose deaths
3. synthetic opioids (fentanyl)
4. HIV, hepatitis C, etc.
5. public drug use
6. needle disposal
Safe Injection Services (SIS): Potential annual benefits

- 415 hospital stays
- 3.3 HIV cases
- 19 HEP C cases
- 110 PWID entering treatment
- 1 life saved every 4 years
- $3.5M net savings


Climate change: heat waves, wild fires, and mudslides

Impacts of climate change on human health (see https://sfclimatehealth.org/)

Questions?

YOUTH LEADERSHIP INSTITUTE
Youth Leading and Creating Equitable Communities

YLI engages in alcohol and drug prevention through policy, systems, and environmental change.
Making Advance Care Planning Easier for Vulnerable Populations

Rebecca L. Sudore, MD
Professor of Medicine

What is Advance Care Planning (ACP)?

"We are on the same page, yet we can’t seem to agree on anything."

Consensus Definition of ACP

- **Definition**: “ACP is a process that supports adults at any age or stage of health in understanding and sharing their personal values, life goals, and preferences regarding future medical care.

- **Goal**: The goal of ACP is to help ensure that people receive medical care that is consistent with their values, goals and preferences during serious and chronic illness.”

Sudore et al., Delphi Panel Consensus Definition. JPSM 2017
ACP is a Process

Readiness to Engage

First Steps  Next Steps  Last Steps

Life Course

Respecting Choices ®

Advance Care Planning (ACP)

• Why is ACP so hard?
• Can we make it easier?

Objectives

• Health literacy & ACP
• Make ACP easier:
  – Consider an alternative approach
  – Easy-to-use, patient-facing tools

Advance Directives & Health Literacy

YOU DON'T CALL THIS A LEGAL DOCUMENT DO YOU?
I CAN UNDERSTAND EVERY WORD OF IT!!
**California Advance Health Care Directive**

**Explanation**

You have the right to give instructions about your health care decisions. This right is called the directive right. You also have the right to make health care decisions without a health care directive. A directive can empower your doctor or authorize another person to make health care decisions for you when you can't make them for yourself.

Part 1 of this form is a statement of your health care preferences. Part 2 has two more specific instructions to guide health care decisions. These instructions are to be followed in the event you are incapacitated, severely ill, unconscious, or otherwise unable to communicate your wishes. The instructions are to be followed as long as they are consistent with medical care and the wishes of your surrogate or doctor.

You have the right to refuse the execution of any health care directive or to revoke it at any time.

- ZSFG Ethics
- > 15% ICU patients unrepresented
- Low ACP rates

**White DB, Crit Care Med. 2006**

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**Advance Care Planning (ACP) Process**

- Clinician initiates conversation or gives materials
- Patient asks questions
- Patient identifies wishes
- Patient discusses wishes with surrogate
- Patient discusses wishes with doctor
- Patient full understanding & documents
- Clinician places in medical record

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**Health Literacy**

- “The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”

- Average reading level = 8th grade
- Medicaid and the elderly = 5th grade

Language Considerations

- 61 million people in U.S. (~20%) speak language other than English at home
  - 40 million Spanish, 3.4 million Chinese

- Lack of linguistically-appropriate materials


Cultural Considerations

- Non-Western views on autonomy & decision making
  - ~20% do not want to make own medical decisions

- Mistrust and perceived racism
  - Minorities given less information by clinicians and less time for discussion → mistrust forms


Advance Directives = High Stakes

- Checkbox responses can have life & death consequences

Advance Directives = High Stakes

- Checkbox responses can have life & death consequences


POLST Understanding

- What does this mean?
  “I only want to be on machines for a few days. My family knows this.”

- 50% understood section, ~ 30% discordant w/ goals

**Advance Directive**


- Overwhelming preferred -regardless of literacy or language
- Doubled 6-mo. completion

FREE

www.prepareforyourcare.org

English, Spanish, Chinese, Armenian, Arabic, Korean, Khmer, Russian, Tagalog, Vietnamese

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**Objectives**

- Health literacy & ACP
- Make ACP easier:
  - Consider an alternative approach
  - Easy-to-use, patient-facing tools

---

**Traditional Objective of ACP**

- To have patients make treatment decisions in advance of serious illness in an attempt to provide care consistent with their goals.

- Advance directives/POLST most often used
  - Clinicians & lawyers like check boxes
  - Are you DNR/DNI...yes or no?

---

**Advance Directives Are Helpful**

- Teno J. et. al., *JAGS* 2007
  - AD = better communication between surrogate & doctor, but still high stress

  - Silveira M. et.al., April 2010 *NEJM*:
    - AD preferences = care received “last days”
    - But, all proxy report 2 yrs later (recall bias)
    - What is still unknown:
      - Do ADs shape decisions in last months or years?
### Problems with only Advance Directives

- Not available when needed (POLST, EMR may help)
- Do not improve knowledge of patients’ preferences
- Do not always affect care/costs at the end-of-life
- Do not prevent surrogate stress or conflict


### Are Advance Directives Enough?

“We got the DNR in writing. But in making the decisions, which there were many, that was just one. Because the first decision was to put him in a nursing home. We were married 30 years and I could no longer take care of him (tearful). Then the second decision was whether to put him on a feeding tube because he had stopped eating and I wasn’t ready to let him go.”

Sudore RL et. al., J Pain and Symptom Management, 2013

### Forms and checkboxes

- No form or checkbox will ever eliminate the uncertainty and the complexity of the human condition.
- People need better preparation

### What Do We Discuss?

- For terminal patients who are not ready?
- For non-terminal patients with chronic illness?
  – Focused on LST, or more than that?
- How do we help **prepare people** for these discussions & decisions?
Problems with Treatment Decisions

- Focus on treatment decisions is flawed:
  - Prediction
  - Adaptation
  - Extrapolation


Problems with Prediction

- People cannot predict what will have for dinner/buy
- Predictions do not reflect one’s current
  - Medical
  - Emotional
  - Social context
- Preferences change during:
  - Changing AND stable health, & end-of-life


Uncertainty @ Hypothetical Scenarios

- 50% of diverse older adults who reported a treatment preference based on a hypothetical scenario were uncertain about their decision
- Uncertainty associated with:
  - Limited literacy, lower education
  - Latino, Asian/Pacific Islander, African Am.
  - Poor health status

Sudore RL & Schillinger D, et. al., J Health Comm. 2010 in press

Prediction

“I don’t think people know how they’re going to feel until they’re faced with the situation. They may have all kinds of theoretical ideas or something they read in Dear Abby, but when the time comes, you may be very surprised at your own reaction to something….I mean it’s not as easy as black and white. There are so many gray areas.”

Problems with Adaptation

- People cannot envision being able to cope with disability…but they can.
  - Report desire to forgo treatment in such states
  - Once in states, more willing to accept invasive tx

Ubel PA, et. al., Health Psychol. 2005; Fried et. al., Arch Intern Med. 2006
Winter L, et. al., Int J Aging Hum Dev. 2003

Problems with Extrapolation

- Decisions about less invasive treatments
  - Surgery, chemotherapy, nursing home

- Prior wishes in light of unforeseen clinical circumstances
  - e.g., DNI in setting of cancer may need to be re-evaluated during acute heart failure


Extrapolation

"Nothing’s written in stone and you can’t know to say, “Well this is what I want. Do not resuscitate.” But then the situation at hand can be totally different to where you do or don’t have a chance of them resuscitating you."


Now What?

Why Not Just Designate a Surrogate Decision Maker?
Why Not Just Designate a Surrogate?

- Surrogates do not know they were chosen
- Knowledge of preferences no better than chance
- Stress, anxiety, PTSD
- Use own hopes, desires and needs

Fried TR, et. al.; J Gen Intern Med. 2008; Sudore RL., JAMA, 2009

Grandfather: “I am tired and not afraid of dying. No breathing tubes!" “No shocks and no pushing on my chest. Just let me go.”

Sudore RL., JAMA, 2009

Why Not Just Designate a Surrogate?

Grandfather: “I am tired and not afraid of dying. No breathing tubes!" “No shocks and no pushing on my chest. Just let me go.”

Grandmother: “Of course I would tell the doctors to do everything possible to keep my husband alive.”

Sudore RL., JAMA, 2009

Now What?

Why Do Anything in Advance?
Why Prepare Patients & Surrogates?

- Clinicians cannot make recs or guide in decision making w/o patients' values and needs.
  - Highly individual
  - Can only be provided by patient/surrogate
- Without preparation, patients and surrogates not able to communicate values effectively
  - Stress & no prior relationship with doctors


Paradigm Shift

- Life sustaining treatments

Preparation for communication & decision making

Prepare For In-The-Moment Decision Making

- Shifts focus away from only asking people to make treatment decisions (only AD/POLST)
- Seeks to also PREPARE people with skills to:
  - identify what is most important to them (evolving)
  - communicate with surrogates & providers
  - make informed medical decisions over time
- Advance directives should be a marker of full preparation & reflect discussions over time

Sudore RL. & Fried TR. Ann Intern Med, 2010
How Best to PREPARE

What Matters Most → the Outcome

• What matters most is not the treatment BUT the outcome of treatment
• Not intubation or CPR (the cart)

but how their life will be after treatment (the horse).


What Matters Most → the Outcome

“Are we reviving him – sticking the tube in – so that he can suffer more? I guess it goes back to what happens IF you revive him? Is he going through that whole process again? It’s the end result.”


Stories Frame Values About Outcomes

• Prior stories about self, friends/family
• Media (e.g., Terri Schiavo)
  – 92% English/Spanish-speakers heard of Terri
  – Due to the case and media coverage:
   • 61% clarified own goals of care
   • 66% spoke to family
   • 8% spoke to their doctor (missed opportunity)

Reflect on Changes in Their Story

• Reflect on whether changing or adapting to serious illness
  – Helps better predict preferences

• As disease trajectory progresses, more specific:
  • “When you were in the hospital with heart failure…, when you were in the ICU/intubated”

Ubel PA, et. al., J Exp Psychol Appl. 2005; Goldstein NE, et. al., Arch Intern Med. 2008

Surrogates Need Preparation

• 50-76% of patients will be unable to participate in some or all of their own decisions at the EOL

• Surrogates report:
  – Unprepared to make med decisions
  – Never asked, do not know their role
  – Process as highly stressful

Vig EK, et. al., J Gen Intern Med. 2007; Fried TR, et. al., J Gen Int Med

Surrogates Need Preparation

“The only thing that I managed to talk to my father about was if anything should happen and his heart should stop… That was the extent of how much I knew what his wishes were. The other stuff we were guessing at is to, you know, whether he would want to be home or in a hospice…”


Surrogate Leeway

• Surrogates may need to make decisions that conflict with patient’s preferences
  – Cannot honor wish to die at home
  – Asked to w/d care or may benefit from transient treatment

• Surrogate burden eased by giving them permission to consider factors other than prior wishes during in-the-moment decision making = Leeway

Vig EK, et. al., J Gen Intern Med. 2007; Fried TR, et. al., J Gen Intern Med. 2008
Lo B, et. al., Arch Intern Med. 2004
**Surrogate Leeway**

- How much leeway should your physician and surrogate have to override this advance directive if overriding were in your best interest?
  - 39% no leeway
  - 19% a little leeway
  - 11% a lot of leeway
  - 31% complete leeway

- Ethically, still an extension of patients autonomy

Sehgal A, et. al. JAMA 1992

**Surrogate Leeway**

“*I am ready to go but if it helps your grandmother to feel that she did everything possible for me, even if it is because she doesn’t want me to go, that is OK. She is the one who has to go on living with her decision. If this is what she wants, then this is what I want because I love her.*”

Sudore RL., JAMA 2009

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**3 ACP Steps for Clinicians**

1) Choose a surrogate, ask the surrogate

2) Clarify values about the outcome of treatment -how their life will be...not just about CPR -re-assess over time for changes in wishes

3) Establish leeway in surrogate decision making -permission to change prior decisions

Sudore RL., Fried TR. Redefining the ‘Planning’ in Advance Care Planning. Ann Intern Med, 2010

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**Step 1 Surrogates → Stories**

“Is there anyone you trust to make medical decisions for you?”

“Does this person know you chose him/her for this role?”

“What have you talked about?”
Step 2 Values: Stories

“How do you define good quality of life?”

“How have you seen someone on TV or had someone close to you who had serious illness?”

What went well/did not go well? Why?

“If you were in this situation (again), what you would hope for?”

Step 2: Clarifying Values

• Some people say that life would always be worth living no matter what type of serious illness, disability, or pain they may be experiencing.

• Other people feel that there may be some health situations or experiences that would make life not worth living, such as never being able to wake up from a coma or never being able to talk to family or friends.

• What type of person are you? Why?

Step 3 Leeway:

“Is it OK to use your medical wishes as a general guide — to change your decisions if your doctors think it is best at that time?”

“Or, are there some decisions you never want changed even if the doctors are recommending it?”

Translating Their Story

• “Based on what you told me about:”
  – What brings your life meaning
  – How you felt about your loved one’s experience
  – How you felt about your last hospitalization

• “It sounds as though X may be something that you would/would want for yourself. Is this correct?”
Objectives

- Health literacy & ACP
- Make ACP easier:
  - Consider an alternative approach
  - Easy-to-use, patient-facing tools

Major Communication Deficits

- Patients are not empowered
- Surrogates are not empowered

Why a Patient-facing Website

- Lack time, resources
- Dissemination
- Tell a story
Creating PREPARE

• Social Cognitive Theory
• Health Belief Model
• Theory of Planned Behavior
• Stages of Change

Theory at a Glance: A guide for health Promotion Practice, NCI

Creating PREPARE

• Expert panel
  • Health Literacy
  • Geriatrics & Palliative Care
  • Behavior change
• 13 focus groups*
  • Patients, surrogates
• Cognitive interviews
• Videos that model behavior: HOW

* Sudore RL et al., J Pain and Symptom Management, 2012

Creating PREPARE

• Easy to understand
  – 5th-grade reading level, large font
  – Voice-overs & closed captioning
• Balanced content of videos:
  – Race/ethnicity, gender
  – Aggressive vs. comfort care
  – Surrogate availability, ~15% socially isolated
  – Decision making preferences, ~20% no decisions

* Sudore RL et al., J Pain and Symptom Management, 2012

Interactive, multi-media website
prepareforyourcare.org

Welcome
Welcome to PREPARE!
PREPARE is a program that can help you:
• make medical decisions for yourself and others
• talk with your doctors
• get the medical care that is right for you
You can view this website with your friends and family.

Click the NEXT button to move on.
5-Steps of PREPARE

1. Choose a Medical Decision Maker
2. Decide What Matters Most In Life
3. Choose Flexibility for Your Decision Maker
4. Tell Others About Your Wishes
5. Ask Doctors the Right Questions

How to do it

How to Ask Someone to Be Your Decision Maker

How to Say It

How to Ask Someone to be Your Decision Maker

How to overcome Barriers

Choosing a decision maker can be hard.

Here are some examples of how other people made it easier. Click the pictures to see their stories.

For Jorge, thinking about it was scary

For Helen, would rather leave her health to prayer
How to Tell Others

How to Tell Others About Your Wishes

Summary of My Wishes

Talk to your doctor about your medical wishes.
You will do this by July 30.

Summary of All Steps

Step 1: Choose a Medical Decision Maker

- You have chosen and asked (and your spouse/partner agreed) to be your decision maker.
- You want John to make medical decisions for you only if you cannot make your own decisions.

Step 2: Define What Matters Most to You

- What is most important to you—family, friends, religion, living on your own, and controlling your own body?
- You feel that there may be some health situations that would make your life not worth living, such as never being able to wake up from a coma.
- You want to treat you for a period of time, but stop if you are suffering.

Step 3: Choose Flexibility for Your Decision Maker

- You choose TOTAL flexibility in medical decision making for your decision maker.

Step 4: Tell Others About Your Wishes

- You have chosen family and friends who have strong opinions about your medical wishes.
- You told your decision maker about your wishes. But you have not until now told your doctor and family and friends.

Step 5: Ask Doctors the Right Questions

- When making decisions with your doctor, you want to share decision making with your doctor.
- When making decisions with your family and friends, you want your family and friends to make all medical decisions for you.
- You would want your doctor to tell you how sick you are on how long you have to live.

PREPARE Improves Patient Engagement in ACP

- Senior centers, 70 years, 92% never used a computer

Research Grants

- 3 RCTs
- Spanish & Chinese Translation

Randomized Trial: Patient-facing ONLY

PREPARE & Easy-to-Read AD Increase ACP Documentation in the EMR

Sudore, et al. JAMA Internal Medicine, 2017
PREPARE & Easy-to-Read AD Increase ACP Documentation in the EMR

PREPARE & Easy-to-Read AD Increase ACP Documentation in the EMR

PREPARE + AD Increased ACP Behavior Change > AD Alone

ACP Out to the Community

• Self-efficacy
• Readiness
• Discussions

Overall p < 0.001
Cool New Stuff

PREPARE for Your Care helps you:
- Have a voice in YOUR medical care
- Talk to your doctors about your wishes
- Give your family and friends peace of mind

Start using PREPARE

Learn more about PREPARE »

PREPARE Tools

PREPARE Questions
A guide to help people and their loved ones prepare for medical decision making.

New Advance Directives

New Easy-to-read ADs for all 50 States in English & Spanish
**PREPARE as a Movie**

**Toolkits** for creating movie events for libraries, churches, senior centers, group medical visits → NO TRAINING REQUIRED

**Senior Centers:**

**The Movie was Easy to Understand**

N=75

- Strongly Agree: 53%
- Agree: 47%
- I have no opinion: 0%
- Disagree: 0%
- Strongly Disagree: 0%

**Ready to answer questions about preferences for medical care**

N=75

- Strongly Agree: 38%
- Agree: 55%
- I have no opinion: 0%
- Disagree: 0%
- Strongly Disagree: 0%

**Recommend to friend or family**

N=75

- Strongly Agree: 68%
- Agree: 29%
- I have no opinion: 0%
- Disagree: 0%
- Strongly Disagree: 0%
Group Medical Visits ZSFG, n = 22

- Pre-to-post: 1 week
  - Surrogate designation 48% to 85%, p = 0.01
  - AD form completion 9% to 24%, p = 0.21

Next Steps

- Chinese PREPARE 準備
- PREPARE for surrogates
- Population-based studies

Thank You!

www.PrepareForYourCare.org
- rebecca.sudore@ucsf.edu
- @prepareforcare

New Collaborations & Pilots

- Incarcerated
  - Brie Williams, MD
- Homeless
  - Margot Kushel, MD
- DAAS & IHSS
  - Cognitive Impairment
    - Deb Barnes, PhD
Objectives

- Understand key differences between hunger and food insecurity and why these differences are important for clinicians
- Describe three mechanisms by which food insecurity increases risk of diet-sensitive chronic disease
- Learn how to screen for & respond to food insecurity in the clinical setting
Risk Factors (Household-Level)

• Children (19%)
  – Children under age 6 (20%)
  – Children with single mother (35%)
  – Children with single father (25%)
• Income <185% FPL (34%)
• Black (26%) or Latino (22%)
• Smoker in the household

Nearly 50% of US children and 90% of Black children will use Food Stamps at some point during their childhood.

About 50% of US adults will receive Food Stamps at some point between the ages of 20 and 65.

Food security: Access by all people at all times to enough food for an active, healthy life

Food insecurity: Household-level economic and social condition of limited or uncertain access to adequate food

Hunger

• The uneasy or painful sensation caused by a lack of food, or the recurrent and involuntary lack of access to food. (LSRO)

Coping Strategies to Avoid Hunger

• Eating low-cost foods
  – Fewer F&V
  – More fats/carbs
• Eating highly filling foods
• Small variety of foods
• Avoiding food waste
• Binging when food is available

• Higher risk of obesity, diabetes, & other chronic, diet-sensitive chronic disease
• Once you are chronically ill, poorer ability to manage it your illness
Food Insecurity & Health Research: Summary of the Evidence

- **Food insecurity** associated with:
  - Poorer dietary intake
  - Poor physical, mental, and behavioral health
  - Poorer disease management

- **Addressing food insecurity** likely associated with:
  - Better dietary intake
  - Improved disease management
  - Lower healthcare costs
  - Better health

**Across the Lifespan:**
- Kids: Fe-def anemia, behavioral problems, mental health sx’s, poor cognitive development & academic achievement, hospitalizations, obesity
- Adults: obesity (women), DM, HTN, CVD, depression, hospitalizations, ED utilization, PES visits
- HIV: poorer viral suppression, decreased medication adherence
- Elderly: reduced ability to live in community

These are just a few of the MANY associations.
Coping Strategies

- **Dietary Quality**
  - Food affordability
- **Eating Behaviors**
  - Episodic food inadequacy
- **Bandwidth & Stress**

Relation between the energy density of selected foods and energy costs ($/MJ)

Food Costs, Dietary Intake, & Obesity

- Diet recommended by USDA requires low-income family spend 43-70% of their food budget on F&V's
- Meeting 2010 USDA Dietary Guidelines for Americans would add $380 to the average consumer’s annual food costs
  - Meanwhile, each 1% additional calories from saturated fat and sugar results in significant decrease in food costs.

Figure 1.2 Low-Income Households Spend the Greatest Portion of Income on Food

<table>
<thead>
<tr>
<th>Year</th>
<th>Lowest income quintile</th>
<th>Middle income quintile</th>
<th>Highest income quintile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>35%</td>
<td>25%</td>
<td>15%</td>
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<tr>
<td>2005</td>
<td>37%</td>
<td>27%</td>
<td>17%</td>
</tr>
<tr>
<td>2006</td>
<td>39%</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>2007</td>
<td>41%</td>
<td>31%</td>
<td>21%</td>
</tr>
<tr>
<td>2008</td>
<td>43%</td>
<td>33%</td>
<td>23%</td>
</tr>
<tr>
<td>2009</td>
<td>45%</td>
<td>35%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Note: Average annual incomes for the quintiles in 2009 were $9,846 for the lowest, $46,012 for the middle, and $157,631 for the highest.
What is food affordability?

- Food costs
- Time for food preparation
  - 16.1 hours/week to eat a healthy diet on TFP!
- Time for travel and cost of transportation to full service grocery store
- Equipment for storage and preparation
- Extra cost for desired variety and quality of perishable food
- Fear of food waste

Coping Strategies

- Dietary Quality
  - Food affordability
- Eating Behaviors
  - Episodic food inadequacy
- Bandwidth & Stress

Cycles of Consumption

- Food insecurity is cyclical & episodic
  - Monthly SNAP (“The Food Stamp Cycle”) or pay checks
  - Seasonal variation
  - Periodic, unforeseen expenditures
- Food insecure households are food insecure during 7 months of the year on average
- Month-to-month variability in intake is seen most acutely among mothers

“In the beginning of the month I eat more meats, salads and fruits...At month’s end I have to eat whatever is in the cupboard....”

“The end of the month, I start getting out of food...but I have to eat something, ’cause if I don’t eat behind my [insulin] shot, that shot will make you so sick. I just eat anything I can find during that time just to keep me from getting sick.”
Coping Strategies

- **Food Shortage**
  - Skipped meals
  - Reduced caloric intake
- **Food Adequacy**
  - Avoidance of food waste
  - Systematic overconsumption
  - Shifts to energy-dense foods

Diabetes as a Model

- **Food Shortage**
  - Skipped meals
  - Reduced caloric intake
- **Food Adequacy**
  - Avoidance of food waste
  - Systematic overconsumption
  - Shifts to energy-dense foods

Hypoglycemia & Food Access

- Among primary care patients with diabetes at community health centers (38% food insecure)
  - Food insecure patients more likely to report blood sugar ever gotten too low because you couldn’t afford food (33% FI vs 5% FS)
  - Food insecure patients more likely to report ever been to the ER because your blood sugar was too low (28% FI vs 5% FS)

Food Insecurity and Hypoglycemia

Of the 711 participants, 197 (28%) reported at least one significant hypoglycemic episode in the previous year.

*Adjusted model includes age, race/ethnicity, tobacco use, English proficiency, income, educational attainment, body weight, insulin, renal disease, adherence to medication and blood glucose testing, comorbid conditions, and alcohol abuse.


Seligman, JHCPU, 2010.

Seligman, Arch Int Med, 2011.
Risk Factors for Severe Hypoglycemia (Self-Reported)

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Adjusted OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Insecurity</td>
<td>3.0</td>
<td>(1.5-5.9)</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>2.2</td>
<td>(1.1-4.5)</td>
</tr>
<tr>
<td>Comorbid illnesses</td>
<td>1.5</td>
<td>(1.1-2.0)</td>
</tr>
<tr>
<td>Obesity</td>
<td>0.3</td>
<td>(0.1-0.7)</td>
</tr>
</tbody>
</table>

Not significant: renal disease, insulin use, hypoglycemia knowledge, English proficiency, age, race/ethnicity, education, income, tobacco use, glucose monitoring, and medication adherence

Seligman, Arch Int Med, 2011.

Admissions for Low Blood Sugar Increase by 27% in Last Week of the Month for Low-Income Population

Food Insecure Adults with Diabetes Have Higher Average Blood Sugars

Coping Strategies

- **Dietary Quality**
  - Food affordability
- **Eating Behaviors**
  - Episodic food inadequacy
- **Bandwidth & Stress**
Hunger Takes Up a Lot of Brain Space

• Less space left over for:
  – Registering/re-registering for benefits
  – Applying for/maintaining employment
  – Taking care of health needs
  – Parenting children

Adapted from Seligman, NEJM.
Food Insecurity & Subsequent Annual Health Care Expenditures

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<tr>
<th></th>
<th>Food Secure</th>
<th>Food Insecure</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>4208</td>
<td>6071</td>
</tr>
</tbody>
</table>

NHIS-MEPS data adjusted for: age, age squared, gender, race/ethnicity, education, income, rural residence, and insurance.

$77.5 billion additional health care expenditures annually

If my clinic helps a patient become more food secure, will it make a difference in their health?

Resources for Food Insecure Households

- Federal Nutrition Programs
- Charitable Feeding System
- Informal Social Support
- Personal Income/Budget Shifts
Resources for Food Insecure Households

**Federal Nutrition Programs**

- Approximately 1 in 7 Americans (46 million people, $70 billion)
- Provides benefits on EBT card for use in authorized food outlets
- Maximum benefit ~$5.40/day
- Reduces depth and breadth of food insecurity, but 54% of households still food insecure
- Most severely food insecure households are most likely to opt in

---

**Admissions for Low Blood Sugar Increase by 27% in Can make a difference in health outcomes?**

Seligman HK et al. Health Aff 2014;33:116-123

---

**SNAP Helps Families Afford Adequate Food**

- 65.1% Household upon entering SNAP
- 54.5% Same households after six months of SNAP

Percent of households food insecure

<table>
<thead>
<tr>
<th></th>
<th>Percent of households in which children were food insecure</th>
<th>Percent of households with very low food security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same households after six months of SNAP</td>
<td>32.3%</td>
<td>35.9%</td>
</tr>
<tr>
<td>Households upon entering SNAP</td>
<td>45.0%</td>
<td>29.6%</td>
</tr>
</tbody>
</table>

Source: Agriculture Department. “Measuring the Effect of Supplemental Nutrition Assistance Program (SNAP) Participation on Food Security,” August 2013. This chart shows the results of a study that looked at longitudinal data comparing SNAP households upon beginning to receive SNAP, and six months after SNAP receipt.

---

**Average monthly SNAP benefits per person, fiscal 1980–2015**

- Inflation adjusted (2015 dollars)
- Nominal

SNAP = Supplemental Nutrition Assistance Program

$1,409 savings

Best estimate from three approaches showing similar effect sizes: standard regression, near/far instrumental variable analysis, and augmented inverse probability weighting.

Berkowitz, Seligman, Rigdon, Meigs, and Basu. JAMA Int Med. 2017

FIGURE 6

SNAP Participants Report Better Health Than Eligible Non-Participants

Percent more or less likely to describe health as:

- Excellent: 10.6%
- Very good: 3.9%
- Good: -4.0%
- Fair: -6.0%
- Poor: -4.5%

Source: Christian A. Gregory and Pamfa Deb, “Does SNAP Improve Your Health?” Food Policy, 2015. Adjusted for differences in demographic, socioeconomic and other characteristics. Sample includes adults aged 20 to 64 in households with income at or below 130% of the federal poverty level.

FIGURE 7

Children With Access to SNAP Fare Better Years Later

Percentage-point change in outcomes for adults who received SNAP as children, compared to adults who did not

- Stunted growth: -16%
- Heart disease: -5%
- Obesity: -6%
- High school completion: 18%


Food Insecurity & Chronic Disease

Adapted from Seligman, NEJM.
American Academy of Pediatrics recommends universal screening

**Promoting Food Security for All Children**

**Policy Statement**

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN

Key Points in AAP Policy Statement

- 2-item screening tool (Hunger Vital Sign) at scheduled health maintenance visits
- Pediatricians should
  - familiarize themselves with community resources
  - learn how food insecurity impacts health outcomes
  - be advocates for increasing access and funding to nutrition programs
Hunger Vital Sign:
2-item Clinical Screen for Food Insecurity

1. Within the past 12 months we worried whether our food would run out before we got money to buy more.
2. Within the past 12 months the food we bought just didn’t last and we didn’t have money to get more.

Often or sometimes true to EITHER question suggests food insecurity (97% sensitivity, 83% specificity)

For test characteristics among households with children: Hager, Pediatrics, 2010
For test characteristics among households without children, population-based: Gundersen, PHN, 2017

How Often Do I Screen?

- No standard of care
  - Should probably depend on demographics of your practice
- Most patients should be screened once
- Consider screening high-risk patients annually
  - Demographics: children in household, Medicaid, socially isolated, smoker, low SES, veteran,
  - Clinical: diabetes, frailty, malnutrition, unintentional weight loss, poor appetite, pressure ulcers, depression or apathy, poor medication adherence, obesity

Food Insecurity Screening Algorithm for Pediatric Patients

Providers should evaluate hyperglycemia and hypoglycemia in the context of food insecurity and propose solutions accordingly.”

(A recommendation)

www.nopren.org

Working Groups:
Hunger Safety Net
Clinical Linkages
Resources

STANDARDS OF MEDICAL CARE IN DIABETES—2016

“Providers should evaluate hyperglycemia and hypoglycemia in the context of food insecurity and propose solutions accordingly.”

(A recommendation)
Clinical Implications for Patients with Diabetes

- In the setting of frequent/severe hypoglycemia:
  - Before you liberalize glycemic targets, screen for food insecurity
- Medications:
  - Metformin, if clinically appropriate
  - If using sulfonylureas: glipizide preferred immediately before meals (skip if not eating)
  - If using long-acting insulin: dose low using a peakless analog (e.g., glargine)
  - If using short-acting insulin: OK to use immediately after meal if meals are unreliable
- Prescribe glucose tabs
- Smoking cessation & substance abuse counseling

Dietary Counseling

- Stress portion control rather than dietary substitutions
- Frozen (not canned) fruits and vegetables
- Farmers’ markets
- Referral to community resources for food as part of disease management
- Nutritionist & SW referral for other strategies

Day without food = “‘sick day’ management protocols”
Clinical Implications

• Actively refer to food assistance programs
  – Federal nutrition assistance
    • SNAP and WIC work
  – Community-based organizations
  – On-site initiatives

• Address stigma
  – “This is as important for your health as the medicines I am prescribing.”
  – Screening: “I ask all of my patients about access to food. I want to make sure that you know the community resources that are available to you. Many of these resources are free.”

Local Resources

• Refer to food assistance programs
  – SNAP—50% of eligible Californians not enrolled, particularly older adults
    – SSI recipients in CA still not eligible
    – Former drug felony in CA are now eligible
  – Elder nutrition programs (congregate meal sites)
  – Home delivered meals, medically-tailored meals, home-delivered groceries
    • Meals on Wheels & Project Open Hand
  – Food pantries
  – Free dining rooms (“soup kitchens”)
Implicit Bias, Race and Medical Care

Kate Lupton, MD
Sarah Schaeffer, MD, MPH
University of California, San Francisco

We have nothing to disclose

Bias and Equity

Two sides of the same coin

Implicit Bias & Health Care Disparities

Populations with Equal Access to Health Care
Objectives

- Describe implicit racial bias and how it develops
- Recognize how implicit bias about race can impact health care providers and patients
- Identify strategies to reduce the impact of implicit biases
Implicit Bias Defined

- Bias - Prejudice *in favor of* or against one thing, person, or group compared with another, usually in a way that is unfair. (Oxford Dictionary)
  - Explicit (conscious)
  - Implicit (unconscious)

- Implicit Bias - Social stereotypes about certain groups of people that individuals *form outside their own conscious awareness* (Fiske & Taylor, 1991; Valian, 1998)

How Implicit Bias Develops

1) Evolutionary Basis

- Humans process huge amounts of environmental stimuli → organize into categories with similar characteristics
- Evolutionarily helpful to quickly categorize
- Categorization is hard wired, even as categories themselves evolve
How Implicit Bias Develops

2) Historical Basis
• Specific to each environment: our country, state, city, community
• Long history of marginalization and injustice

3) Structural Basis
• Systemic discrimination and oppression

We All Have Implicit Bias

• Usually incompatible with our conscious values and beliefs

• “The result of mental associations that have formed by direct and indirect messages we receive about different groups of people” (Staats 2016)

Origins of Implicit Bias - Race
Origins of Implicit Bias - Gender

"There's the guy responsible for turning Katinka Hosszu, his wife, into a whole different swimmer" – NBC commentator on Olympic Gold medal swimmer's coach

Origins of Implicit Bias
Gender and Race

"Oh, say can you see… the Olympic gold medalist slouching during the playing of the U.S. national anthem? Her expression was blank and distant. By all means, do not use the podium to pout, and it seemed like Gabby Douglas was simply pouting."

Origins of Implicit Bias
Gender and Race

"No apologies from [Lochte] or other athletes are needed… We have to understand that these kids were trying to have fun. Let's give these kids a break. Sometimes you make decisions that you later regret. They had fun, they made a mistake, life goes on."

Origins of Implicit Bias
Gender and Race

Measuring Implicit Bias

Implicit Association Test (IAT)

- Introduced in 1998: >15 million participants
- Used widely to measure implicit bias
- Measures time to match representatives of social groups (age, gender, race, others) to particular attributes (good, bad)
- Quicker matching = strong unconscious linkage
- Relatively resistant to social desirability concerns
Measuring Implicit Bias

- Development of Implicit Bias
  - Evolutionary, Historical, and Structural Basis
  - Messaging that contributes to implicit bias
- Examples of Implicit Bias and Patient Care
  - Treatment decisions
  - Prevalence of bias among healthcare providers
  - Communication & experience of care
- Tools to Counter Implicit Bias
  - Reducing biased behavior
  - Reducing personal bias

Overview

Race and Pediatric Pain Management

Table 2. Unadjusted Analgesia Administration and Opioid Administration by Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Any Analgesia</th>
<th>Type of Analgesia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proportion Receiving, % (95% CI)</td>
<td>Nonopioid</td>
</tr>
<tr>
<td>White</td>
<td>57.0 (49.2-64.8)</td>
<td>13.9 (13.4-14.6)</td>
</tr>
<tr>
<td>Black</td>
<td>54.8 (34.3-75.3)</td>
<td>34.1 (29.0-39.3)</td>
</tr>
</tbody>
</table>

Goyal et al, JAMA Pediatrics. 2015
Race and Pediatric Pain Management

As pediatricians implicit pro-white bias increased
• Less likely to recommend opioid treatment for African American children
• Recommendations for white children did not change

Race and Thrombolysis

<table>
<thead>
<tr>
<th></th>
<th>Black Patients</th>
<th>White Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient likely to have CAD</td>
<td>40.1%</td>
<td>29.8%</td>
</tr>
<tr>
<td>Very likely to offer thrombolysis</td>
<td>42.7%</td>
<td>58.2%</td>
</tr>
</tbody>
</table>
Race and Thrombolysis

- Health care providers across disciplines and training levels have implicit racial biases.
- Variable association between provider implicit bias and patient treatment recommendations and outcomes.
- Consistent association between implicit bias and poorer provider-patient communication.


Race, Bias and Communication

- **Explicit attitudes** → objective ratings of verbal friendliness
- **Explicit attitudes** → self-perceived friendliness
- **Implicit attitudes** → objective rating of non-verbal friendliness
- **Implicit attitudes** → partner’s perception of friendliness

Dovidio et al., J Personality and Social Psychology. 2002

Implicit Bias in Healthcare Providers

- Health care providers across disciplines and training levels have implicit racial biases.
- Variable association between provider implicit bias and patient treatment recommendations and outcomes.
- Consistent association between implicit bias and poorer provider-patient communication.

**Overview**

- **Development of Implicit Bias**
  - Evolutionary, Historical, and Structural Basis
  - Messaging that contributes to implicit bias
- **Examples of Implicit Bias and Patient Care**
  - Treatment decisions
  - Prevalence of bias among healthcare providers
  - Communication & experience of care
- **Tools to Counter Implicit Bias**
  - Reducing biased behavior
  - Reducing personal bias

**When Implicit Bias is Triggered**

- **Environments where we are...**
  - Busy
  - Have less personal experience with other group members
  - Need to fill in information gaps
  - Asked to use pattern recognition

---

**Implicit Bias and Communication**

**PCPs with high levels of pro-white implicit bias**

<table>
<thead>
<tr>
<th>Objective observations</th>
<th>Black Patients</th>
<th>White Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ verbal dominance</td>
<td>↑ verbal dominance</td>
<td></td>
</tr>
<tr>
<td>↓ pt positive affect</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Patient perceptions**

- ↓ respect for patient
- ↓ like clinician
- ↓ confidence in clinician
- ↓ recommend to others

**PCPs with high levels of stereotypes of Blacks as non-adherent**

<table>
<thead>
<tr>
<th>Objective observation</th>
<th>Black Patients</th>
<th>White Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>longer visits</td>
<td></td>
<td>shorter visits</td>
</tr>
<tr>
<td>slower speech</td>
<td></td>
<td>faster dialogue</td>
</tr>
<tr>
<td>↓ pt-centered dialogue</td>
<td></td>
<td>↑ clinician verbal dominance</td>
</tr>
</tbody>
</table>

**Patient perception**

- ↓ trust
- ↓ confidence in provider
- ↓ involvement in decisions

- ↑ clinician positive affect
- ↑ pt-centered dialogue
Making the Unconscious Conscious

- Recognize and identify our biases
- Understand the cognitive and structural foundations of our implicit biases
- Having implicit/unconscious biases ≠ being a “bad” person

Response to the IAT - We All Carry Biases

“I took [an implicit association test] the first time, and it told me that I had a moderate preference for White people... I was biased - slightly biased - against Black people, toward White people, which horrified me because my mom’s Jamaican. The person in my life who I love more than almost anyone else is Black, and here I was taking a test, which said, frankly, I wasn’t too crazy about Black people, you know?

So, I did what anyone else would do: I took the test again! Maybe it was an error, right? Same result. Again, same result, and it was this creepy, dispiriting, devastating moment.”

Malcolm Gladwell in 2007, speaking to Oprah Winfrey

Addressing Implicit Bias

- Improve decision making conditions
  - Slow down, be mindful and objective

- Counting
  - Use objective data to notice patterns

Response to the IAT - We All Carry Biases

“...I wasn’t too crazy about Black people, you know?”

Malcolm Gladwell in 2007, speaking to Oprah Winfrey

Addressing Implicit Bias

- Decrease biased behavior
  - Improve decision making conditions
  - Counting
  - Use objective data to notice patterns

Addressing Implicit Bias

Decrease personal bias

- **Individuation**
  Learn individual stories and characteristics

- **Stereotype replacement**
  Recognize responses based on stereotypes

- **Increase opportunities for contact**
  Who has a voice - personally and professionally


Conclusions

- Unconscious creation of stereotypes and bias is unavoidable
- Implicit bias plays a role in health disparities
- Implicit bias worsens communication with patients
- Awareness of personal biases is an important first step
- Strategies to mitigate personal bias exist and can be effective

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Sarah Schaeffer, MD, MPH
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Learning Objectives

- Define trauma and resilience
- Review how childhood trauma results in disease and poor outcomes
- Define “trauma-informed care” and describe ways of addressing trauma using health care as an example
- Emphasize the importance of caring for yourself as you care for others
Define Trauma

- "an event, series of events, or set of circumstances [e.g., childhood and adult physical, sexual, and emotional abuse; neglect; loss; community violence; structural violence; war] that is experienced by an individual as physically or emotionally harmful or threatening and that has lasting adverse effects."
  - The Substance Abuse and Mental Health Services Administration (SAMHSA)

- Trauma ruptures Relationships

Trauma and Resilience: Socio-ecological model

Trauma and adversity are SDOH that are inequitably distributed in society

http://www.cdc.gov/violenceprevention/overview/social-ecologicalmodel.html

How Common Is Trauma?

- In 2015, 60.8% of children were exposed to at least 1 form of violence in past year; 10% children exposed to 6 or more forms of violence in past year.
- 90% of US residents have experienced a serious traumatic event in their lifetimes
- 53% of all adults are exposed to either physical or sexual interpersonal violence over their lifetimes


Trauma affects health: Adverse Childhood Experiences (ACE) study

- 17,000 Kaiser SD patients--predominantly white, college educated population
- Surveys asked about 10 categories of childhood abuse, neglect and family dysfunction
- Cross-sectional study: compared answers to an array of current health behaviors and conditions
- Conclusion: ACEs are common; and are strong predictors of later health risks and disease in a graded dose-response relationship

ACES Study: Prevalence of childhood physical and sexual abuse?

1. 5% physical, 2% sexual
2. 10% physical, 5% sexual
3. 28% physical, 20% sexual
4. 60% physical, 40% sexual

ACES: Results

<table>
<thead>
<tr>
<th>ACE Category</th>
<th>Women (N = 9,930)</th>
<th>Men (N = 7,990)</th>
<th>Total (N = 17,920)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Abuse</td>
<td>5.5%</td>
<td>3.5%</td>
<td>4.57%</td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>5.3%</td>
<td>4.7%</td>
<td>4.99%</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>5.2%</td>
<td>4.4%</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

ACE's: Childhood Experiences Affect health across the lifespan...

Adverse behaviors:
- Children: behavioral & developmental problems
- Alcoholism and alcohol abuse
- Illicit drug use
- Smoking
- Early initiation of smoking
- Early initiation of sexual activity
- Multiple sexual partners

Reproductive outcomes:
- Unintended pregnancies
- Adolescent pregnancy

Future violence:
- Risk for intimate partner violence

Adverse health outcomes:
- Fetal death
- Childhood asthma & failure to thrive
- Depression
- Suicide attempts
- Sexually transmitted diseases (STDs)
- Health-related quality of life
- Obesity
- Ischemic heart disease (IHD)
- Liver disease
- Chronic obstructive pulmonary disease (COPD)

Adverse social outcomes:
- Homelessness
- Incarceration

Harvard Center on the Developing Child http://developingchild.harvard.edu/
School of Medicine • University of California, San Francisco
The Science of Toxic Stress
see: http://developingchild.harvard.edu/

ACE study:

ACE's: Life Expectancy—adult health is affected by childhood experiences...

Adulthood IPV: Health Effects

- Injuries and death
- Poor mental health (depression, anxiety, PTSD)
- Increased suicidality
- Poor physical health (eg's)
- Chronic pain
- Disability
- Asthma
- Stroke
- Heart disease
- STD's—risk doubled or tripled, HIV risk increased
- Unwanted pregnancy and abortions
- Substance addiction (ETOH) increased
- Overuse of health services and missed medical appointments and higher cost of healthcare

http://www.cdc.gov/violenceprevention/intimatepartnerviolence/consequences.html
### Trauma is rooted in oppression and discrimination...

<table>
<thead>
<tr>
<th>Structural Violence ↔ Interpersonal Violence Continuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racism</td>
</tr>
<tr>
<td>Homophobia/Transphobia</td>
</tr>
<tr>
<td>Misogyny/gender-based violence</td>
</tr>
<tr>
<td>Xenophobia</td>
</tr>
<tr>
<td>Discrimination against people with disabilities</td>
</tr>
<tr>
<td>Police brutality and violence</td>
</tr>
<tr>
<td>Mass incarceration/unnecessary criminalization</td>
</tr>
<tr>
<td>Bullying</td>
</tr>
<tr>
<td>Community violence/response to community violence</td>
</tr>
<tr>
<td>War/Genocide/Rape and Torture used in war</td>
</tr>
<tr>
<td>Poverty/discriminatory economic policies</td>
</tr>
<tr>
<td>Housing instability/substandard housing/housing discrimination</td>
</tr>
<tr>
<td>Food instability/food desserts/racist food advertising</td>
</tr>
<tr>
<td>Unemployment/employment discrimination</td>
</tr>
<tr>
<td>Poor education/education system disparities/school to prison pipeline</td>
</tr>
<tr>
<td>Environmental injustice (local and global) and the list goes on...</td>
</tr>
</tbody>
</table>


### Trauma is “contagious”: transmitted through relationships

- Passed on through individuals, families, communities, systems
- Passed on through generations
- Passed on through power dynamics/discrimination
- Passed on to healthcare providers as vicarious traumatization

### Experience of trauma can be mitigated by resilience

- The ability of an individual, family, or community to cope with adversity and trauma, and adapt to challenges or change.
  - The Substance Abuse and Mental Health Services Administration (SAMHSA)

Resilience is promoted by healthy relationships and social connectedness (at every level of socio-ecological model)

### Trauma informed care:

- Strengths-based service delivery approach
- Grounded in an understanding of and responsiveness to the impact of trauma
- Emphasizes physical, psychological, and emotional safety for both providers and survivors
- Creates opportunities for survivors to rebuild a sense of control and empowerment.

SAMHSA
http://www.samhsa.gov/samhsaNewsletter/Volume_22_Number_2/trauma_tip/key_terms.html
Trauma Informed Systems Principles: San Francisco DPH

A system in which there is a healing space for all employees and all patients created by continuous commitment to these “trauma informed principles”:

- Trauma Understanding
- Cultural Humility** & Responsiveness
- Safety & Stability
- Compassion & Dependability
- Collaboration & Empowerment
- Resilience & Recovery

**Watch: https://www.youtube.com/watch?v=LLchs28ANj8

Trauma-informed Care: 4C’s

- Calm
- Contain
- Care
- Cope


Ms. Jones:

Ms. Jones is a 44 y old woman who comes to her first primary care visit complaining of pain and insomnia.

She has diabetes and asthma—both are poorly controlled. She seeks care frequently in the ED for pain and shortness of breath where she has been noted to smell strongly of alcohol.

She is very upset that you are late for her appointment.

Trauma-informed Care: Calm

- Calm yourself to help model and promote calmness for the patient (Co-regulation)
**Trauma-informed Care: Calm**

- ASSUME trauma could be root cause of poorly controlled disease processes and alcoholism
- EXPECT that change will likely be slow
- GOALS (eg’s):
  - Model a respectful, healthy relationship
  - Prioritize safety, dependability
  - De-stigmatize adverse sequelae of trauma
  - Collaborate on shared agenda setting
  - Empower and focus on resiliency
  - Practice with cultural humility and attention to power dynamics

**Ms. Jones: Childhood history**

Ms. Jones’ father was incarcerated for DV when she was 10. Her uncle moved in to “help out” but sexually abused her for 3 years. Ms. Jones began drinking at age 10 and did very poorly in school. She was placed in a group home at age 13 when her mother felt she was “out of control”.

Ms. Jones remembers a favorite aunt as the only person she ever felt truly loved her.

**Trauma-informed Care: Contain**

Introduce or ask about the topic of trauma in a way that:
- will allow the patient to maintain emotional and physical safety;
- offers choice and control,
- respects the time-frame for your interaction;
- allows you to offer the patient further trauma-specific treatments without disclosure

**Non-disclosure based universal trauma education:**

- NON-DISCLOSURE based education about trauma is likely the SAFEST way to introduce this topic – gives patient more control and choice
- TIME-CONSTRAINTS: do not inquire directly about trauma if you do not have time to listen compassionately to the answer.
- CARE and trauma-specific service referrals can be offered without the need for very much or any disclosure

**Adulthood intimate partner violence education and inquiry…**

- Screening: Safe, effective, required as free preventive health service for women and girls by the Affordable Care Act, increases disclosure, multiple validated tools (HITS, HARK for example.) Ask if patient is ALONE.

- New approach—Universal education/conversation:
  “I talk to all my patients with chronic pain about how stress in our relationships or someone hurting us can make our pain worse. If someone is hurting you, there is help available (hotline/clinic). So, I’d like to talk to you about any stress in your relationships or whether someone is hurting you or threatening you”

**Lifetime trauma screening: Early onset clues…**

- Young age of onset of substance use or mental health problem or first sexual experiences is highly suggestive of trauma

- Always ask age of onset

- “How old were you when you first started drinking alcohol?”

- “How old do you think you were when you first ever became depressed?”

**Childhood trauma—education and inquiry**

- **FRAMING:** “How we were treated when we were children can affect our health later in life so I would like to ask you about your childhood”

- “Who did you grow up with?” (parent(s)?, grandparent?, others?)

- How did [insert person(s)] treat you?

- Provide examples if unclear: “Sometimes family members cheer you on and support you and sometimes family members criticize you, put you down, hurt you or hit you?” “How did [insert person] treat you?”

**Trauma-informed care: Contain**

So, for example... When Ms. Jones tells me on the very first visit that she first began drinking at age 10, I would say...

“In my experience, when a patient tells me that she began drinking at age 10, it is often because she was experiencing very difficult things during childhood. We are just meeting each other for the first time today, so we don’t need to go into those details right now. I do want you to know that I am open to discussing those things in the future or referring you to a counselor who specializes in trauma treatment if you think that would be helpful”.

---

**SCHOOL OF MEDICINE • UNIVERSITY OF CALIFORNIA, SAN FRANCISCO**
**Trauma-informed care: Contain**

Ms. Jones discloses trauma briefly without obvious distress

- **Acknowledge courage:** “Thank you for sharing this information with me”
- **Provide validation and support:** “I am so sorry this happened to you”
- **Inquire re impact:** “How do you feel this experience has affected you?”

Ms. Jones becomes upset, tearful or distressed:

- **CONTAIN:** “I am hoping that we will gradually get to know each other over time. I would like to help make this clinic a place that feels healing to you. So it is very important that we only discuss the level of detail that will allow you to feel as calm as possible when you leave the appointment. Would you like a referral to a therapist who specializes in trauma care?”
- **CALM:** “Could we take a deep breath together? Let’s sink our weight into our chairs and feel the earth supporting us”

**Trauma-informed care: Care**

- **Emphasize good self-care and compassion for both yourself and the patient**
- **De-stigmatize harmful behaviors...**
  - **NOT**—what’s wrong with you?
  - **Instead**—What happened to you?
- **Guilt and shame common—create non-judgmental space in which all feelings are valid**
- **Acknowledge FEELINGS (never wrong, often conflicting) while EXPLORING (without criticism) whether a relationship /behavior has harmful aspects or dynamics**

Express CARE and COMPASSION (especially about stigmatized behaviors and conditions):

“No wonder you started drinking when you were 10. It was so important for you to find a way to cope with an impossible and painful situation”

“It can be very hard to learn to take good care of yourself when you were hurt as a child”

“We all deserve to be treated well. I am so sorry those things happened to you”
Emphasize skills, behaviors, and interventions that build upon strength, resiliency, social connectedness and hope. These are your healing tools!!

- R eligion/prayer/spirituality
- E xpertise/Employment
- S ocial support & Network
- I ntimates
- L aughter
- I nstitutions
- E nergy & Enthusiasm/Exercise
- N avigate Life’s Difficulties
- C ultural Assets
- E ntertainment/Enjoyment

Thanks to Dean Schillinger, MD for mnemonic
Caring for ourselves: Practice

Trauma-informed care allows you to care for yourself while caring for others

Summary

- Trauma is common
- Trauma is a risk factor for:
  - early mortality,
  - chronic illnesses,
  - adverse behaviors,
  - more trauma
- Resilience factors can mitigate trauma’s effects
- Trauma-informed Care
  - Integrates recognition of high prevalence
  - Builds on resilience—Calm/Contain/Care/Cope
  - Recognizes need to care for patients and providers
DEALING WITH RACIST PATIENTS

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Disclosures

No conflicts of interest

The NEW ENGLAND JOURNAL OF MEDICINE

Perspective
Dealing with Racist Patients

1/ We've got a lot of white nationalists in Oregon. So a few times a year, a patient in the ER refuses treatment from me because of my race.

2:46 PM - 13 Aug 2017
20,317 Retweets 37,759 Likes
Objectives

- Recognize racially motivated comments/behaviors from patients

- Analyze clinical, legal, and ethical considerations when dealing with macroaggressions

- Compare the range of potential responses as clinicians and/or allies

Case 1: The Unpleasant Surprise

You are the intern on a busy call day, preparing to admit a young adult white woman patient in the ED for cellulitis and substance use disorder.

As you enter the room, you notice that she is very agitated and possibly still intoxicated. While trying to do the history and physical exam, she suddenly shouts “Go away n*gg*r! I don’t feel like talking right now

How do you respond?

Talk among yourselves
Possible Thoughts

- It’s early on in intern year and your senior resident is already stretched pretty thin after a tough call day. You don’t want to make it seem like you can’t handle it

- This patient is actually sick and really needs care. Confronting her may make things worse and make care more difficult

- You kind of hate this patient and don’t really care what happens to her at this point

Possible Responses

- Accommodate: Ask another resident to take over the care of the patient

- Negotiate: I just want to see the arm and then I am gone.

- Place limits: You cannot use that language here.

- Transfer: Offered only to stable patients and by attending discretion

Case 2: The Comment

You are the senior resident on the wards and you have a great team. The interns are terrific and medical students engaged and enthusiastic.

While rounding post-call one morning to meet the new patients, a middle age man admitted with pneumonia points to your hijab wearing student, and jokingly says “you look like someone who’s gonna blow this place up.”
Talk among yourselves

Possible Thoughts
- You want to treat the patient well and make the patient comfortable with your team. He is ill and will be staying awhile.
- You want to protect your student.
- You don’t want to escalate matters but you feel offended. The student and you have been working hard to take care of him.
- You are running late and need to move on.

Possible Response
- Lets talk about the antibiotics now.
- Pause, get back to the medical plan, and address with the student after you leave the room.
- Why are you saying that?
- I’m sorry you feel that way. I have to tell you, that we don’t agree. Ms. XXX is a valued member of our team.

Case 3: I don’t want that doctor
- You are precepting in the resident room in clinic.
- A second year resident enters, looking upset. She describes a new patient encounter where the patient said to her “I don’t want a spic doctor.” The resident was shocked, and briefly proceeded with the medical history before leaving the room. She now feels very uncomfortable and doesn’t know what to do.
- What do you advise?
### Talk among yourselves

**Possible Attending Thoughts**

- What is going on with the patient that he would speak that bluntly?
- Wondering how best to support the resident, but believing that hard experiences are part of professional development
- Could this resident be exaggerating?
- Angry and offended on the resident behalf
- What is the code for this in the EMR?

### Possible Attending Responses

- Patients can be very difficult. All in a day’s work.
- You should probe more and figure out what is worrying him about your background and his concerns.
- You have two choices. You throw him out, or I throw him out.

### Legal

- Patients have the right to refuse medical care.
  - Informed consent/battery law/EMTALA all protect patients
- Physician Employment Rights
  - Workplace free from discrimination/Title VII, 1964 Civil Rights Act
  - Independent contractors vs Employees
  - Physicians typically have autonomy to switch pts.
- Most case law from nurses and nurses’ aides
5 Ethical and Practical Factors

1. Patient medical condition
2. Decision-making capacity
3. Options for responding to the request
4. Reasons for the request
5. Effect on physician

5 Ethical and Practical Factors

1. Patient medical condition
   • If unstable, treat
2. Decision-making capacity
   • Rule out delirium, dementia or psychosis
3. Options for responding to the request
   • Are other MDs available? Is there family involved?

5 Ethical and Practical Factors

4. Reasons for the request
   • Ethically appropriate, occasionally. i.e. language concordance, history of discrimination.
   • Rarely PTSD, i.e. veterans
5. Effect on physician
   • Reasonable limits may and should be placed
   • No absolute ethical duty
   • Subordinate self-interest to the patient

Institutional vs Individual Response

• Hospitals must respect physician employment rights
• Hospitals cannot force physicians to accommodate
• Administrators can inform patients of their right to seek care elsewhere
• Stable patients can be transferred

Common Remarks/Situations

- Not the “real” doctor
- The second rate doctor
- What are you?
- Where are you really from?
- Mistaken for a different doctor of same ethnicity
- Assumed to be ancillary staff (i.e. food services or transportation)

From among ourselves..

- Been called "n**g**" in the ED by an intoxicated patient.
- Been asked, before even gathering a history or examining the patient, if I had gone to a US medical school
- Had a patient admitted for a new cancer diagnosis, who consistently referred to his nursing staff as the “Filipino mafia,” interrogated me about my racial and ethnic background on admission and on a daily basis, looked for opportunities to ostracize me based on my mixed-race heritage, with comments about my “obvious” self-loathing and existential confusion
- Intern year: went to evaluate a trached patient w hemoptysis on cross cover; as I was interviewing her, she wrote on her notepad "I don't want a Muslim doctor"

From among ourselves..

- I was consenting a patient for a procedure early in the morning. The patient interrupted the consent process to ask me where I was from. I told him I was from Atlanta and he responded, “Yeah, Atlanta, India.”
- I had a patient’s wife at Moffitt tell me I was smart for a black person. I tried to give him an out by saying oh well there are actually a lot of smart black people, but he again insisted that most AAs are running the streets and involved in drugs or other crimes.
- I had a patient at the VA tell me how good my English was for a foreigner
- An elderly patient’s husband called me, the white female attending, by my first name even though I repeatedly introduced myself as Dr. and asked me when and where I had trained, where I lived in the Bay Area, etc. I later found out that he asked my intern, a person of color, where she was from, and when my intern talked about the place in the US where she grew up, he asked her, "no, where are you REALLY from?"
Where are we now..

- Surprised at the level of interest from medical schools and hospitals
- Grant from bioethics foundation (Greenwall) to create policies for hospitals and medical schools
- Wanting to carefully balance diverse viewpoints in one of the few "commons" left in society

Summary

- Racist comments happen
- Allies have an important role to play
- Don’t be afraid to pause and discuss as a team
- Discuss policies as a practice
- It’s ok not to react perfectly
- Don’t forget that you have resources

cảm ơn bạn
Care of the Patient with Obesity: UCSF Medical Care of Vulnerable and Underserved Populations

Michelle Guy, MD
Clinical Professor Medicine
University of California San Francisco
Diplomate American Board of Obesity Medicine

Objectives

• Understand provider barriers to treating patients with overweight and obesity
• Who is most affected by obesity?
• Understand lifestyle modifications for weight loss
• Know what medications promote weight gain
• Review FDA approved medications for weight loss
• Review common weight loss surgeries

Weight Bias

• Negative attitudes toward persons with overweight or obesity
• Can be subtle or overt
• Can be verbal, physical or relational
• Stereotypes can lead to:
  - stigma
  - rejection
  - prejudice
  - discrimination

Disclosures

• None

Obesity Action Coalition, www.obesityaction.org
Weight Bias in Healthcare

- Study of 2400 women with obesity
  - 69% reported doctors were a source of weight bias
  - 52% reported being stigmatized by a doctor multiple times
- Patient factors
  - Stigmatized patients are more vulnerable to depression, anxiety or low self-esteem
  - May feel less motivated to adopt lifestyle changes
  - May avoid or cancel appointments
- Provider factors, as BMI increases:
  - Report less desire to help patients
  - More likely to report that treating patient is a waste of time
  - Express less respect for patient

Body Mass Index (BMI) $\text{kg/m}^2$

- Normal: 18.0-24.9
- Overweight: 25.0-29.9
- Class I: 30.0-34.9
- Class II: 35.0-39.9
- Class III: > 40.0

Percent of Children with Obesity and Overweight

- All Children: 16.9% Obesity, 14.9% Overweight
- Black: 20.2% Obesity, 12.3% Overweight
- Latino: 22.4% Obesity, 16.5% Overweight
- White: 14.3% Obesity, 14.2% Overweight

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Mortality and Morbidity of Obesity

- Greater BMI is associated with increased rate of death from all causes and cardiovascular disease
- There are currently over 200 comorbidities associated with obesity
- Even modest weight loss, 5% to 10%, improves comorbidities


*Potency includes many factors, such as the amount, rate, and sustainability of weight loss, and the long-term resolution of adiposopathy and fat mass disease. Potency varies greatly for each individual (i.e., long-term adherence to a lifestyle program can be as potent as gastric bypass surgery).

![Image of treatment options]

Current Treatment Options for Obesity

<table>
<thead>
<tr>
<th>Risk/Cost</th>
<th>Potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>LAGB&lt;VSG&lt;RNY</td>
</tr>
<tr>
<td>Very Low Calorie Diet</td>
<td>Includes lifestyle, and anti-obesity medications</td>
</tr>
<tr>
<td>Lifestyle + Medication</td>
<td>Includes lifestyle, and anti-obesity medications</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>Includes nutrition, physical activity, and behavioral programs</td>
</tr>
</tbody>
</table>

References: [1]

Exercise Interventions

- Exercise has benefits independent of weight loss
  - Attenuates diet-induced loss of muscle mass
  - Improves physical functioning
  - Reduces risk of heart disease, stroke, diabetes and premature death
- Exercise is important for the primary prevention of obesity
- Exercise alone or added to diet has only modest effect on weight loss
- Studies have not shown additional benefits with use of activity trackers
- Exercise is important for preventing weight regain
  - At least 30 minutes 5 days a week (150 minutes per week)

Dietary Interventions

Caloric Restriction, Reduce Energy Intake, Caloric Deficit
- self monitoring
- eliminate liquid calories
- stimulus control
- portion control
- intermittent fasting

Macronutrient composition does not predict weight loss
- Comparison of the Atkins, Ornish, Weight Watchers, and Zone diets for weight loss and heart disease risk reduction: a randomized trial *

*The diet a patient can adhere to the longest, is the best diet for that patient

The diet a patient can adhere to the longest, is the best diet for that patient

*Dansinger, JAMA 2005;293(1):43
Medications That Promote Weight Gain

• This is just part of the story
• Review timing of weight gain and initiation of medications
• Consider starting alternatives to weight promoting medications in patients with overweight and obesity
• Varying mechanisms responsible for weight gain: fluid retention, increased appetite, increased deposition of adipose tissue

Medications that Promote Weight Gain

<table>
<thead>
<tr>
<th>CLASS</th>
<th>GENERIC NAME</th>
<th>POSSIBLE ALTERNATIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular—Beta Blockers</td>
<td>Propranolol, Atenolol, Metoprolol</td>
<td>Carvedilol, ACE Inhibitors</td>
</tr>
<tr>
<td>Cardiovascular—Calcium Channel Blockers</td>
<td>Nifedipine, Amlodipine, Felodipine</td>
<td>Verapamil</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Insulin, Sulfonylureas, Thiazolidinediones, Meglitinides</td>
<td>Metformin, Glucagon-like peptide-1 agonists, Sodium glucose co-transporter 2 inhibitors, Alpha glucosidase inhibitors</td>
</tr>
<tr>
<td>Hormones</td>
<td>Glucocorticoids, Estrogens, Progestins, Testosterone</td>
<td></td>
</tr>
<tr>
<td>Alpha-adrenergic agonists</td>
<td>Prazosin, Doxazosin, Terazosin</td>
<td>Dutasteride, Proscar</td>
</tr>
</tbody>
</table>

Anti-Obsesity Medications

• Diet, exercise and behavioral modification must accompany all adjunct treatments
• Consider addition of anti-obesity medications in patients who:
  • have not been successful with diet and exercise
  • and BMI > or = 27 and obesity related comorbidities or BMI > 30
• need adjunct treatment for weight regain
• Anti-obesity medications have only modest effects on weight
• Goal is to modify or improve comorbid conditions
• 5-10% weight loss may improve both metabolic and fat mass disease
Conquer Study

- 1-year placebo-controlled trial of 2487 patients with 2 or more morbidities
- 61% patients completed 1 year of treatment with absolute body weight change:
  - −1.8 kg placebo
  - −9.9 kg phentermine 7.5 mg plus topiramate 46-0 mg
  - −12.9 kg phentermine 15-0 mg plus topiramate 92-0 mg

Gadde, K.M. CONQUER. Lancet 2011;377:1341-52

FDA Approved Anti-Obesity Medications

- If < 5% weight loss after 12-16 weeks discontinue medication
- If medication is effective, continue long-term
- Do not administer to women who are pregnant or trying to become pregnant
- Consider side effect profile and dual use in choosing medication

### Anti-Obesity Medications

<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>LENGTH OF TRIAL</th>
<th>TOTAL WEIGHT LOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phentermine HCL/Topiramate extended release (Qsymia)</td>
<td>≥1 year</td>
<td>−10.2 kg</td>
</tr>
<tr>
<td>Phentermine</td>
<td>13 weeks</td>
<td>−6.4 kg</td>
</tr>
<tr>
<td>Naltrexone HCL/Bupropion HCL extended release (Contrave)</td>
<td>≥1 year</td>
<td>−6.1 kg</td>
</tr>
<tr>
<td>Orlistat (Xenical and Alli)</td>
<td>≥1 year</td>
<td>−5.3 kg</td>
</tr>
<tr>
<td>Lorcaserin (Belviq)</td>
<td>1 year</td>
<td>−5.8 kg</td>
</tr>
<tr>
<td>Liraglutide (Saxenda)</td>
<td>24 weeks</td>
<td>−2.8 kg</td>
</tr>
<tr>
<td>Metformin</td>
<td>1 year</td>
<td>−2.8 kg</td>
</tr>
</tbody>
</table>

Anti-Obesity Medications Approved in 1999 or Before

- Phentermine
- Orlistat (Xenical and Alli)

Anti-Obesity Medications Approved in 2012 and Beyond

- Lorcaserin (Belviq)
- Phentermine HCL/Topiramate extended release (Qsymia)
- Naltrexone HCL/Bupropion HCL extended release (Contrave)
- Liraglutide (Saxenda)

### Anti-Obesity Medications

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>DEA Schedule</th>
<th>Approved Use</th>
<th>Price per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phentermine</td>
<td>Adipex, Ionomin</td>
<td>IV</td>
<td>Short-term</td>
<td>$6 - $45</td>
</tr>
<tr>
<td>Orlistat</td>
<td>Xenical, Alli</td>
<td>None</td>
<td>Long-term</td>
<td>$45 - $520</td>
</tr>
<tr>
<td>Lorcaserin</td>
<td>Belviq</td>
<td>IV</td>
<td>Long-term</td>
<td>$240</td>
</tr>
<tr>
<td>Phentermine + Topiramate-ER</td>
<td>Qsymia</td>
<td>IV</td>
<td>Long-term</td>
<td>$140 - $195</td>
</tr>
<tr>
<td>Bupropion-ER + Naltrexone-ER</td>
<td>Contrave</td>
<td>None</td>
<td>Long-term</td>
<td>$180 - $210</td>
</tr>
<tr>
<td>Liraglutide</td>
<td>Saxenda</td>
<td>None</td>
<td>Long-term</td>
<td>$900 - $1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>MECHANISM OF ACTION</th>
<th>CONTRAINDICATIONS, SIDE EFFECTS and PEARLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phentermine</td>
<td>Norepinephrine-releasing agent</td>
<td>Not recommended for patient with heart disease or uncontrolled HTN. Tachycardia, insomnia, overstimulation. Approved for short-term use, DEA schedule IV</td>
</tr>
<tr>
<td>Phentermine/Topiramate</td>
<td>Norepinephrine-releasing agent, GABA receptor modulation agent</td>
<td>As above / Avoid in patients with glaucoma or CKD, can cause metabolic acidosis, increased creatinine, dry mouth, paresthesia</td>
</tr>
<tr>
<td>Naltrexone/Bupropion</td>
<td>Opioi d antagonist/ Dopamine and norepinephrine reuptake inhibitor</td>
<td>Uncontrolled HTN, seizure disorders, anorexia/bulimia, chronic opioid use, headache, constipation, insomnia.</td>
</tr>
<tr>
<td>Loracaserin (Belviq)</td>
<td>SHT2c receptor agonist</td>
<td>Co-administration with serotonergic agents has not been established, may cause serotonin syndrome, headache, fatigue, cough, memory disturbance and hypoglycemia in diabetics</td>
</tr>
<tr>
<td>Orlistat (Xenical, Alli)</td>
<td>Pancreatic and gastric lipase inhibitor</td>
<td>Oily discharge from the rectum, flatus, fecal incontinence, cholelithiasis, kidney stones (oxalate), liver injury, decrease fat-soluble vitamin absorption</td>
</tr>
<tr>
<td>Liraglutide (Saxenda)</td>
<td>Glucagon-like peptide-1 (GLP-1) receptor agonist</td>
<td>Injectable, dose must be titrated over 4 weeks given significant dose dependent nausea and vomiting, diarrhea, hypoglycemia, increased lipase. Contraindicated in personal or family hx of MEN2 or thyroid cancer</td>
</tr>
</tbody>
</table>

**Inequity to the Utilization of Bariatric Surgery: a Systematic Review and Meta-Analysis**

![Graph](image1.png)

![Graph](image2.png)
Eligibility Criteria for Weight Loss Surgery

BMI > 40 kg/m² or BMI 35-40 kg/m² and an obesity related comorbidity and the patient is well-informed and motivated

1991 NIH Consensus Panel Recommendations

Contraindications to Bariatric Surgery

High Surgical Risk
- Severe cardiac disease with high risk for anesthesia
- Severe coagulopathy

Poor Post-op Adherence
- Untreated major depression or psychosis
- Binge-eating disorders
- Current drug or alcohol abuse
- Inability to adhere with post op diet and supplementations

Laparoscopic Weight Loss Surgery

Sleeve Gastrectomy
Lap Band Gastric Bypass

Lap Band
Sleeve Gastrectomy
Gastric Bypass
Laparoscopic Adjustable Gastric Banding (LAGB)

Restrictive Only, Not Metabolic

**Ideal Candidate**
- BMI 30*-40 kg/m²
- Needs to lose 50-100 pounds

**Benefits**
- Fewer early risks than other procedures
- One hour procedure
- Fully Reversible/Removable
- Lowest risk of vitamin deficiencies

**Considerations/Risks**
- Excess Weight Loss (EWL) 50%
- 10-year removal or reoperation rate is >25%
- Slower weight loss (1-2lbs/week) compared to other surgeries
- Appetite suppression may be difficult to achieve
- Least effective for resolving diabetes

*FDA approved LAGB for pts w/ BMI Class I obesity and Type 2 diabetes or other obesity related comorbidity*

Sleeve Gastrectomy (SG)

**Restriction/Resection and Metabolic**

**Ideal Candidate**
- BMI 35-55 kg/m²
- Needs to lose 80-150 lbs

**Benefits**
- Excess Weight Loss 70-90%
- 1-2 hour procedure
- Recovery ranges from days to weeks
- Patients report early and lasting fullness
- Intestines stay intact—No malabsorption
- May cure diabetes

**Considerations/Risks**
- Removal of a portion of the stomach is permanent
- The remaining pouch may expand over time

Roux en Y Gastric Bypass (RNY or Bypass or RYGB)

**Restrictive/Malabsorptive & Metabolic**

Most common procedure performed

**Ideal Candidate**
- BMI 35-55 kg/m²
- Needs to lose 100-150 + lbs
- May have severe or prolonged medical conditions

**Benefits**
- Excess Weight Loss 70-90%
- 2 hour procedure
- Recovery of days to weeks
- Very effective for curing diabetes
- Approximately 100-200 calories per day lost through malabsorption
- Procedure is reversible

**Considerations/Risks**
- Greater risk for vitamin deficiencies
- Dumping syndrome
- Smoking, EtOH, NSAIDS use may lead to ulcers

Biliopancreatic Diversion w/ or w/o Duodenal Switch (BPD/DS)

**Restriction, Resection, Malabsorptive & Metabolic**

**Ideal Candidate**
- BMI > 60 kg/m²
- Poorly controlled diabetic

**Benefits**
- Has the highest cure rate for diabetes
- Excess Weight Loss 80-90%
- 3-4 hour procedure
- 200-400 cal lost from malabsorption

**Considerations/Risks**
- Not offered by most surgeons
- Stomach removal is permanent but bypass may be reversed
- Highest risk for vitamin and protein deficiencies, diarrhea and intestinal blockages
Weight Regain After Intensive Lifestyle Intervention

- Look Ahead Trial
- 5000 participants with diabetes and overweight or obesity given intensive lifestyle intervention
- Patients were followed up to 11 years
- 70% of patients lost at least 5% body weight. 40% lost 10% or more body weight.
- 8.6% weight loss at 1 year. 4.7% weight loss at 8+ years.


Weight Regain After Weight Loss Surgery

- Longitudinal Assessment of Bariatric Surgery (LABS)
- Multicenter observational cohort study at 10 US hospitals in 6 geographically diverse clinical centers.
- Adults undergoing bariatric surgical procedures as part of clinical care between 2006 and 2009 were recruited and followed up until January 31, 2015.
- Participants completed presurgery, 6-month, and annual research assessments for up to 7 years.

Courcoulas AP, King WC, Belle SH, Berk P, Flum DR, Garcia L, Genauer WB, Hendricks SA, Mitchell K, Yang A, Yancey WJ, Powell JL, Singh A, Spaniolas K, Thrin SY, Ayers BM, Toorawat S. Seven-Year Weight Trajectories and Health Outcomes in the Longitudinal A

Take Home Points

- Consider what weight biases you may have
- Diet, exercise and behavior modification is the cornerstone of obesity treatment
- Consider alternatives to medications that promote weight gain
- Anti-obesity medications may add 2.8 to 10.2 kg of weight loss vs placebo
- 5-10% weight loss may improve both metabolic and fat mass disease
- Bariatric surgery can have significant improvement on weight and obesity related conditions for those patients who are good candidates

References

- Obesity Action Coalition, www.obesityaction.org
- Obesity Algorithm™ ©2016-2017 Obesity Medicine Association
- Gadde, KM. CONQUER. Lancet 2011;377:1341-52
- 1991 NIH Consensus Panel Recommendations for Bariatric Surgery
QUESTIONS?
Off-Label Discussion

- Fluoride varnish is licensed for treatment of tooth sensitivity

Objectives

- Review the importance of oral care to overall health and the role of primary care in promoting oral care through the ages
- Detail at least 3 examples of the impact that poor oral health has on a person’s overall health
- Describe the role of medical providers in oral health assessments and the prevention of oral disease
- Name at least 4 risk factors for dental caries
Why should you Listen to a Pediatrician?

- Why a pediatrician?
  - Pt BR, or EM, or…
  - Frequency of dental vs medical visits
    - Seeing a pediatrician/FP for an “annual exam”
    - Seeing a dentist
    - Patients see PCP 9-11 times before dentist
      - 99% who saw medical and dental saw medical first
    - Already in 2-5 yo, 23% have caries

CDC Summary Statistics, NHIS 2015; Kranz 2014; Dye 2015

...About Oral health???

- Big issue in children…
- Dental caries--the most common chronic disease of childhood


…About Oral Health?

- Increasing prevalence with age--bigger issue in adults
- By end of life, nearly every American has had complications with his/her teeth
- Greatest risk factor for dental caries/disease in adulthood is dental caries in childhood

…About Oral health???

- Huge area of disparities—great test case
Not just pretty teeth

Being free of chronic oral-facial pain conditions, oral and pharyngeal (throat) cancers, oral soft tissue lesions, birth defects such as cleft lip and palate, and scores of other diseases and disorders that affect the oral, dental, and craniofacial tissues

SGR, 2000

Why should you care?

...As people who pay taxes

- The nation’s yearly dental bill, 2014: >$113.5 billion
  - Tens of billions of dollars in direct medical care and indirect costs of chronic craniofacial pain conditions such as temporomandibular disorders, trigeminal neuralgia, shingles, or burning mouth syndrome
  - $100,000 minimum individual lifetime costs of treating craniofacial birth defects such as cleft lip and palate
  - Costs of oral and pharyngeal cancers and autoimmune diseases
  - Costs associated with the unintentional and intentional injuries that so often affect the head and face
  - Social and psychological consequences and costs...
- California’s National Guard; DoD Reserve

Wall, 2015; Health Care Financing Administration 2000; Surgeon General’s Report 2000; Belt, 2005

Why should you care?

...As people with hearts

Would you miss:
Eating salad?
Crunching on an apple?
Being allowed to play outside?
Going to school?
Being able to get a job?

Photos courtesy of Operation Smile

What wouldn’t be like, seeing yourself for the first time?

Why should you care?

In the Emergency Department

- 2.5% of all visits for adults 18 to 44--for nontraumatic dental pain
- Increasing at 3 times the rate of other reasons for ED visits
- In 2012, 2.18 million visits (0-18 10%)
  - Cost $1.6 billion, averaging ~$750 per visit
  - Mostly self-pay or government insurance
  - Almost 80% could be diverted, but 70% outside regular dentists’ hours

Sun et al, AJPH 2015;
Lee et al, AJPH 2012; Wall, Vujicic 2014
Disparities

Inequities in Oral and Systemic Health

- Before ACA, over 46 million Americans lacked health insurance, 108 million lacked dental insurance
  - Essential benefit vs. mandatory
- Adults, especially those with chronic conditions, often cite oral health as their top unmet health need

SGR, 2000; Davidoff, 2005; Belt, 2005

Inequities

- Concentrated
  - ~80% of disease in 25% of children
  - 18% in low-risk group


Why should you care?

Race/Ethnic Disparities

- Greatest area of health care disparities--race/ethnic
  - For children 2-5 years, 75% of caries occurred in 8% of population (non-Hispanic blacks or Mexican Americans)

Race/Ethnic Disparities, cont’d

- Greatest area of health care disparities—race/ethnic
  - Mexican-American
    - Ages 2-19 years—almost 2x rate of untreated dental caries as white or black non-Hispanic children
    - Even as young as 12-23 months old, Mexican-American children 3.5-4.6x more likely to have caries than children of other racial/ethnic backgrounds
  - American Indian and Alaska Natives ages 2-4 years: 5x the national average for caries, increasing to ages 15-19 years, when 91% of the population has caries (Indian Health Service, 2002)
    - 1/4th report not smiling for fear of teeth appearance
    - 1/3rd miss school because of tooth pain

- American Indians and Alaska Natives ages 2-4 years: 5x the national average for caries, increasing to ages 15-19 years, when 91% of the population has caries (Indian Health Service, 2002)
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  - 1/3rd miss school because of tooth pain

Socioeconomic Disparities

- Rates 4.4 times higher in 12-23 mo for children < 125% FPL
- All cases in kids < 200% FPL
- 12 times as many restricted activity days

Why should you care?

Overlap of Race/Ethnicity and Poverty

Children in some SF neighborhoods have experienced 2-3x more caries

- Chinatown
- North Beach
- Nob Hill/Russian Hill/Polk
- Tenderloin
- South of Market
- Bayview/Hunter’s Point
- Visitation Valley
- Excelsior
- Portola

Slide courtesy of CavityFreeSF
Children of color are 2-3x more likely to have untreated decay as white children.

- **% of SFUSD Kindergarten Children with Untreated Caries by Race/Ethnicity, 2012-2013**
  - White: 8%
  - Black: 17%
  - Chinese: 23%
  - Hispanic: 16%

- **% of SFUSD Kindergarten Children with Untreated Caries**
  - White: 8%
  - Black: 17%
  - Chinese: 23%
  - Hispanic: 16%

- **Appearance of Mouth and Teeth Affects Ability to Interview for a Job**
  - Yes: 82%
  - No: 18%

- **42% of low income adults have difficulty biting and chewing.**
- **23% of low income adults reduce participation in social activities due to the condition of their mouth and teeth.**
- **35% of low income adults feel embarrassment due to the condition of their mouth and teeth.**
- **37% of low income adults avoid smiling due to the condition of their mouth and teeth.**
Attitudes Consistent Across Income Levels and Age Groups...

- 97% value oral health.
- 85% feel they need to visit the dentist twice per year.
- 95% agree regular dental visits keep them healthy.
- 82% believe straight, bright teeth help you get ahead in life.

Except...

“I accept that I will lose some teeth with age.”

- 74% low income adults
- 48% high income adults

Disparities in Services

- Socioeconomic
  - Children near Federal Poverty Level (FPL) are 50% as likely to have sealants as those ≥200% of the FPL
- Race/ethnic
  - Rates for sealants for black and Mexican-American children are 33% lower than those for white children

Why should you care?

- Too many children lack access to dental care, with severe outcomes. Use messages of the problem half of children on Medicaid received no dental service in 2003.

How Bad Is the Problem?

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How Bad Is the Problem?

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Impact of Oral Disease--Children and Families

Increased Costs

- Cost to the health care system
  - Direct
  - Indirect
- Learning and school performance
  - Impact on child
  - Impact on schools
- Additional costs—eg, parents time lost to work

School Impact

- 117,000 hours of school lost per 100,000 school-age children, with an additional 17,000 activity days beyond school time restricted per 100,000 individuals
- ~52 million school hours annually
- 874,000 days in CA last year

Oral-Systemic Disease Connections

- Children and poor school performance
  - Increased 1.4 times with poor oral OR poor general health
  - Increased 2.3 times with poor oral AND general health

References: Vujicic 2013, Taylor 2009, Casamassimo 2009

Blumenshine, SGR, 2000

References: Blumenshine 2008; Taylor 2009
Oral-Systemic Connections

- Eg, ADHD
  - Medications
  - Self-medication
  - Higher dental anxiety
  - Higher caries rates (12x)
  - Higher traumatic injury rates
  - Lower executive function
  - Different dietary habits
  - Worse homecare habits

Why should you care?

Mouth’s Role in Body

- Integral to systemic health
  - Productivity
  - Quality of life
- Portal/Pros
  - Entryway of nutrition
  - Source of communication, pleasure, social interaction, and cultural facial and dental esthetics

Why should you care?
Mouth’s Role in Body, cont’d

• Portal/Cons
  – Infection or inflammation portal

Impact of Disease on Adults

• Oral-systemic disease connections
  – Heart and lung diseases
  – Stroke
  – Low-birth-weight, premature births
  – Diabetes
  – Dementia

Adults with Heart Disease

• Routine periodontal treatment decreased cost of dental care
• AND overall medical care—by 25%

Adults with History of Stroke

• Routine periodontal treatment decreased cost of dental care
• AND overall medical care—by 35%
Adults with Diabetes

- **Cost**
  - Routine periodontal treatment decreased cost of dental care
  - AND overall medical care—by 28%

- **Health parameters**
  - Significantly improved periodontal and metabolic parameters (p < .05)

Pregnancy

- Low birth weight
- Premature birth

Dementia

- “Cold sores” (HSV1) linked to cognitive decline (Bearer 2011)
- Poor dental health increased the likelihood of dementia by 30-40% over a 32-year period, regardless of cardiovascular status (Sighrao 2015)
  - Tooth loss, studied over 13 years in China (Li,)
- More likely to have incidents/accidents (Kobayashi 2016)
- Periodontitis and cognitive decline in Alzheimer's patients (Ide 2016)

ESRD

- ¼ of patients never brushed their teeth (Ruospo 2014)
  - Only a minority ever flossed
- Poorer dental health associated with early death in pts on hemodialysis (Palmer 2015)
Not Enough Free Tooth Brushes in the World

Factors that Affect Health

From Dr. Zea Malawi, adapted from T. Frieden, AJPH, 2010.

Oral-Systemic Disease Connections, cont’d

• Common risk factors
  – Poor diet, substance use, poor hygiene, and stress
• Benefitted by nutrition, sanitation, hygiene improvements
• For both, disparities often associated with race/ethnicity, gender, income, education, geographic location, insurance coverage, chronic conditions, age, and health literacy

Communicability/“Transmissability”

• Biologic
• Non-biologic
  – Dental anxiety
  – Society norms

Communicability

• Biologic
• Non-biologic
  – Dental anxiety
    • Higher with previous negative experience (Kanegane)
    • In parent
  – Society norms

Kanegane 2009; Valencia-Rojas 2008
Communicability

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- Non-biologic
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Actions Providers Can Take

- Fluoride Varnish
- Counselling
- Advocacy
Dental Decay ≠ Rotting Wood

Early Cavities Can Be Arrested or Reversed
- Improved oral hygiene
- Improved diet
- Fluoride applications

Fluoride’s mechanism(s)
- Cariostatic
- 4 mechanisms
  - Enhances tooth (re)mineralization
  - Arrests/reverses tooth demineralization
  - Inhibits acid-producing bacteria responsible for caries
  - Decreases enamel solubility
- Works via saliva and plaque
  - Concentrates in plaque
  - Primarily topical effect, even when given systemically

Sources of fluoride
- Natural
  - Mineral, in phosphate rock
  - Naturally dissolves in water—just adjusting level
  - Tea
  - Seafood
- Toothpaste (range from 0-prescription)
Clinical Sources of fluoride

- Community fluoridated water
  - ~74% of US population have access
  - Recommended level of 0.7 mg/L
- Toothpaste
- Tablets
- Varnish

Optimal fluoride dose: 0.05 mg/kg/day
1 cup of water ~ 0.25mg

Bottled Water

GOT FLUORIDE?

ORAL ANSWERS EXAMINES 13 BOTTLED WATERS

Aquafina: 0.01
Arrowhead: 0.10
Crystal Geyser: 0.09
Desani: 0.02
Deer Park: 0.05
Deja Blue: 0.01
Evian: 0.18
Fiji: 0.07
Ice Mountain: 0.29
Ivory: 0.01
Pure Life: 0.01
Quaker: 0.07
Poland Spring: 0.08
Zephyrhills: 0.07

Fluoride amounts in PPM and rounded to nearest one hundredth. Two numbers represent a range of fluoride concentrations.
Disparities

- Increased use of bottled water in children of Latino or African American heritage (Gorelick 2011)

![Cost Comparison](http://www.sierraclub.org/committees/cac/water/bottled_water/)

Disparity in Access to CWF Rural vs Urban

- Mean present population with access to fluoridated water
  - Urban 72.6%
  - Rural 64.6%
- Dentists per 1,000 population (adults or pediatric provider)
  - Urban 0.51
  - Rural 0.33
- Also, significantly fewer dental visits

![Public Notice](http://www.sierraclub.org/committees/cac/water/bottled_water/)

**PUBLIC NOTICE**

**SODIUM FLUORIDE**
(found in most bottled/tap water and foods)

- KILLS RODENTS
- CAUSES CANCER
- LOWERS YOUR IQ
- CAUSES APATHY
- USED BY NAZIS
- IN YOUR WATER

www.infowars.com
Graphic prepared by Eugenio Beltran of CDC, from 1999-2004 data for 12-19 yo

Fluoride Varnish

- Can and should be applied during well child visits
  - Retirement homes?
- Meaningful Use measure
- CPT code—99188 (or D1203)

Why should you care?

...As Pragmatists

- ROI—<1$ cost, can be reimbursed $18
- Savings—$0.15 saved/$1 spent
- Almost 2/3 disease reduction (Ng 2012)
- --AND NOT HARD TO WORK INTO WORKFLOW!!

Counselling
Diet—very similar to obesity prevention—plus …

- No juice/sugar-sweetened beverages
- Limit concentrated carbohydrates (dried fruit vs. lollipop)
- Get off bottle as soon as possible
- Value of family health
  - Adults—chlorhexidine rinses, xylitol
Motivational Interviewing

• Pressure to change facilitates resistance
• Get patient to talk...you listen
• Give choices (key!)
• Acceptance facilitates change
• Small steps

Oral Health Policy and Collaboration

• Interprofessional education/meetings
  ▫ Shared best practices
  ▫ Evidence based primary care oral health models
  ▫ Dental providers train primary care providers
  ▫ Primary care providers can train dentists: chronic disease and behavior management
• Joint campaigns
  ▫ Brush, Book, Bed
  ▫ Water fluoridation

Advocacy
...As Advocates
Other Opportunities for Engagement

- Lobby
  - Workforce issues
  - Policies requiring screening without treatment
  - Dental in FQHCs
  - Community Water Fluoridation
  - SCHIP and dental
  - Research funding
- AAP committee
- Referral lists

Community Water Fluoridation

- 25% disease reduction (Kumar 2014)
- Almost $10 saved for every dollar invested in CWF (Edelstein 2015)

Summary

- Oral health problems are common and can be severe
- Key disparities in oral health—affecting our patients!
- Water
  - Encourage consumption of water, particularly fluoridated water in high-risk patients
- Oral health affects systemic health
  - Dental referrals are not enough

Questions?

Susan.Fisher-Owens@ucsf.edu
Thank you!
Fluoride for Clinicians Workshop

Susan A. Fisher-Owens, MD, MPH, FAAP
UCSF Serving the Underserved
March 2, 2018

Off-Label Discussion

• Fluoride varnish is licensed for treatment of tooth sensitivity

Support and Disclaimer

• Supported by the National Institute for Dental and Craniofacial Research
  – RO3DE165701
  – R21 DEO18523
  – U54 DE142501 (CAN-DO I)
  – 2 UH2/3s
• Other research funding from Western Dental
• Supported by the Center for Oral Health
• No financial relationships to disclose regarding this topic

Objectives

• Detail 4 ways fluoride helps teeth
• Denote risks of fluorosis
• Integrate application of fluoride varnish in the pediatric and geriatric setting
• Introduce silver diamine fluoride
Anatomy of a Tooth

The Chain of Decay

Cariogenic Bacteria (S. mutans, lactobacilli)

Sucrose, Glucose, Fructose, Starch

Acids dissolve tooth mineral

Fluoride

Saliva AG

Diet AG

Caries

No Caries
US Preventive Services Task Force

• Fluoride Supplements (B evidence)
  - Supplement with fluoride over age 6 months if non-fluoride exposed
    • Should include risk assessment in recommendation
• Fluoride Varnish (B evidence)
• Insufficient evidence for (or against) recommendation that primary care providers, such as family doctors and pediatricians, do routine oral exams

Dental Decay ≠ Rotting Wood

Early Cavities Can Be Arrested or Reversed
- Improved oral hygiene
- Improved diet
- Fluoride applications

Fluoride’s Mechanisms

• Cariostatic
• Enhances tooth (re)mineralization
• Arrests/reverses tooth demineralization
• Inhibits acid-producing bacteria responsible for caries
• Decreases enamel solubility
Fluoride

• Works via saliva and plaque
  – Concentrates in plaque
  – Primarily topical effect, even when given systemically

Sources of fluoride

• Natural
  – Mineral, in phosphate rock
  – Naturally dissolves in water—just adjusting level
  – Tea
  – Seafood

• Community fluoridated water
  – ~74% of US population have access
  – Recommended level of 0.7 mg/L

• Toothpaste (range from 0-prescription)

Sources of fluoride

• Other sources
  – Fruits or vegetables sprayed with fluoride pesticide
  – Food boiled in Teflon®
  – Wine
  – Salt and milk (fluoridated) [NOT in US]

A pea is too much

• “Smear” = 0.1 mg fluoride
  • 1st tooth - 3 years

• “Pea” = 0.25 mg fluoride
  • ≥3 years =Pea

• By parents
• Twice a day
Until at least 6 years, and ...

• **Weeks worth of toothpaste!**
• **ADA recommendations for adults**
  – Women ~ 3 mg per day
  – Men ~4 mg per day
Optimal fluoride dose: 0.05 mg/kg/day
1 cup of water ~ 0.25mg

Bottled Water?

Fluoride amounts in PPM and rounded to nearest one hundredth.
Two numbers represent a range of fluoride concentrations.
Increased use of bottled water in children of Latino or African American heritage (Gorelick 2011)
Fluoride Varnish

- Concentrated resin that sets on contact with moisture in the mouth
- Easy application
- Contains 5% of NaF, with flavor

Apply to

- Class 1 (healthy)—to keep them that way!

Decay

37-50%

Weintraub, Ramos-Gomez Study 2006


Primary Tooth Eruption

Newborn

6-12 months

Age 1

Age 3

National Policy

All children should see a dentist by age one, or six months after the eruption of the first tooth

- American Academy of Pediatrics (AAP)
- American Academy of Pediatric Dentistry (AAPD)
AND on Later Signs of Decay: White or Brown Spots (Class 2)

But NOT in Deep Pulp (Class 3)

Fluoride Varnish
- Not associated with fluorosis
- Does not replace the dental home
- Not equal to comprehensive dental care

Contraindications
- Allergy to pine resin or colophony resin
- Do not place in deep pulp exposures!
- Do not apply if child has stomatitis
Make Sure of RX

- Check to make sure MD has a Rx for fluoride varnish for this child (standing orders)
- Record Lot # of FV packet and make sure date is current – not expired

How is Fluoride Varnish Applied?

- Positioning:
  - Knee-to-knee (provider and parent)
  - Exam table
  - Sitting for older children
- Remove plaque and food debris from the teeth with a toothbrush, cotton gauze, or a cotton roll, drying teeth.
- OPTIONAL – Demonstrate how to brush with a toothbrush first. Promotes demonstration and discussion of toothbrushing with the caregiver and makes sure the child has a child-size brush
  - Consider AAP’s “Brush, Book, Bed”
On the Exam Table

First: Instruct caregiver how to secure arms and legs of infant/toddler in both positions.

…Or Sitting

Or in a conference room!

Have All Supplies Ready

- Open the Packet
- Bend the Brush
- Tell, Show, Do (Tickle the child’s hand – cheek – tooth)
- Get in position
- Apply in quadrants
- Top First!
Oral Hygiene: “Lift the Lip”

- When teeth are in, parents should “lift the lip” monthly to check for chalky white or brown spots.

Fluoride Varnish Procedure

Do Steps 1-3 before positioning the child

1. OPEN the packet of varnish
   Tickle child’s hand and cheek

2. BEND the Brush

3. WRAP your gauze

Can Put FV onto Glove - Makes it easier to work with wiggly babies! (or ideally leave it in packet, if someone is assisting you)
Fluoride Varnish Procedure - continued

Position the child – secure arms/legs

4. Stir varnish with applicator; wipe off extra

5. Dry teeth lightly with the gauze square

Dry with Gauze and follow closely with brush <1/2 inch distance

6. Begin with upper teeth
   - Work in Quadrants - paint the outsides and insides of each area as you go along arch.
     - Or all outside, all inside, top then bottom
   - Use your gauzed finger as a retractor

5. Repeat with the lower arch

6. Develop a pattern that works for you

- Paint the varnish on all sides of the teeth as a very thin film; the slight yellow or tooth-colored tint aids in seeing how much is applied

- The child can leave immediately after the application; the layer of varnish stays on the teeth for 6-8 hours
Paint near the gumline – where bacteria’s acid weakens the enamel

Into molars’ fissures and between teeth

Make Sure to get the Lingual Surfaces

This is why you must BEND the Brush

Proper Coding Sequence

Routine or Sick Child Visit
1st—Primary Reason for Visit
2nd—99188 (prev D1203) for “application of fluoride”

ICD-10 Codes:
Z00.121: Encounter for routine child health examination with abnormal findings
Z00.129: Encounter for routine child health examination without abnormal findings

Non provider visit/Solely for FV

1st—99211: face-to-face NON-provider visit (nurse)
2nd—99188 for application of FV

ICD-10 Code: Z41.8 Encounter for other procedures for purposes other than remedying health state (topical fluoride application)
Or Z13.84 Encounter for screening for dental disorders
Other dental codes

- K00.81 Newborn affected by Periodontitis in mother
- K02.3 Arrested dental caries
- K02.9 Dental cares, unspecified
- Z41.8 Encounter for other procedure for purposes other than remedying health state (topical fluoride application)

Who Can Apply Fluoride Varnish in California?

- Dental professionals
- Physicians/Nurse Practitioners
- Can be delegated to a nurse or medical assistant with Rx (check billing)

How is Fluoride Varnish Different From Other Professionally Applied Fluorides

- Child-friendly flavors and is easily tolerated, especially by infants, toddlers and developmentally disabled children
- Easy to use - fast to apply
- Fluoride varnish can be swabbed directly on the teeth in less than 3 minutes and sets within a minute of contact with saliva

Fluoride Varnish

- Can and should be applied during well child visits
- Meaningful Use measure
- CPT code—99188 (or D1206)
...As Pragmatists

- ROI—<1$ cost, can be reimbursed $18
- Savings—$0.15 saved/$1 spent
- Almost 2/3 disease reduction (Ng 2012)
- --AND NOT HARD TO WORK INTO WORKFLOW!!

Counselling

Post Fluoride Counselling

What Counseling is Given to Parents?

- Slight coloration will be gone when the varnish wears off
- No hard, crunchy foods or hot drinks for rest of day
- No Brushing until the next day
- Varnish applications are most effective if done ~4 times per year, which can be coordinated with other well child visits or immunizations (2-3x in the medical office)
Oral Hygiene: Infants

Before teeth come in, wipe gums clean with gauze or washcloth
Best if after last feeding at night

Silver Diamine Fluoride

• Has been used >1000 years
• Possible uses
  – Children or people with developmental delay, to avoid anesthesia
  – Elderly, especially nursing home
SDF

- **Mechanism**
  - Fluoride—as above
  - Silver—antibacterial
- **Effectiveness**—Arrests 66% with 1 application annually
- **Cost**—~40c per 5 teeth
- **Code CDR 1354** “interim caries arresting medication application”

SDF

- **Contraindication**
  - Silver allergy
- **Side effects**
  - Metallic taste first week
  - Color change
Actions Providers Can Take

- Get educated
- Fluoride Varnish
- Counselling
- Advocacy
Community Water Fluoridation

✧ Only about 30% of Californians have fluoridated drinking water (vs. ~73% nationwide)

This is Not the End!

- Other support
  - Local CHDP
  - DTI (Dental Transformation Initiative)
  - Center for Oral Health
  - Your local COHA (children’s oral health advocate, though AAP)

Training Opportunities

- Online Training
  - Smiles for Life (Society for Teachers of Family Medicine):
  - AAP: [www.aap.org/oralhealth](http://www.aap.org/oralhealth)
  - PACT: [http://www2.aap.org/oralhealth/pact/index.cfm](http://www2.aap.org/oralhealth/pact/index.cfm)
  - EQIPP: [https://eqipp.aap.org/](https://eqipp.aap.org/) (CME credit)

- Local on-site training dental collaboration
- On-boarding providers/staff
Summary

• Prevent disease!
• Doable for the providers, and desired by the patients

Questions?

Susan.Fisher-Owens@ucsf.edu

Thank you!
• A few weeks after I started researching this story, I developed a sore throat. My glands were swollen, and I felt tired and lightheaded. I'd been traveling a lot—by planes, trains, and subway—and I had spent time on college campuses and in clinics. Since swine flu had just hit the United States, I wondered whether I'd picked up the virus somewhere along the way...

June Thomas, Slate Sept 28, 2009

• Then one morning, I bit into a piece of toast and felt a sharp pain. It was as if I had driven a pin deep into the gum...
• If the sickness was located anywhere other than in my mouth, a visit to the doctor would be covered by my medical insurance. A trip to the dentist's office, on the other hand, could cost me serious money.

June Thomas, Slate Sept 28, 2009

Pregnancy

Percentage of women delivering in California who received no dental care during pregnancy, by race/ethnicity: MIHA 2002-2007

- African American
- American Indian
- API not US-born
- APIUS-born
- Latina not US-born
- LatinaUS-born
- European American

- All women (n=21,732) Women w/dental problem (n=11,346)
Main reason for not receiving dental care during pregnancy among women with dental problems, MIHA 2004-2007 (n=8,558)

- Financial barriers: 28%
- Attitudinal barriers: 19%
- No perceived need: 21%
- Patient thought care unsafe: 21%
- Provider advised against care: 11%

Key findings

- About half of all women reported a dental problem of some sort during pregnancy
- Approximately two-thirds did not receive dental care during pregnancy, even among those reporting a problem
  - Disparities existed by income, education, race/ethnicity
  - But, prevalence of no care high even among women with moderate incomes or some college education

...As health care researchers, cont'd

- Greatest area of health care disparities–race/ethnic
  - American Indian and Alaska natives ages 2-4 years have 5 times the national average for caries, increasing to ages 15-19 years, when 91% of the population has caries (Indian Health Service, 2002)
    - ¼ report not smiling for fear of teeth appearance
    - 1/3 miss school because of tooth pain
  - Mexican-American children ages 2-19 years have almost twice the rate of untreated dental caries as white or black non-Hispanic children. Racial/ethnic disparities exist even in children as young as 12-23 months old, with Mexican-American children 3.5-4.6 times more likely to have caries than children of other racial/ethnic backgrounds.
    - Similar for access

What Works to Prevent Dental Decay?

- Regular dental visits starting at age 1
  - Referral by medical providers
- Oral hygiene – brushing/flossing
- Fluoride
- Dental Sealants
- Healthy feeding practices – (limiting the frequency of fermentable carbohydrates)
- Modifying caregiver’s oral health: Xylitol
**Additional Caries Risk Factors**

- Active or past tooth decay
  - In parents, siblings, caregivers, or child
  - White spot lesions on teeth
- Poor Feeding Habits
  - Frequent snacking on carbohydrates
  - Sticky sugary foods
  - Sweet/acidic drinks
  - Bottle in bed
  - Bottle after age 1
- Lack of Fluoride in:
  - Drinking water
  - Supplements
  - Toothpaste
- No Recent Dental Visit
  - > last year
- Poor Homecare
  - Lack of daily brushing and flossing
- Children with Special Needs
  - Meds
  - Self-care

---

**Oral Health Risk Assessment Tool**

The American Academy of Pediatrics (AAP) has developed this tool to aid in the implementation of oral health risk assessment during dental supervision visits. This tool has been subsequently reviewed and endorsed by the National Interprofessional Initiative on Oral Health.

**Instructions for Use**

This tool is intended for documenting caries risk of the child; however, two risk factors are based on the mother or primary caregiver’s oral health. All other factors and findings should be documented based on the child.

The child is at an absolute risk for caries if any risk factors or clinical findings, marked with a sign, are documented yes. In the absence of risk factors or clinical findings, the clinician may determine the child is at high risk of caries based on one or more positive responses to other risk factors or clinical findings. Answering yes to protective factors should be taken into account with risk factors/clinical findings in determining low versus high risk.

---

**ASSESSMENT/PLAN**

**RISK FACTORS**

- Mother or primary caregiver had active decay in the past 12 months
- Gingivitis (swollen/bleeding gums)
- Teeth present
- Medication eligible
- Yes
- No

**PROTECTIVE FACTORS**

- Existing dental home
- Yes
- No
- Drinks fluoridated water or takes fluoride supplements
- Yes
- No
- Fluoride varnish in the last 12 months
- Yes
- No
- Habits: brush twice daily
- Yes
- No

---

**CLINICAL FINDINGS**

- White spots or visible demineralization in the past 12 months
- Yes
- No
- Obvious decay
- Yes
- No
- Restorations (fillings) present
- Yes
- No

---

**Oral Health Risk Assessment Tool Guidance**

**Risk Factors**

- Active or past tooth decay
- Poor Feeding Habits
- Lack of Fluoride in:
  - Drinking water
  - Supplements
  - Toothpaste
- No Recent Dental Visit
- Poor Homecare
- Children with Special Needs

**Protective Factors**

- Existing dental home
- Drinks fluoridated water or takes fluoride supplements
- Fluoride varnish in the last 12 months
- Brush twice daily
- No visible caries
- No obvious decay
- No restorations

---

**Treatment of High Risk Children**

If appropriate, high-risk children should receive professionally applied fluoride varnish and have their teeth brushed twice daily with an age-appropriate amount of fluoride toothpaste. Referral to a pediatric dentist or a dentist comfortable caring for children should be made with follow-up to ensure that the child is being cared for in the dental home.
California Department of Health Care Services
Domain #2 Caries Risk Assessment Form for Children <6 Years of Age

Patient Name: ____________________________

Assessment Date: ________________________ Date of Birth: ________________________

Please indicate whether this is a BASELINE assessment or a FOLLOW-UP VISIT __________
Provide follow-up plan # __________

RISK ASSESSMENT
Assessment through interview and clinical examination

<table>
<thead>
<tr>
<th>High Risk</th>
<th>Moderate Risk</th>
<th>Low Risk</th>
<th>Priority for Self-management goal</th>
</tr>
</thead>
</table>

1. Risk factors (Biological and Behavioral Predisposing factors)

(a) Child sleeps with a bottle containing a liquid other than water, or nurses on demand
(b) Frequent use of beverages other than water including sugary beverages, soda or juice
(c) Frequent (<2 times/day) between meals and bedtime use of bottled water or other sugary drinks including diluted fruit
(d) Frequent or irregular use of patrons' sugar or other medications which reduce salivary flow
(e) DMF has developmental disability (COHON or with special health care needs)
(f) Child's teeth not brushed with fluoride toothpaste by an adult, twice per day
(g) Child's exposure to other sources of fluoride (fluoridated or fluoride tablets) is inadequate

Check All That Apply

No risk factors

2. Disease indicators/risk factors – clinical examination of child

(a) Obvious white spots, decalcifications, enamel defects or obvious decay: present the child's teeth
   - Yes __
   - No disease indicators
   - No disease indicators

(b) Restorations in past 12 months (past caries experience for the child)
   - Yes __
   - No disease indicators

(c) Plaque obvious on teeth and/or gums
   - Yes __
   - No disease indicators

OVERALL ASSESSMENT OF RISK

<table>
<thead>
<tr>
<th>High Risk Code 0653</th>
<th>Moderate Risk Code 0652</th>
<th>Low Risk Code 0601</th>
</tr>
</thead>
</table>

*YES to any one indicator in the HIGH RISK COLUMN = HIGH RISK (Presence of disease or recent disease experienced)
YES, to one or more factors/indicators in the MODERATE RISK COLUMN in the absence of any HIGH RISK indicators = MODERATE RISK (Presence of a risk indicator, no disease). Absence of factors in either high or moderate risk categories = LOW RISK

RISK ASSESSMENT CODE THIS VISIT D006 __________ RISK ASSESSMENT CODE LAST VISIT D 080 __________

SELF MANAGEMENT GOALS AND PLANS

3. (a) Identify one or two Self Management Goals for parent/caregiver

(b) Counsel the mother or primary caregiver to seek dental care
   - Yes __
   - No __

Plan for next visit: ____________________________

Signature: ____________________________ Date: ____________________________

Note: Adapted from CAMBRA risk assessment, CDA Journal, October 2011, vol 138, no 10
Risk Assessment

- **AAP Oral Health Risk Assessment Tool:** [Tutorial and Download](http://www.aap.org/commpeds/dochs/oralhealth/RiskAssessmentTool.html)
- **Bright Futures in Practice: Oral Health Dental Caries Risk Assessment Table**
- **Smiles for Life App**

---

Example of a Caries Management Protocol for Children 0-8 years of Age

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Visit</th>
<th>Fluoride</th>
<th>Counseling (age appropriate)</th>
<th>Sedation or permanent bands</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk</td>
<td>Every 3 months</td>
<td>Topical fluoride supplemented in non-complanted areas</td>
<td>Twice daily brushing with fluoride toothpaste</td>
<td>Yes</td>
<td>Active surveillance of incipient lesions, Silver diamine fluoride, Restoration of cavitated lesions with invasive Therapeutic/Restorative (ITR) or definitive treatment</td>
</tr>
<tr>
<td>Moderate Risk</td>
<td>Every 4 months</td>
<td>Topical fluoride supplemented in non-complanted areas</td>
<td>Twice daily brushing with fluoride toothpaste</td>
<td>Yes</td>
<td>Active surveillance of incipient lesions, Silver diamine fluoride, Restoration of cavitated lesions with ITR or definitive treatment</td>
</tr>
<tr>
<td>Low Risk</td>
<td>Every 6 months</td>
<td>Topical fluoride</td>
<td>Twice daily brushing with fluoride toothpaste</td>
<td>Indicated for teeth with deep pits and fissures</td>
<td>Surveillance</td>
</tr>
</tbody>
</table>

Diagnosis and Treatment of Depression in Vulnerable and Underserved Populations

Lisa Ochoa-Frongia, MD
Assistant Professor of Medicine
Associate Medical Director, Richard Fine People’s Clinic

Disclosures
I have nothing to disclose

Objectives
- Recognize the central importance of depression care
- Discuss a practical, evidence-based approach to diagnosing and treating depression
- Review social determinants of depression, remission, disparities
- Review the evidence for the collaborative care model

Case: Mrs. D
- PMH: CAD, DM-2, HTN, obesity and chronic low back pain w/sciatica.
Case: Mrs. D

- **Meds:** sertraline 200mg, aspirin, benazepril, carvedilol, atorvastatin, metformin, glipizide, gabapentin, acetaminophen
- Previously on citalopram x 3 years, stopped working, switched to escitalopram which failed, now on sertraline x 1 year, PHQ-9 on sertraline decr. 20 → 15.
- **Social hx:** widowed, lives alone, facing eviction

Depression Causes an Enormous Burden

- US depression incidence: 16.1 million (6.7% of population).
- US lifetime prevalence: 17%
- WHO: Depression second leading cause of YLD in US
- Low SES increases risk of depression and persistence of symptoms.

Social Determinants of Depression

<table>
<thead>
<tr>
<th>Chronic Health Problems in US Adults by Poverty Status</th>
<th>In Poverty</th>
<th>Not In Poverty</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Depression</td>
<td>30.9</td>
<td>15.8</td>
<td>15.1</td>
</tr>
<tr>
<td>% Asthma</td>
<td>17.1</td>
<td>11.0</td>
<td>6.1</td>
</tr>
<tr>
<td>% Obesity</td>
<td>31.8</td>
<td>26.0</td>
<td>5.8</td>
</tr>
<tr>
<td>% Diabetes</td>
<td>14.8</td>
<td>10.1</td>
<td>4.7</td>
</tr>
<tr>
<td>% HTN</td>
<td>31.8</td>
<td>29.1</td>
<td>2.7</td>
</tr>
<tr>
<td>% Heart attack</td>
<td>5.8</td>
<td>3.8</td>
<td>2.0</td>
</tr>
<tr>
<td>% Cancer</td>
<td>6.3</td>
<td>7.1</td>
<td>-0.8</td>
</tr>
<tr>
<td>% HLD</td>
<td>25.0</td>
<td>26.0</td>
<td>-1.0</td>
</tr>
</tbody>
</table>

Gallup Healthways Well-Being Index, 2011

Also: low educational attainment, unemployment, social isolation, female gender, racial minorities

Depression Disparities

- Minorities w disparities in access to, quality of care
- 2008 study: Asians, Latinos, AA with depression much less likely than non-Latino Whites to have any access to MH tx past yr
- Even if did access treatment, less likely to receive adequate care
- RCT showed practice-initiated QI initiative reduced these disparities in depression care

Alegria et al 2008, Wells et al 2000
**Most Depression Care From PCP Alone**
- PCPs treat 60% of depression in US, higher percentage in minority patients.
- Depression dx made in only 50% patients presenting to primary care with symptoms.
- Depression appropriately treated in primary care 10%-20% of time.
- PCPs often under-dose antidepressants, duration tx too short.

*Frank, 2003; Vega, 1999; Snowden, 2002; Motano, 1994; Simon, 2002; Olfson, 2006*

**Importance of Universal Screening**
- Recommended by USPSTF (B)
- Recommended minimum screening interval: yearly
- Consider PHQ-2: brief, self-administered
- PHQ-2 score ≥3: 83% sensitivity and 92% specificity for MDD

The Patient Health Questionnaire-2 (PHQ-2)

<table>
<thead>
<tr>
<th>Over the past 2 weeks, how often have you been bothered by any of the following problems?</th>
<th>Not At all</th>
<th>Several Days</th>
<th>More Than Half the Days</th>
<th>Nearly Every Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**The PHQ-9**

PHQ-9 scores > 10 had a sensitivity of 88% and a specificity of 88% for Major Depressive Disorder.

PHQ-9 validated multiple languages

Scoring: Remember cut points of 5, 10, 15, 20:
- ≥ 5: mild
- ≥ 10: moderate
- ≥ 15: moderately severe
- ≥ 20: severe

**Diagnosis**

- Abnormal PHQ-9 does not always indicate MDD
- DSM-V: Major Depressive Disorder Diagnosis
  - 1) Depressed mood/anhedonia x 2 weeks.
  - 1a) Plus at least 5 of 9 total symptoms:
    - Depressed mood
    - Decreased interest or pleasure
    - Weight loss/gain
    - Change in sleep (insomnia/hypersomnia)
    - Psychomotor agitation or retardation
    - Fatigue/loss of energy
    - Guilt/worthlessness
    - Diminished concentration
    - Suicidal ideation
  - 2) AND have ruled out other common dx (see next slide)
**Differential Diagnosis**

- Bipolar disorder: can formally screen with MDQ or just ask about classic sx of mania
- Anxiety disorders: GAD (Screen with GAD-7), panic, PTSD (Screen with PCL-4)
- Psychotic disorders
- Adjustment disorder with depressed mood, grief
- Dementia
- Medical conditions mimicking depression: hypothyroidism, cushing’s, B12 deficiency, medication side effects
- Substance use d/o

**Treatment Recommendations by PHQ-9 Score**

- <10: watchful waiting, patient support
- 10-14: patient support, consider behavioral therapy or pharmacotherapy if distress/dysfunction
- 15-19: behavioral therapy or pharmacotherapy
- >20: behavioral therapy AND pharmacotherapy with close PCP follow-up

*Think of the PHQ-9 as the A1c of depression*

**STAR-D Trial, Algorithm**

- Sequenced Treatment Alternatives to Relieve Depression: 2006, NIH-funded, n= 2900, at least moderate depression
- 23 psychiatric, 18 primary care clinic sites. Stepped treatment algorithm for depression.
- Equipoise-stratified randomization.
- Four levels of treatment – 8-12 weeks at each level, if no remission, then step up

**Simplified STAR*D Algorithm for Treatment of Depression**

1. **Step 1**
   - SSRI, SNRI, Bupropion, CBT
   - 28% remission
2. **Step 2**
   - Switch OR Cont. and Augment: Buspar, Bupropion, CBT
   - 25%
3. **Step 3**
   - Switch to Mirtazapine, TCA OR Augment: Second Gen. Antipsychotic, T3, Li, Stimulant
   - 18%

*Based on STAR-D, 2008.*
- Each of these with an 8-12 week trial at an adequate/tolerated dose.
- Bupropion, venlafaxine should be prescribed in sustained/extended release.
- **STEP 4**: MAOI or Mirtazapine + Venlafaxine
**STAR*D Conclusions**

- By Step 2, 53% with remission. By Step 4, ~81% of patients with remission
- Predictors of remission:
  - White
  - Female
  - Married
  - Higher educational attainment
  - Higher economic status
  - Private insurance
  - Fewer concurrent medical, psychiatric conditions

---

**Challenges in Underserved and Vulnerable Populations**

- Homelessness
- Medical complexity
- Health disparities
- Poverty
- Food insecurity
- Language barriers
- Violence/crime
- Trauma history
- Immigration
- Unemployment
- Uninsured

**Contributors to Depression**

**Standard treatment PLUS services important for all severities of depression**

---

**Anti-Depressant Titration**

- New dx or recurrence of depression made, PHQ-9 done, antidepressant indicated
- Start at low dose, give titration instructions.

- Continuity RN, PA/NP or PCP visit 2-4 wks: safety, adherence check

- 4-6 weeks later: return visit with PCP or PA/NP, repeat PHQ-9

- **PHQ-9 <5:** remission - continue current dose 6-8 mos min

- **PHQ-9 >5:** sx persist: increase dose q 2-4 wks until remission, or once max dose reached and no remission, switch agents per STAR-D

---

**Back to Case**

- Summary: 65 yo F with MDD, worsening, PHQ9 15, gaining weight. Previously on citalopram, escitalopram, now on sertraline. When started on sertraline, PHQ-9 initially decreased from 20 ->15

- Next step?
  - A) Continue Sertraline, check TSH
  - B) Change to paroxetine
  - C) Change to fluoxetine
  - D) Continue sertraline, add bupropion
**Return to Case: Mrs. D**

**Apply STAR*D:**

Review: failed Step 1, adequate trial of escitalopram.

Now on step 2: partial response w/ switch to sertraline. Has had some weight gain, chronic pain.

You add bupropion AND get her back in to therapy, refer to senior center to decrease social isolation.

PHQ-9 score 8 wks later decreased from 15 to 9.

---

**Antidepressants - Classes**

**SSRIs**
- Sertraline (Zoloft)
- Paroxetine (Paxil)
- Fluoxetine (Prozac)
- Citalopram (Celexa)
- Escitalopram (Lexapro)
- Fluvoxamine (Luvox)

**SNRIs**
- Venlafaxine XR (Effexor)
- Desvenlafaxine (Pristiq)
- Duloxetine (Cymbalta)

**Other:**
- Bupropion (Wellbutrin) – likely dopamine and NE receptors *NOT for anxiety*
- Mirtazapine (Remeron) – increases central serotonin, NE activity

**TCAs (NOT first line)**
- Amitriptyline
- Nortriptyline
- Doxepin

---

**Anti-Depressant Properties**

<table>
<thead>
<tr>
<th></th>
<th>Sexual Dysfunction</th>
<th>Weight Gain</th>
<th>Sedation</th>
<th>Cardiac</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSRIs</td>
<td>+++</td>
<td>+*</td>
<td>+/-*</td>
<td>0</td>
</tr>
<tr>
<td>Venlafaxine (SNRIs)</td>
<td>+++</td>
<td>+/-</td>
<td>+/-</td>
<td>+ (↑BP)</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>+</td>
<td>+++</td>
<td>+</td>
<td>+/-</td>
</tr>
<tr>
<td>Bupropion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+/-/↑BP</td>
</tr>
<tr>
<td>TCAs</td>
<td>++</td>
<td>++</td>
<td>+++</td>
<td>+++ (ECG, BP)</td>
</tr>
</tbody>
</table>

*paroxetine, fluvoxamine more likely to cause weight gain, sedation*

**Depression Dx/Tx Pearls**

- Black box warning on SI: only patients <24 yrs
- Prior to initiating SSRI/SNRI, screen for mania, anxiety
- If co-morbid anxiety: “start low and go slow”
- Suicide risk assessment if SI (SAMHSA SAFE-T tool)
- Provide every patient with basic psychoeducation (see appendix)

McCarron 2009
Best Practices for Anti-Depressant Prescribing

- Titrate to maximum tolerated effective dose
- Track patient symptoms with a validated tool
- Treat minimum 6-8 months after sx remit
- When stopping anti-depressants, taper to avoid discontinuation syndrome

Improving Depression Care

- Systematic monitoring, treating to remission
- At minimum use a stepped-treatment approach – PCP can follow alone, like STAR*D
- If resources available, consider integrative care, like UW AIMS Center Collaborative Care Model

Evidence for CCM

- Recommended by the CPSTF to manage depressive disorders
- CCM uses care managers to link primary care team, patients, mental health specialists
- >80 RCTs show CCM more effective than usual care
- CCM Care more effective in multiple domains: patient symptoms, treatment adherence, remission rates, QOL, satisfaction w care
- May even prevent CV disease – 2014 study – CCM pts w decr. CV events

Take Home Points

- Screen universally for depression
- Use validated tools to track, treat to target
- Keep in mind evidence-based approaches: STAR*D, collaborative care model
- Remember best practices for antidepressant prescribing
- Mobilize social services to mitigate social stressors


aims.uw.edu
Appendix: Patient Psychoeducation Points

At a minimum, helpful to review these points with all patients being started on antidepressants:

- Take your medication daily, and if you miss a dose don’t “double up” and take the dose you forgot.
- It may take several weeks to feel the full benefits of antidepressants - continue to take the medication even if you don't feel better right away.
- Antidepressants are not addictive.
- Many side effects can be minimized or avoided by starting a very low dose and going up slowly. Many side effects go away after a few days.
- Do not stop the medication “cold turkey-” call your provider to discuss this first and come up with a plan to taper off.
What is the role of health care systems in identifying and addressing patients’ social risks?

Laura Gottlieb, MD, MPH
Associate Professor, UCSF Department of FCM
March 3, 2018

Increase in SDH publications, 2000-2016

Life expectancy vs. health expenditure in US and other OECD countries (1970-2014)

http://economistsview.typepad.com/
US health and social spending patterns in comparison to other OECD countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Health expenditures as % GDP</th>
<th>Social services expenditures as % GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>9.1</td>
<td>16.3</td>
</tr>
</tbody>
</table>

Source: OECD

What can health care delivery systems do about patients’ social and economic needs?
Use Cases

SDH-informed patient care: Accommodate care to social context
- Access
- Diagnostics
- Treatment

SDH-targeted patient care: Change social context
- Food
- Jobs
- Housing
- Diapers and parenting programs
SDH targeted care

**SOCIAL SCREENING**
Do you need...
- Food
- Housing
- Help with benefits
- Legal services
- Utilities assistance

Do you want help today?
- Yes
- No

SDH targeted care

**SOCIAL SCREENING**
Do you need...
- Food
- Housing
- Help with benefits
- Legal services
- Utilities assistance

Do you want help today?
- Yes
- No

---

• Social workers
• Community health workers
• Health navigators
• Case managers
• Health advocates
• Lawyers
• Financial counselors/tax prep advisors

---

**Technology based resource platforms**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthify/Purple Binder</td>
<td><a href="https://www.healthify.us/">https://www.healthify.us/</a></td>
</tr>
<tr>
<td>Health Leads REACH</td>
<td><a href="https://healthleadsusa.org">https://healthleadsusa.org</a></td>
</tr>
<tr>
<td>One Degree</td>
<td><a href="https://www.1degree.org/">https://www.1degree.org/</a></td>
</tr>
<tr>
<td>HealtheRx</td>
<td><a href="http://healtherx.org/">http://healtherx.org/</a></td>
</tr>
<tr>
<td>UniteUs</td>
<td><a href="https://www.uniteus.com/">https://www.uniteus.com/</a></td>
</tr>
<tr>
<td>Aunt Bertha</td>
<td><a href="http://www.auntbertha.com">http://www.auntbertha.com</a></td>
</tr>
<tr>
<td>NowPow</td>
<td><a href="http://www.nowpow.com/">http://www.nowpow.com/</a></td>
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Use Cases

<table>
<thead>
<tr>
<th>Patient Care</th>
<th>Population Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDH informed care</td>
<td>Panel management</td>
</tr>
<tr>
<td>SDH targeted care</td>
<td>Community health improvement</td>
</tr>
</tbody>
</table>

Universal versus population-targeted SDH services

Adapted from Alfero C and Kaufman A. New Mexico Primary Care Training Consortium.

Use Cases

<table>
<thead>
<tr>
<th>Patient Care</th>
<th>Population Health</th>
<th>Payment / Risk Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDH informed care</td>
<td>Panel management</td>
<td>Per service reimbursement</td>
</tr>
<tr>
<td>SDH targeted care</td>
<td>Community health improvement</td>
<td>Panel risk adjustment</td>
</tr>
</tbody>
</table>
Demonstration programs

“The Triple S” for SDH Data

**Systematic SDH data**
Example: SDH data collected during all encounters with target population

Slides adapted from: “Why Collect Standardized Data on Social Determinants of Health?” HITECH, March 2017

**Structured SDH data**
Example: Data collected using tools that enable clinic or institution-wide aggregation

---

**Sample data collection tools**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>24</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Food</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Clothing</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Utilities (phone, gas, electric)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Medicine/health care</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Child care</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Neighborhood safety</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Interpersonal violence/safety</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Social connections/isolation</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Stress</td>
<td>●</td>
<td>●</td>
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</tbody>
</table>
Structured data

Addressing Social Determinants of Health in Epic

“The Triple S” for SDH Data

Systematic SDH data
Example: Notes in the patient chart on SDH needs collected during all encounters with population of focus

Structured SDH data
Example: Data collected using tools that enable clinic or institution-wide aggregation

Standardized SDH data
Example: Data collected and documented using standardized tools (e.g., ICD-10 z-codes) that enable aggregation across institutions

Standardizing documentation

Chicken: Don’t want to screen without documentation infrastructure

Egg: Don’t want to build infrastructure unless screening

Documenting Food Insecurity

4 IN 5 physicians

surveyed say patient’s social needs are as important to address as their medical conditions.

Health Care's Blind Side. RWJF December 2011.

Study design and methods

- Approx 500 primary care clinicians (physicians, physician residents, nurse practitioners, and physician assistants)
- 10 county, 6 university, and 3 VA administered health centers in San Francisco
- Web and paper-based survey, October 2014–February 2015
- Data analysis used linear regression to control for known predictors of burnout


Measures

SDH Scale
- Comfortable asking
- Important to address
- Skills to address
- Clinic has the resources

Outcomes
- Maslach Burnout Inventory
- Professional Efficacy
- Emotional Exhaustion
- Cynicism

Univariate and Multivariate Analyses

Univariate Analysis
- Each of the 4 SDH items was significantly associated with:
  - Lower reported levels of exhaustion and cynicism
  - Higher levels of professional efficacy

Multivariate Analysis
- PCP perception of clinic capacity and resources to address SDH was the only one of the four SDH items to remain a significant predictor of burnout scores

Increase in SDH publications, 2000-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>SDH</th>
<th>SDH + Health care</th>
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<td>2007</td>
<td>207</td>
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<td>2008</td>
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<td>2009</td>
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<td>980</td>
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<tr>
<td>2010</td>
<td>210</td>
<td>1000</td>
</tr>
</tbody>
</table>

**RCT Study Design**

- Two hospitals serving low-income, racially and ethnically diverse patient populations
- Primary and urgent care settings
- Cluster randomization by day
- Inclusion criteria for caregivers:
  - English and/or Spanish primary language
  - >/= 18 years
  - Familiar with the child’s household environment
- Exclusion criteria: Child with high severity acute illness or child in foster care

SOCIAL SCREENING

Do you need...?
- Food
- Housing
- Help with benefits
- Legal services
- Utilities assistance

Do you want help today?
- Yes
- No

SDH targeted care

RCT at SFGH and UCSF Benioff Children’s Hospital
Oakland: Prevalence of social needs (% of total sample)

<table>
<thead>
<tr>
<th>Social Need</th>
<th>Active Control</th>
<th>Navigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running out of food</td>
<td>-5.8</td>
<td>-13.1</td>
</tr>
<tr>
<td>Housing security</td>
<td>6.1</td>
<td>-4.2</td>
</tr>
<tr>
<td>Not having enough money to pay utility bills</td>
<td>-1</td>
<td>-9.4</td>
</tr>
<tr>
<td>Unhealthy living environments</td>
<td>-2.2</td>
<td>-8.1</td>
</tr>
</tbody>
</table>

Change in specific social needs

** ** p<.01

Change in parent-reported child health

Active Control | Navigation Arm
---|---

** | ** p<.01

Social Interventions Research & Evaluation Network
SIREN’s mission is to catalyze and disseminate high quality research that advances efforts to address social determinants of health (SDH) in health care settings.

Activities include:
- Catalyzing high quality research
- Collecting & disseminating research findings
- Providing evaluation, research, & analytics consultation services

sirenet.uclsf.edu | siren@ucsf.edu | @SIREN_UCSF

Searchable Evidence Library

https://SIRENetwork.ucsf.edu
Summary

- Social and economic needs screening and interventions are increasingly part of health care delivery
- Use cases include direct patient care, population health activities, and payment
- Unresolved issues related to:
  - Patient-level versus area-level data collection
  - Screening instruments
  - Strategies for risk adjustment
  - Documentation standards
  - Evidence on interventions

Discussion Questions

- What do your providers currently do to identify and address patients’ social and economic needs during clinical encounters?
- What work is already happening across your health systems around screening for social and economic needs and how do we better systematize and coordinate those efforts?
- How can we increase both evidence and evidence-based practice around SDH interventions?
- How could you catalyze more work at the intersection of medical and social care in your system?
Sustainable Practice in Underserved Settings
Preventing Burnout and Promoting Wellness

Diana Coffa, MD
Director, Family and Community Medicine Residency
UCSF, Zuckerberg San Francisco General

What is wellbeing?

Many roads lead to wellbeing and many lead away

Where can we intervene?

- Healthcare system
- Community of physicians
- Clinic system
- Community of colleagues
- Personal factors
The State of the Science

![Number of PubMed Studies Graph]

Defining Burnout
- Cynicism and depersonalization
- Emotional exhaustion
- Loss of sense of efficacy

Burnout as a state of dissociation
- Cynicism and depersonalization
  - Dissociation from others
- Emotional exhaustion
- Loss of sense of efficacy

Burnout as a state of dissociation
- Cynicism and depersonalization
  - Dissociation from others
- Emotional exhaustion
  - Dissociation from emotions and self
- Loss of sense of efficacy
Burnout as a state of dissociation

- Cynicism and depersonalization
  - Dissociation from others
- Emotional exhaustion
  - Dissociation from emotions and self
- Loss of sense of efficacy
  - Dissociation from systems and work role

Burnout as a defensive strategy

What brings us back from burnout?

Risk factors for burnout

**Structural**
- Low sense of control
- High workload
- High ratio of non-meaningful work

**Personal**
- Stress at home
- Less hobbies or enjoyable activities
- Less self-care
- Temperamental factors
- Alexithymia
- Conflict with co-workers
- Conflict with patients
- Financial strain
Alexithymia

No Read Emotions

How does Alexithymia lead to burnout?

- Lower capacity for empathy → Lower capacity for meaningful contact and relationship
- Lower capacity to notice, attend to, and appropriately respond to our own emotions

In Medical Language, Burnout =

- Frustration
- Hopelessness
- Depression
- Fear
- Guilt
- Grief
- Despair
- Anger
- Betrayal
- Doubt
- Shame
- Worry
- Fatigue

What if we actually named emotions instead?

- What is this feeling?
- What does it need from me?
- What information does it carry?
- What action is called for?
Clinic systems that impact wellbeing

- Accomplishment
- Shared mission
- Creative work/Teaching
- Supportive community
- Sense of meaning
- Connection with patients
- Sense of control

- High workload
- High ratio of "meaningless" work
- Inability to meet patient needs
- Discord with colleagues
- Discord with patients
- Loss of mission integrity

AAFP Principles of Administrative Simplification

- Prior Authorizations
  - Must be justified
  - Transparent
  - Eliminated for imaging, DME, and generics
  - Eliminated for effective medications for chronic conditions
- Quality Measures
  - Standardized
  - Patient centered
  - Evidence based

AAFP Principles of Administrative Simplification

- Certification and Documentation
  - Physician order should suffice. Multiple forms should not be needed for PT, hospice, home health, DM supplies
  - Eliminate annual recertification of DME supplies for chronic conditions
  - Standardize forms
- Medical record documentation
  - Eliminate E/M levels
  - Information should be acceptable if entered by any member of the team
  - Record should be for information sharing. Check boxes and templates do not contribute to patient well-being
  - EHR vendors must collaborate with care providers to redesign systems
Disclosures

- No financial disclosures to report.
- I’m a cat guy.
Overview

• Follow a patient through two hospitalizations.

• Focus on challenging discharge scenarios- a patient who wants to leave, but can't and a patient who can leave, but shouldn't.

• Will not be an update in clinical hospital medicine.

• Questions throughout, some without one right answer.

Case Part 1

• 45 year old man with a history of alcohol use disorder brought by his coworker to ED with 5 days of malaise, yellowing of the eyes, and abdominal pain.

• Consumes a fifth of vodka daily with a history of withdrawal but no seizures. Last drink was 3 days prior to presentation.

• Lives in studio apartment with two dogs. From Toronto, no family in area. Works as landscaper.

• Does not have a regular primary care provider and does not like hospitals.
How much is a fifth of vodka?

- A) 44ml
- B) 375ml
- C) 750ml
- D) 1000ml
- E) 1750ml

Answer

- A) 44ml
- B) 375ml
- C) 750ml
- D) 1000ml
- E) 1750ml
Alcohol volumes

- A) 44ml  (shot)
- B) 375ml  (pint/ flask)
- C) 750ml  (fifth)
- D) 1000ml  (liter/ quart)
- E) 1750ml  (handle/ half gallon)

Exam and Labs

- T 38.1, HR 110, BP 110/60, RR 20, 02 Sat 97% RA
- Alert and oriented to person, place, not date. + Asterixes.
- Distended abdomen, tender to palpation right upper quadrant, no rebound or guarding.
- WBC 14K w/ 90% neutrophils
- Tbili 5.8, AST 280, ALT 120, AP 135, Albumin 2.4
- INR 1.8, PTT 21 sec
- Lactate 4.2
- Bcx x2 pending
HD #1

- Acute and chronic viral hepatitis serologies return negative. Infection evaluation and culture data remains no growth.

- Vital sign and lab abnormalities persist.

- You calculate a discriminant function of 38, consistent with severe alcoholic hepatitis.

- You start the patient on a regimen of prednisolone 40mg po daily.

Case continued

- You also start lactulose tid for hepatic encephalopathy, though he refuses most doses due to liquid stool output.

- After 3 days in the hospital, his liver function tests have remained relatively stable, with occasional fluctuations in his bilirubin and INR.

- That afternoon, the patient pleasantly explains to his bedside nurse that he is heading home, unsteadily gets out of bed, and begins trying to dress.
Arriving at the bedside you:

• A) Place the patient in restraints.

• B) Discharge him against medical advice.

• C) Assess his decision making capacity.

• D) Lock the patient in his room.

• E) Respect his illusory consent.

Answer

• A) Place the patient in restraints.

• B) Discharge him against medical advice.

• C) Assess his decision making capacity.

• D) Lock the patient in his room.

• E) Respect his illusory consent.
Decision Making Capacity

- The ability to understand information relevant to a decision and the ability to appreciate the reasonably foreseeable consequences of a decision (or lack of a decision).

Decision Making Capacity

- Necessary for informed consent.
- Assessed in the context of specific decisions and clinical scenarios (“task specific”).
- May be impaired by acute illness or chronic conditions.
- Common among hospitalized medicine patients (18-35%).
Decision Making Capacity

• Not a global judgment of the patient's ability to speak on his/her own behalf.

• Assessment does not have to be performed by a psychiatric provider.

• Not routinely identified by clinicians.

• Complying with treatment does not equate to capacity (“illusory consent”).

How Does Capacity Related to the Four Pillars of Medical Ethics?
Assessing Capacity: Does the patient...

- Understand his or her condition.
  - Can you tell me in your own words what we discussed about your liver failure?
- Appreciate situation and its consequences.
  - What would happen if you did not receive treatment for your liver disease?
- Rationally use the information.
  - Can you explain to me why you want to forgo the recommended treatment? What are you going to do if you get worse?
- Communicate a consistent choice.
  - Based on what we’ve discussed, what would you like to do?
JAMA Rational Clinical Exam

- Found 19 different instruments for assessing capacity.

- Of 9 instruments compared with a gold standard, 3 easily performed and have useful test characteristics:
  - Aid to Capacity Evaluation (ACE) (LR+ 8.5; LR− 0.21)
  - Hopkins Competency Assessment Test (LR+ 54; LR− 0)
  - Understanding Treatment Disclosure (LR+ 6.0; LR− 0.16; 95% CI, 0.06-0.41).

- ACE validated in the largest study and freely available online http://www.jcb.utoronto.ca/tools/documents/ace.pdf

Case Continued

- On discussion, the patient knows his liver is not working well and could get worse without further treatment. He cannot state any alternatives or explain consequences of foregoing treatment.

- Fortunately, he is redirectable and you escort him back to bed.

- You are called an hour later that he is again prepping to leave.

- Unfortunately, you are unable to identify family or a previously established surrogate.
In the absence of a surrogate you decide to:

• A) Let the patient leave.
• B) Call psychiatry consultants to place a hold.
• C) Start the medical probate process.
• D) Place the patient in soft restraints.
• E) Ignore the situation until it comes to a head.

Answer

• A) Let the patient leave.
• B) Call psychiatry consultants to place a hold.
• C) Start the medical probate process.
• D) Place the patient in soft restraints.
• E) Ignore the situation until it comes to a head.
Decision Algorithm for Hospitalized Patients with Impaired Capacity

Medical Probate Hold

- If patient deemed to lack decision making capacity primarily due to a medical diagnosis.

- Court adjudication formalizing plan to proceed with care against patient’s wishes for a treatment clinician feels is beneficial but not emergent.

- Clinician specifies:
  - The medical condition requiring treatment.
  - Recommended course of medical treatment.
  - Threat to health if consent to the course of treatment is delayed.
  - Probable outcome of the recommended course of treatment.
  - Medically available alternatives, if any, to the course of treatment.
  - Efforts made to obtain an informed consent from patient or surrogates.
Psychiatric Hold

• If patient deemed to lack decision making capacity primarily due to a psychiatric diagnosis.

• Lanterman-Petris-Short (LPS) Act provides guidelines for involuntary civil commitment to mental health institutions in CA.

• Pertains to individuals who, due to mental illness, pose a danger to self, others, or who are gravely disabled and require inpatient psychiatric evaluation.

• Intent was to end indefinite detention of people with mental illness and establish right to due process.

Case Continued

• The medical probate form is filed and awaiting review.

• Over the next day, the patient continues to want to leave, pulling at his peripheral IV and climbing out of bed.

• The patient is redirectable by staff.

• Later in the afternoon, the patient is found sitting on the floor beside his bed with his peripheral IV pulled out.
In order to ensure his safety, you:

• A) Place the patient in four point restraints.
• B) Close and lock the door to his room.
• C) Administer IM haldol.
• D) Administer IV lorazepam.
• E) Assign a sitter to the bedside.

Answer

• A) Place the patient in four point restraints.
• B) Close and lock the door to his room.
• C) Administer IM haldol.
• D) Administer IV lorazepam.
• E) Assign a sitter to the bedside.
Restraints

- Restraints are any method of restricting an individual's freedom of movement, physical activity, or normal access to the body.

- Goal to employ the least restrictive measures to ensure patient and/or staff safety

- Physical or chemical restraints only used when less restrictive intervention/prevention measures unsuccessful.

- Behavioral versus medical safety restraints.

ZSFG Close Observation Policy

- Proactively identify patients at increased risk of harm to self should they leave AWOL.

- Assessment performed by physician and nurse caring for patient and communicated to each other.

- Activates an observation protocol, allowing for graduated levels of monitoring as directed by either provider or nursing staff.

- Should patient leave unit, hospital wide protocol ("Code Green"), involving providers, nurses, and institutional police activated to relocate missing patient.
Case Continued

- Over the next week, the patient becomes more amenable to treatments, regularly taking his prednisolone and lactulose.

- At one week out from initiation of treatment, his synthetic liver function is improving and his mental status has returned to baseline.

- The probate hold is dropped and he is discharged back to his apartment to complete a 28 day total course of prednisolone.

- An appointment with a new primary care provider visit is set-up for five days post-discharge.

Pause for Review

- Recognize that impaired decision making capacity common in hospitalized medicine patients.

- Understand assessment of capacity is task specific.

- Have an approach to capacity assessment.

- Feel comfortable with potential next steps if a hospitalized patient found to lack decision making capacity.
Case Part 2- He’s Back!

• 45 year old man with a history of alcoholic hepatitis 1.5 months prior to presentation.

• Endorses finishing prednisolone course and, with help from new primary care provider, has been sober since discharge.

• Comes to ED with 3 days shortness of breath, productive cough of green sputum, and subjective fevers.

Exam and Studies

• T 38.5, HR 110, BP 113/60, RR 20, 02 Sat 97% 2L NC

• Sitting up in bed, speaking in full sentences
• Decreased breath sounds over left lower lobe

• WBC 17K
• Cr 1.8 (baseline at prior discharge 1.0)
• LFTs and INR normal

• EKG with sinus tachycardia
• CXR showing patchy left lower lobe consolidation
Hospital Course

- Patient admitted and started on ceftriaxone and azithromycin for community acquired pneumonia.

- Hospital Day #1: leukocytosis downtrends to 13K, creatinine 1.2 after IV hydration, oxygen saturation 97% on 1L NC, and intermittent temp to 38.1.

- You begin discussion with the patient and outpatient provider, anticipating discharge in the next 1-2 days once fever, leukocytosis, and oxygen requirement resolve.

Hospital Course

- That afternoon, he tells you he feels much better and would like to leave the hospital as needs to care for his dogs.

- He knows he has pneumonia and could experience worsening of his infection. He plans to return to hospital if he feels worse.

- You counsel the patient that you wouldn’t normally plan to discharge him yet... but he’s adamant that he’s leaving in the next few hours.
You decide to:

- A) Tell him that insurance will not pay for the hospitalization if he leaves AMA and hope he stays.
- B) Have him sign an AMA form and discharge.
- C) Document capacity and discharge.
- D) Document capacity, prescribe oral antibiotics for pneumonia, and discharge.
- E) Document capacity, prescribe oral antibiotics for pneumonia, arrange follow-up, and discharge.

Answer

- A) Tell him that insurance will not pay for the hospitalization if he leaves AMA and hope he stays.
- B) Have him sign an AMA form and discharge.
- C) Document capacity and discharge.
- D) Document capacity, prescribe oral antibiotics for pneumonia, and discharge.
- E) Document capacity, prescribe oral antibiotics for pneumonia, arrange follow-up, and discharge.
Against Medical Advice and AWOL Discharges (Self-Discharges)

• Between 1-2% of hospital discharges and rising.

• Patient predictors:
  • Lower socioeconomic class
  • Male
  • Younger age
  • Uninsured or Medicaid
  • Substance use
  • Prior history of AMA
  • Lack of primary care physician

• Associated with increased readmissions, morbidity, and mortality.

Hospital Diagnoses Associated with AMA Discharge

Table 3. Top 5 principal diagnoses among patients who left the hospital against medical advice (AMA), 2007

<table>
<thead>
<tr>
<th>Rank (AMA patients)</th>
<th>Principal Diagnosis, CCS Category</th>
<th>Number (percent) of AMA stays</th>
<th>Number (percent) of non-AMA stays</th>
<th>Relative rate of stays with AMA versus non-AMA discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nonspecific chest pain</td>
<td>25,800 (7.0)</td>
<td>221,900 (2.0)</td>
<td>3.6</td>
</tr>
<tr>
<td>2</td>
<td>Alcohol-related disorders</td>
<td>25,300 (6.9)</td>
<td>231,500 (0.6)</td>
<td>11.6</td>
</tr>
<tr>
<td>3</td>
<td>Substance-related disorders</td>
<td>21,000 (5.7)</td>
<td>207,900 (0.5)</td>
<td>10.8</td>
</tr>
<tr>
<td>4</td>
<td>Mood disorders</td>
<td>13,900 (3.8)</td>
<td>760,400 (1.9)</td>
<td>1.9</td>
</tr>
<tr>
<td>5</td>
<td>Diabetes with complications</td>
<td>12,500 (3.4)</td>
<td>496,000 (1.3)</td>
<td>2.7</td>
</tr>
</tbody>
</table>

What is an AMA discharge really?

• In a patient who has decision making capacity, it is withdrawal of their initial voluntary consent for hospitalization.

• Patients in outpatient settings may decide not to follow a provider’s recommendation, which is the patient’s right.

• Patients in the inpatient setting may do similarly.

• Providers should continue to adhere to ethical principals when facing AMA discharges.

How Do AMA discharges relate to the Four Pillars of Medical Ethics?

- Autonomy
- Beneficence
- Non-maleficence
- Justice
What Providers Think (and Do)

ORIGINAL RESEARCH

Discharges Against Medical Advice at a County Hospital: Provider Perceptions and Practice

Conchita P. Swooms, MD,’ Allison Bakeham, BM’, Subrina Satter, MD’, Miranda Ritsman Weintraub, PhD, MPH’

Department of Medicine, Highland Hospital, Alameda Health System, Oakland, California; Public Health Program, Tuoro University, Vallecito, California.

BACKGROUND: Patients discharged against medical advice (AMA) have higher rates of readmission and mortality than patients who are conventionally discharged. Bioethicists have proposed best practiceCheck for AMA discharges, but few studies have revealed that some providers have misperceptions about their roles in these discharges.

OBJECTIVE: This study assessed patient characteristics and provider practices for AMA discharges at a county hospital and provider perceptions and knowledge about AMA discharges.

DESIGN: This mixed-methods cross-sectional study involved chart abstraction and survey administration.

PARTICIPANTS: Charts were reviewed for all AMA discharges (n = 318) at a county hospital in 2016. Surveys were completed by 173 healthcare providers at the hospital.

RESULTS: Of 12206 admissions, 318 (2.7%) ended with an AMA discharge. Compared with conventionally discharged patients, patients who left AMA were more likely to be young, male, and homeless and less likely to be Spanish speaking. Of the 2416 patients with AMA discharge, 21.4% had medications prescribed, and 25.7% had follow-up arranged. Of patients readmitted within 6 months after AMA, 23.0% left AMA again at the next visit. Attending physicians and trainee physicians were more likely than nurses to say that AMA patients should receive medications and follow-up (94% and 84% vs 64%, P = 0.00).

CONCLUSIONS: Although providers overall felt comfortable determining capacity and discussing AMA discharges, they rarely documented these discussions. Nurses and physicians differed in their thinking regarding whether to arrange follow-up for patients leaving AMA, and in practice arrangements were not made.

Physician and Nurse Self-Report

• >94% of all providers reported being comfortable assessing decision making capacity.

• Attending physicians and trainee physicians demonstrated more agreement than nurses that AMA patients should receive medications and follow-up (94% vs 84% vs 64%).

• Nurses more likely than attending physicians to say patients should lose their rights to hospital follow-up because of leaving AMA (38% vs 6%).
Findings on Chart Review

• Decision-making capacity documented in 29.6% cases.
• 84% had a completed AMA form.
• Medications prescribed 21.4% cases; follow-up arranged 25.7% cases; follow-up pending 14.8% cases.
• 71% of AMA patients left during daytime hours.
• 35.8% returned to the emergency department within 30 days and 16.4% readmitted within 30 days.

Dispelling Myths

Does identifying a discharge as "against medical advice" confer legal protection?

DeReb PJ, DeReb AC, Givens M.

Abstract

BACKGROUND: One in every 65 to 120 discharges from general hospitals are against medical advice and have an expected increased risk of adverse consequences and subsequent litigation. Does the term "against medical advice" confer legal protection?

METHODS: We searched the MEDLINE and PsycINFO databases for relevant articles. We also searched the national medico-legal databases of LEXIS-NEXIS. Additional case law was obtained through a search for "against medical advice" in the West Premiere CD-ROM database of New York State cases.

RESULTS: We found 8 relevant cases. There was no case in which "against medical advice" was entirely protective, though partial protection existed in some cases.

CONCLUSIONS: Since patients are admitted voluntarily to a general hospital, a discharge against medical advice is merely a withdrawal of the original consent.
Dispelling Myths

Approaching AMA Discharges

- Assess patient’s decision-making capacity.
- Clarify risks of discharging with the patient.
- Address motivating factors behind discharge.
- Formulate an alternative outpatient treatment plan, if one exists.
- Understand that typical outpatient form is not adequate to document informed consent and does not clearly confer protection from litigation.
- Document above in the medical record.
Case Continued

• You assess the patient to have decision making capacity with regard to leaving.

• Unfortunately, you are unable to find anyone to care for the patient’s dogs.

• You prescribe oral azithromycin to the patient’s community pharmacy, ask the patient scheduler to arrange follow-up within the next three days, and email his PCP.

• You document your assessment, counseling, and plan of care in the medical record.

Review

• Recognize risk factors for AMA discharges.

• See how AMA discharges relate to ethical principals.

• Understand variability of provider opinions and practices.

• Acknowledge common myths about AMA discharges.

• Have an approach to AMA discharges which includes appropriate follow-up planning and documentation.
Thank You and Questions?
Care of the Patient with Developmental Disabilities

Clarissa Kripke, MD, FAAFP
Clinical Professor, Family and Community Medicine
Director, Office of Developmental Primary Care

Outline

- Define Developmental Disability, Demographics, and Regional Center Systems
- Describe barriers to accessing healthcare
- Successful community living—what is community?
- Most common challenges with access that doctors can improve:
  - Communication is the key to patient care—but how?
  - Informed consent—but how? Supported Decision Making!
  - Goals of Care conversations

Disclosures

I have no relationships with commercial interests to disclose.

Thank you to WITH and Stupski Foundations for your support.
Regional Center Eligibility

- Originates before age 18, expected to continue indefinitely
- Substantial disability for the individual
  - Self care
  - Language
  - Learning
  - Mobility
  - Self-direction
  - Independent living
  - Economic self sufficiency
- Includes, intellectual disability, cerebral palsy, epilepsy, autism

What are Regional Centers?

Regional Centers are quasi-governmental agencies which develop and fund services and supports for people with DD
- Administer California’s Entitlement to Services and Supports
- Lifelong services to maximize potential (not medically necessary)
- Every client has a service coordinator
- Individual Program Plan Services and Supports determined through negotiation based on: assessment, goal, individual preference, cost effectiveness
- Disparities in resources. 24% of Regional Center clients have a primary language other than English
- Must not supplant generic services
- Maximizes the use of natural supports

Other Government Agencies

- Schools until age 22:
- California Children’s Services until age 21
- MediCal/SSI
- In Home Support Services
- SSDI/Medicare (when age 65 or parent retires or dies)
- Department of Vocational Rehabilitation

Living Situation for People with DD California 2016

<table>
<thead>
<tr>
<th>Children</th>
<th>Family Home</th>
<th>97%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group Home</td>
<td>3%</td>
</tr>
<tr>
<td>Adults</td>
<td>Family Home</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td>Own Home (Supported Living)</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Group Home</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>Intermediate Care Facility</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Institution</td>
<td>1%</td>
</tr>
</tbody>
</table>

Department of Developmental Services Fact Book, 14th Ed.
What Is Community?

- Prior to late 1970's most people with developmental disabilities lived in institutions
- People in institutions died young of infectious disease, fire, malnutrition, neglect
- California had a program of state sponsored eugenics with forced sterilization until 1979
- When we started moving people out, they were mostly moving into 6-person group homes with 24 hour care and sheltered workshops and day programs where people worked for less than minimum wage
- The new CMS Home and Community Based Settings regulations redefine community in terms of the ability to direct your own live and fully participate

Barriers to Accessing Health Care

- Barriers can be physical (built environment and medical equipment), programmatic, communication, financial, or attitudinal
- Only 3% of Primary Care practices in CA even have a wheelchair accessible scale!
- Bridging the Gap: Improving Healthcare Access for People with Disabilities: https://www.youtube.com/watch?v=fwhT1KFBDV4

Improving Access to Health Care

Communication Access

- Communication is the foundation of patient care
- Everybody communicates
- Just because I don't talk, doesn't mean I have nothing to say!
- Ask. Find a way! Presume competence
- Try auditory, visual, tactile, kinesthetic
  - http://odpc.ucsf.edu/training/best-practices-communication
  - http://odpc.ucsf.edu/communications-paper
Improving Access to Health Care

Supported Decision Making

- Supported Decision Making (SDM) is a paradigm for empowering people with cognitive, communication and physical disabilities to maintain their legal capacity, even if you need support to make decisions.
- SDM is an alternative to conservatorship, power of attorney, or protocols for unrepresented patients which transfer decision-making to a third party.
- A decision is understanding the options, weighing them against each other and communicating a choice.
- Capacity is not fixed (people can gain or lose it).
- Capacity is determined for a specific decision at a specific moment in time.

Goals of Care Conversations

- The lives of people with disabilities are meaningful and valuable at all stages and regardless of functional status.
- Accommodations, adaptive equipment, access, inclusion and participation improve quality of life.
- Caregivers require resources and support.
- People with functional limitations are usually much happier and capable than they are judged to be by others.
- Ability bias is pervasive and patients can internalize messages (burden, suffering, unfortunate, tragic, bound, vegetable, heroic for simply being, childlike).
- It is terrifying to be dependent for care and support on people who do not think your life is worth living.

Clinical Differences: Elders vs. People with Disabilities

<table>
<thead>
<tr>
<th>Elders</th>
<th>People with Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional limitation (often but not always) = advanced vital organ damage</td>
<td>Functional limitation = stable, often healthy vital organs</td>
</tr>
<tr>
<td>Functional decline is often a sign illness is nearing terminal stages</td>
<td>Functional decline may not indicate terminal illness at all</td>
</tr>
<tr>
<td>Poorly adjusted to living with disability - need supports</td>
<td>Adjusted to living with disability - function better - may have supports in place</td>
</tr>
<tr>
<td>Often don’t benefit from aggressive medical care</td>
<td>Often benefit from aggressive medical care</td>
</tr>
<tr>
<td>Short term memory problems interfere with success of habilitation and rehabilitation</td>
<td>Short term memory usually intact and can learn new skills, even with cognitive disability</td>
</tr>
<tr>
<td>If the problem is advanced dementia, age, or illness, enteral feeding and ventilation support is unlikely to extend life or improve quality</td>
<td>If the problem is neuromuscular or mechanical, enteral feeding and ventilation support is life sustaining and can support an active, full lifestyle</td>
</tr>
</tbody>
</table>
Functional Status

Elders
- Recover to lower baseline function
- Predicts terminal decline

People with Disabilities
- Recover to previous baseline
- Sometimes slower process

Medical events

Time

Common Pitfalls Discussing Goals of Care

- Pity
- Abandonment
- Misleading prognosis
- Threat of institutionalization
- Offering interventions without context
- Dehumanization
- Devaluing the life of a person with a disability
- Stealing hope
- Disrespecting autonomy

*Often well meaning and intent is to convey empathy

Dementia in the Underserved
Medical Care of Vulnerable and Underserved Populations CME, 2018
Anna Chodos, MD MPH
Division of General Internal Medicine, ZSFG
Division of Geriatrics
University of California, San Francisco

I have no disclosures to make.

Learning Objectives

- List 2 ways to assess for cognitive impairment
- List 2 ways to assess function
- Describe 1 way in which you can incorporate caregivers into your care plan

Are older adults inherently vulnerable?
- At risk for abuse, neglect, and self-neglect
  - Cognitive disability is a 2x risk factor for abuse
  - Physical disability increases with age
  - Need caregiving
  - Carry large burden of informal caregiving (increased mortality risk)
  - Lower health literacy related to normal cognitive aging

A Case: Ms. H

- 77 yo W, Spanish-speaking, who presents to you in clinic with her 2 daughters
- 1 lives with her, 1 is her primary caregiver
- The patient reports that she feels like her memory is “terrible”
- PMH: rheumatic MS, htn, a flutter after severe epistataxis, DM, osteoporosis
- Meds: dilt, warfarin, atorvastatin, vit D, lisinopril

Screen or Detect?

- No formal guidelines to say to screen asymptomatic adults -> ☒ Screening
  - There is still a high pretest probability...
- Entry points to detection:
  - Patient concern
  - Caregiver/informant concern
  - Your concern
Red flags for Dementia

- Repetition (not normal in span of a clinic visit)
- Losing track of conversation
- Frequently deferring to caregiver/family
- Unexplained medical decompensation
- Hospitalizations
- Unexplained weight loss
- Missing appointments
- Inattentive to appearance, behavioral changes
- Falls or injury
- Paucity of content, detail in conversation

Is detection different between certain groups?

Examples:
- How do I detect cognitive impairment in someone with severe substance use disorder who is never sober?
- Patients and informants may report differently
  - African-American informants less likely to report concerns
  - “What is this for?” mistrust of health care providers


Dementia

- 1 in 9 adults age 65+, and ~1 in 3 age 85+ have dementia

Cognitive impairment unrecognized in ~50% of affected patients in primary care.

She has a concern. So, what do I ask Ms. H next?

Dementia

Dementia (Major Neurocognitive Disorder):
• Evidence of significant cognitive decline from a previous level of performance in one or more cognitive domains:
  – Learning and memory
  – Language
  – Executive function
  – Complex attention
  – Perceptual-motor
  – Social cognition = behavior

  ➔ Part I

Diagnosis of dementia = acquired cognitive impairment + acquired functional impairment

Dementia (Major Neurocognitive Disorder), cont’d:
• The cognitive deficits interfere with independence in everyday activities. ➔ Part II
• The cognitive deficits do not occur exclusively in the context of a delirium. ➔ Part III
• The cognitive deficits are not better explained by another mental disorder (e.g. major depressive disorder, schizophrenia) ➔ Part III
  ➔ Part IV: Collateral

DSM-V (2013)
Diagnosing Dementia in Primary Care
4 step process

I. Cognitive trajectory and testing
II. Functional history and/or testing
III. Rule out reversible causes or other syndromes
IV. Collateral information

How does this change in an underserved population?

General Principles of Assessment of Older People

• Ask about accommodations that might help with their comprehension
  – Low voice
  – Repeat yourself verbatim if you are not understood
  – Speak directly to the person


General Principles of Assessment of Older People

Cont’d
– Get hearing and vision aides in clinic (magnifying glass, pocket talker)
– Minimize distractions
– Ask and state things plainly

• At some point separate patient and their informant and interview separately.

Dementia Assessment: Part I

1) Cognitive:
   – History and trajectory of:
     • Memory
     • Executive Function
     • Visuospatial
     • Language
     • Motor
     • Psychiatric/Behavioral
Ms. H

Spontaneous complaints:
• Cannot remember where she put things
• Can’t sleep and has bags under her eyes
• “I worry a lot.”
On questioning:
• No falls.
• Not cooking anymore because "daughters do it."
• Feels a deep sadness at times.
• No getting lost. No changes in language.

Dementia Assessment: Part I- objective

• Neurologic exam: mental status, motor, tone, tremor, balance and gait, apraxia, following commands

• Cognitive Testing for most other domains.
  – What tools are you familiar with?
  – What do you have time to do?

Screening Method: Mini-Cog

1-2 min

3 item recall (3 points)
+ CLOCK DRAW (2 points)

http://www.alz.org/documents_custom/minicog.pdf

Tested in multi-lingual populations.


Mini-Cog: 3 item recall/clock draw

**Can be used in multiethnic and multilingual populations

Sensitivity 76-97%
Specificity 89-95%
Ms. H

Recall 0/3

Clock 2/2

Score = 2 → More testing

GP-COG
5-8 min

**GPCOG Screening Test**

*Step 1: Patient Examination*

Unless specified, each question should only be asked once

- Part 1 - Patient (memory)
- Part 2 - Informant (function)
- Available in Spanish, Chinese, Korean.


MOCA Test
10-20 min

**Montreal Cognitive Assessment (MOCA)**

- Positive screen if score 25 or below.
- Positives: Many languages, Many cognitive domains
- Negatives: +1 education < HS, unclear if this is enough
- **USE THE INSTRUCTIONS** the first few times you use it

[www.mocatest.org](http://www.mocatest.org) *(need to register)*

MOCAn’t

- Initial norms for the MOCA are from a small cohort in Montreal (n=94)
- Should scores be education and age-adjusted?
- There is a growing number of validation studies in other languages and countries.

Our Case

- Neurologic exam normal except for slow gait:
  - Community ambulatory is 0.8m/s or faster
  - 10 foot (3m) walk test: ~3sec or Timed Up and Go <12sec

- MOCA test: **18/30 (raw 17/30)**
  - 4 years of primary education in rural El Salvador.

---

**MOCAn’t**

- Cognitively normal Spanish-speaking with lower levels of education:
  - 3-4 points needed for more accommodation

- Cognitively normal African-American cohort:
  - Mean 22 pts (mean age 45)
  - 80% were below <26 pt cutoff

---

**Challenges in the COGNITIVE ASSESSMENT with underserved populations**

- Assessment can be challenging when:
  - No norms!
  - Non-concordant language
  - Different cultural context, particularly around education
  - Severe vision and hearing impairment
  - Severe mental illness or active substance use

- Note these things and do your best!
- Ask for neuropsych help if needed
Dementia Assessment: Part II - Function:

• Activities of Daily Living (ADLs), Instrumental Activities of Daily Living (IADLs)

How the person is doing is the most important part of this diagnosis.

Assessing Function

• ADLs: Impacted late
  – Bathing
  – Dressing
  – Toileting, continence
  – Transferring
  – Feeding

• IADLs: Impacted early
  – Driving/transportation
  – Using phone
  – Shopping for food
  – Finances
  – Cooking
  – Housework
  – Taking meds

Ms. H

• Function:
  – ADLs: indep in all
  – IADLs: daughter who is her caregiver does cleaning, shopping, meal prep and laundry
  • This is new in the last 2-3 years.
Challenges in the FUNCTIONAL ASSESSMENT with underserved populations

- Assessment can be challenging when functional needs are different
  - For example, how do you do a functional assessment for:
    - Jail or prison inmates
    - Homeless adults

Dementia assessment: Part III- Reversible causes

- Delirium: acute, fluctuating, inattentive
- Substance Use
- Depression
- Labs: TSH, B12, RPR and HIV
- Medication review

Medications Causing Cognitive Symptoms

- Benzodiazepines
- Anti-cholinergics: diphenhydramine, hydroxyzine, chlorpheniramine
  - Including OTC combination meds- tylenol PM
- Sleep medications: Z-drugs
- Muscle relaxants (cyclobenzaprine, carisoprodol)
- Antispasmodics: oxybutynin, tolterodine
- TCA anti-depressants
- Anti-psychotics

Dementia: Head imaging

- When should I order head imaging?
  - <65
  - Rapid onset
  - Other diagnoses: cancer, HIV
  - Head injury
  - Focal neurologic findings
  - Meds: anti-coagulants

Challenges in RULING OUT OTHER CAUSES in underserved.

- Serious mental illness
- Substance use disorders
- Medical complexity
  - TBI
  - High burden of vascular risk factors

Ms. H

- No delirium
- No substance use
- Depression: + depressed mood, Geriatrics Depression Screen positive
- Labs wnl
- Not on offending medications
- No indication for head imaging

Dementia Assessment: Part IV- Collateral

- Ask all the same things of family, contacts, caregivers
  - Whoever is available and likely to know the most
    Memory
    Executive fxn
    Language
    Visuospatial
    Motor
    Behavior
    FUNCTION

Ms. H’s daughters

- Mostly new issues since Ms. H’s husband died almost 3 years ago:
- Cognitive:
  - Repetitive questions
  - Can’t recall conversations
  - Disoriented on the bus
  - Stubborn, irritable
  - Less stable gait
- Functional:
  - Indep in ADLs
  - Dep in shopping, laundry, cleaning for ~2 years
Challenges in COLLATERAL HISTORY with the underserved

- Lack of close friends or family to provide collateral
- Reach out to whoever you can - case managers, prior providers, etc.

Do we have a conclusion?

- Do you think she meets criteria for dementia?
- Is there anything you still want to know?

Look, a Neuropsychologist!

- Neuropsychological testing is particularly helpful when there is an unclear diagnosis or unusual symptoms, concurrent mental illness, or tests you have don’t have norms (like low education)

Ms. H’s Neuropsych Test

- Mood: “stressed”, cried during interview
- Used a test for Spanish-speaking adults with low education.
- Possible slowing in terms of primarily visuomotor processing speed and memory retrieval deficits.
- Memory: mild free recall difficulties verbally.
- Language: difficulties primarily with semantic retrieval on fluency and naming tasks.
- Abnormal and “largely incompatible with typical Alzheimer’s disease given average performances on memory retention and slowed psychomotor processing speed with intact visuospatial processing”
Diagnosis

• Certainly may have dementia, but not a typical pattern and has prominent mood symptoms.

Dementia in Vulnerable Populations

Detection → Diagnosis → Management

Diagnosis and CARE

Ms. H’s plan:
• Disclose our findings, including concern for dementia.
• Treat depression and reevaluate symptoms and function.
• Consider imaging to r/o vascular dementia.
• Support for patient and family.
  – Education, support groups, respite if needed.
• Advance care planning.
• Monitoring cognition and function. Time is a diagnostic.

Care Plan: Healthy Living

• Promote healthy living:
  – discuss evidence in support of modifiable risk factors
  – regular physical activity and diet/nutrition
  – socialization (stimulation, loneliness prevention)
  – Sensory impairment– correct vision and hearing
Lifestyle Modifications

- More evidence for lifestyle modification as the best protective strategies for the brain:
  - Strategies that guard against cardiovascular risk
    - Managing CV risk factors medically
    - Tobacco cessation
    - Weight management
    - Regular physical exercise
    - Diet, e.g. Mediterranean diet

Medications

<table>
<thead>
<tr>
<th>Treatment Effect Size</th>
<th>Physical Function</th>
<th>Cognitive Function</th>
<th>Quality of Life</th>
<th>Mood/Behaviors</th>
<th>Caregiver Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise</td>
<td>0.68</td>
<td>0.31 - 0.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social/Cog</td>
<td>0.41</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
<td>0.49 - 0.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholinesterase Inhibitors</td>
<td>0.25 - 0.29</td>
<td>0.15 - 0.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memantine</td>
<td>0.11</td>
<td>0.33</td>
<td>0.22*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Effect size: small, 0.2; moderate, 0.5; large, 0.8

Caregiver resources

- Family Caregiver Alliance
  - Caregiver.org

- Local Alzheimer’s Association

- Respite services- additional caregiver hours, temporary SNF stay, adult day health program
**Care Plan: Safety Issues**

- Discuss driving, wandering, firearms, fire hazards
- Recommend medical identification for patients who wander
  – www.medicalert.org

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**Care Plan: Goals of Care**

- Dementia→ higher risk of incapacity
- Do advance health care directives, Durable Power of Attorney for health care AND finances and other documents
- Vulnerable older people→ less likely to have a surrogate

---

**Talk with your surrogate!**

- PREPARE
  www.prepareforyourcare.org
  Videos to help people and their surrogates talk about goals and values. (In English and Spanish)

- Use any other tools you like! (Five Wishes, etc.)

---

**Dementia: A Major Risk Factor for Elder Abuse**

**NEARLY 1 IN 2 PEOPLE WITH DEMENTIA EXPERIENCE SOME FORM OF ABUSE BY OTHERS.**

3 Alzheimer’s Association (2013). Alzheimer’s Facts & Figures
2017 CDPH Guidelines for Alzheimer’s Disease Management

- https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/DCDB/Pages/AlzheimersDiseaseResources.aspx
- 2 pages
- Designed with clinical providers in mind
- Fairly comprehensive guide to care planning

Summary

- There is a stepwise way to work through concern for dementia in your patients.
  - Special considerations at every point in underserved adults.
- Time is a helpful diagnostic.
- Talk with patients about your concerns and work on advance care planning.
- Be alert to safety risks and elder abuse.

Any questions?

anna.chodos@ucsf.edu

Optimizing Aging Collaborative at UCSF

For more information contact: OAC@ucsf.edu

The Optimizing Aging Collaborative at UCSF is supported by the UCSF Geriatrics Workforce Enhancement Program: Health Resources and Services Administration (HRSA) Grant Number U1QHP28727.
Extra slides:
Relevant symptoms and findings by domain.

Cognitive Symptoms: Memory
- Problems with recent events – Trouble remembering conversations, repeating things
- Remote events (generally remain intact until later in disease)
- Misplacing objects
- Repetitive Questions
- Missing appointments
- Objective findings: Repeats complaint stated earlier in visit, unable to do short-term recall exercise

Cognitive Symptoms: Executive Function
- Difficulty with planning or organization
- Multi-tasking
- Concentration/attention span
- Problem Solving
- Impulsivity (acting without thinking)
- Mental rigidity/inflexibility
- Objective findings: Difficulty following complex instructions, difficulty with clock draw or trails

Cognitive Symptoms: Language
- Word finding trouble
- Poor articulation
- Impaired comprehension
- Impoverished speech (e.g. “thingie” instead of specific word)
- Impaired reading/writing/spelling
- Mutism/ Decreased speech output
- Objective findings: Can name <11 words in 1 minute, poor score on Boston Naming Test (doesn’t know names of high frequency words)
Cognitive Symptoms: Visuospatial

• Lost in familiar environments
• Difficulty recognizing faces
• Difficulty driving
• Difficulty parking
• Objective finding: Trouble drawing a cube

Cognitive Symptoms: Behavioral

• Changes in emotional expression (blunting/labile)
• Changes in personality/behavior
• Apathy/decreased motivation
• Obsessive/compulsive behaviors
• Agitation/aggression
• Depression
• Delusions/Hallucinations
• Impaired Hygiene/eating
• Changes in sleep

Cognitive Symptoms: Motor

• Difficulty with walking or balance
• Trouble using utensils (apraxia)
• Change in handwriting
• Tremor
• Weakness
• Involuntary movements
• Trouble Swallowing
• Objective findings: Falls, cannot demonstrate how to brush teeth or hair (apraxia)
CARDIOVASCULAR RISK IN DIABETES
Have we turned the corner?

Medical Care of Vulnerable and Underserved Populations

March 3, 2018

Binh An P. Phan, MD
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University of California, San Francisco
Division of Cardiology
San Francisco General Hospital

Disclosures: none

Outline

• Review the cardiovascular risk associated with diabetes
• Discuss current medical therapies and optimal approach to reducing CVD risk in patients with diabetes
• Introduce newer diabetes medications and their potential impact on improving residual CVD risk

Diabetes in the Pima Native Americans


Incidence of CHD death in Pima vs. Framingham

What is the CVD risk associated with diabetes?

MRFIT Study: CV risk associated with diabetes

East West Study: Diabetes as a CAD equivalent

British Heart Study: Diabetes duration and CAD risk
### British Heart Study: Diabetes duration and CAD risk

- **Event rate per 1,000 patient years**
  - 0-1: 20.3
  - 2-7: 38.0
  - ≥8: 66.9

- **Duration of diabetes, years**
  - 20.3

- **CVD events vs. All-cause mortality**

**Source:** Wannamethee et al. Arch Intern Med 2011.

### Strong Heart Study: Risk factors and CV risk in DM

- **10-year incidence of CHD (%)**
  - Non-fatal CHD
  - Fatal CHD

**Factors:** RF: sex, LDL >100 mg/dl, albuminuria (>300 mg/g creatinine), HTN, HDL <40 mg/dl, TG >150 mg/dl, smoking, fibrinogen >352 mg/dl, and DM>20 years.

**ND=non-diabetic**

**DM=diasbetes mellitus**

**Source:** Howard et al. Diabetes Care 2006.

### Relationship between fasting glucose and CV risk

<table>
<thead>
<tr>
<th>Fasting blood glucose</th>
<th>CVD Risk</th>
<th>HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 132 mg/dl</td>
<td></td>
<td>2.36 (2.02-2.76)</td>
</tr>
<tr>
<td>&lt; 132 mg/dl</td>
<td></td>
<td>1.61 (1.42-1.82)</td>
</tr>
<tr>
<td>No known diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 132 mg/dl</td>
<td></td>
<td>1.78 (1.56-2.03)</td>
</tr>
<tr>
<td>109.8-132 mg/dl</td>
<td></td>
<td>1.71 (1.08-1.26)</td>
</tr>
<tr>
<td>100.8-109.7 mg/dl</td>
<td></td>
<td>1.11 (1.04-1.18)</td>
</tr>
<tr>
<td>70.2-100.7 mg/dl</td>
<td></td>
<td>1.00 (0.95-1.06)</td>
</tr>
<tr>
<td>&lt;70.2 mg/dl</td>
<td></td>
<td>1.07 (0.97-1.18)</td>
</tr>
</tbody>
</table>


### Relationship of HbA1c and CV risk

<table>
<thead>
<tr>
<th>Study</th>
<th>No.</th>
<th>RR for CHD per 1% HbA1c higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPIC-Norfolk</td>
<td>529</td>
<td></td>
</tr>
<tr>
<td>Rancho Bernardo</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>Wang et al.</td>
<td>241</td>
<td></td>
</tr>
<tr>
<td>ARIC</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>CHS</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>FOS</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>BWHHS</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>NWASH</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>AusDiab</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>1639</td>
<td>1.20 (1.10-1.31)</td>
</tr>
</tbody>
</table>

**Source:** Sarwar et al. Plos Med 2010.
CV risk from blood glucose, cholesterol, and SBP

Mean fasting blood glucose (mg/dl)
Mean cholesterol (mg/dl)
Mean systolic blood pressure (mmHg)

Impact of DM duration and risk factors in CV risk

CHD equivalence threshold
DM diagnosis
Baseline CVD risk
10 years DM duration

How do you lower CVD risk in diabetes?

Diabetes Duration HTN Lipids Smoking CVD

UKPD Study: Intensive glucose control on risk reduction

<table>
<thead>
<tr>
<th>Microvascular disease</th>
<th>25%</th>
<th>p=0.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retinopathy</td>
<td>21%</td>
<td>p=0.015</td>
</tr>
<tr>
<td>Albuminuria</td>
<td>33%</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>MI</td>
<td>16%</td>
<td>p=0.052</td>
</tr>
<tr>
<td>Mortality</td>
<td>6%</td>
<td>p=0.44</td>
</tr>
</tbody>
</table>

Mean achieved A1c: 7.0% (Intensive rx) vs. 7.9% (conventional rx)

UKPDS Long Term Follow-up: Benefits after 10 years

- Microvascular disease: 24% reduction, p=0.001
- MI: 15% reduction, P=0.014
- Mortality: 13% reduction, P=0.007

Median HbA1c %

- Conventional: 7.9%
- Intensive: 7.0%

Mean achieved A1c: 7.0% (Intensive rx) vs. 9% (conventional rx)

Meta-analysis of intensive glucose rx on CHD events

<table>
<thead>
<tr>
<th>Trial</th>
<th>HbA1c</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard</td>
<td>Intensive</td>
</tr>
<tr>
<td>UKPDS</td>
<td>7.9%</td>
<td>7.0%</td>
</tr>
<tr>
<td>PROActive</td>
<td>7.6%</td>
<td>7.0%</td>
</tr>
<tr>
<td>ADVANCE</td>
<td>7.0%</td>
<td>6.4%</td>
</tr>
<tr>
<td>VADT</td>
<td>8.4%</td>
<td>6.9%</td>
</tr>
<tr>
<td>ACCORD</td>
<td>7.5%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lowering HbA1c by 0.9% associated with 15% RR reduction in CHD events.

DCCT Study: Intensive glucose control in type 1 DM

- DCCT Trial: Mean achieved A1c in Intensive: 7.0%, Conventional: 9.0%
- EDIC observation: Mean achieved A1c in Intensive: 7.0%

Syst-Eur Study: HTN rx reduces CV in diabetes

- 41% reduction in CVD mortality
- 70% reduction in overall mortality
- 57% reduction in fatal, non-fatal CVD events

Tuomilehto et al. NEJM 1999.
**Benefit of intensive LDL-C lowering in diabetes**

<table>
<thead>
<tr>
<th></th>
<th>Primary event rate (%)</th>
<th>Aggressive lipid-lowering better</th>
<th>Aggressive lipid-lowering worse</th>
<th>Difference in LDL-C (mg/dL)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment</td>
<td>Control</td>
<td>Treatment</td>
<td>Control</td>
<td>Treatment</td>
</tr>
<tr>
<td>TNT</td>
<td>Diabetes, CHD</td>
<td>13.8</td>
<td>17.9</td>
<td>0.75</td>
<td>0.026</td>
</tr>
<tr>
<td>ASCOT-LLA</td>
<td>Diabetics, HTN</td>
<td>9.2</td>
<td>11.9</td>
<td>0.77</td>
<td>0.036</td>
</tr>
<tr>
<td>CARDS</td>
<td>Diabetes, no CVD</td>
<td>5.8</td>
<td>9.0</td>
<td>0.63</td>
<td>0.001</td>
</tr>
<tr>
<td>HPS</td>
<td>All diabetes</td>
<td>9.4</td>
<td>12.6</td>
<td>0.73</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td></td>
<td>Diabetes, no CVD</td>
<td>9.3</td>
<td>13.5</td>
<td>0.67</td>
<td>0.0003</td>
</tr>
</tbody>
</table>

0.5 0.7 0.9 1 1.7

CV relative risk

*Atorvastatin 10 vs 80 mg/day
†Statin vs placebo


**Comparing CV benefits of interventions in diabetes**

- 2
- 4
- 6
- 8
- 12

Per 4 mmHg lower SBP
Per 1 mmo/L lower LDL-C
Per 0.9% lower HbA1C


**Steno-2 Study: Multi-factorial intensive rx in diabetes**

- Intensive Rx
  - SB < 130/80
  - A1c < 6.5%
  - TC < 175 mg/dL
  - TG < 150 mg/dL

- Conventional
  - N = 80

53% RRR
P = 0.01

N = 80

*CV death, MI, stroke, CABG/PCI, amputation, PAD surgery


**History of diabetes drug development**

GLP-1 agonists
SGLT2 inhibitors
DPP-4 inhibitors
TZD
Basal insulin
Rapid-acting insulin
Alpha glucosidase inhibitor

FDA requires CV outcomes data

**Mechanism of action of traditional diabetes drugs**

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Effect</th>
</tr>
</thead>
</table>
| α-Glucosidase inhibitors | Intestine: ↓glucose absorption  
Liver: ↓hepatic glucose output  
Muscle and adipose tissue: ↑glucose uptake |
| Biguanides          | Liver: ↓hepatic glucose output  
↑glucose uptake |
| Sulfonylureas       | Pancreas: ↑insulin secretion  
Muscle and adipose tissue: ↓insulin resistance  
↑glucose uptake |
| Thiazolidinediones (TZD) | Blood glucose |

**Actions of newer diabetes medications**

<table>
<thead>
<tr>
<th>Action</th>
<th>GLP-1 agonist</th>
<th>SGLT-2 inhibitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary mechanism</td>
<td>Stimulates insulin secretion, inhibits glucagon secretion, decreases glucose production, increase insulin sensitivity</td>
<td>Inhibits sodium–glucose cotransporter 2 (SGLT2) inhibitor, which prevents renal glucose resorption</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>Increase cardiac contractility and cardiac output</td>
<td>Lowers blood pressure by inhibiting sodium reabsorption</td>
</tr>
<tr>
<td>Metabolic</td>
<td>Causes weight loss through suppression of appetite and reduced gastric emptying</td>
<td>Induces weight loss from altered energy balance with glucose wasting</td>
</tr>
</tbody>
</table>


**LEADER trial: GLP-1 agonist in high CVD risk diabetics**

- **Liraglutide and Cardiovascular Outcomes in Type 2 Diabetes**
  - Steven P. Marso, M.D., Gilbert H. Daniels, M.D., Kristine Besim Frachon, M.D., Peter Krieger, M.D., E.M.R.A., Johannes F. Moe, M.D., Michael A. Nauck, M.D., Steven E. Nissen, M.D., Stuart Poole, Ph.D., Neil R. Postleth, F Med Sci., Lance S. Farrow, M.D., Ph.D., William M. Stanek, M.D., Mette Stocke, M.D., Bernard Zierz, M.D., Richard M. Bign, M.D., and John S. Buse, M.D., Ph.D., for the LEADER Steering Committee on behalf of the LEADER Trial Investigators.
  - 9,340 diabetics at high ASCVD risk
  - > 50 yo with ASCVD, CKD, HF
  - ≥ 60 yo with ≥1 CVD risk factor

- **Baseline**

<table>
<thead>
<tr>
<th></th>
<th>Liraglutide (N=4,668)</th>
<th>Placebo (N=4,672)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male sex</td>
<td>3011 (64.5)</td>
<td>2992 (64.0)</td>
</tr>
<tr>
<td>Age, yrs</td>
<td>64.2 ± 7.2</td>
<td>64.4 ± 7.2</td>
</tr>
<tr>
<td>Diabetes duration, yrs</td>
<td>12.8 ± 8.0</td>
<td>12.9 ± 8.1</td>
</tr>
<tr>
<td>HbA1c, %</td>
<td>8.7 ± 1.6</td>
<td>8.7 ± 1.5</td>
</tr>
<tr>
<td>Established CVD (age&gt;50)</td>
<td>3831 (82.1)</td>
<td>3767 (80.6)</td>
</tr>
<tr>
<td>CVD risk factors (age≥60)</td>
<td>837 (17.9)</td>
<td>905 (19.4)</td>
</tr>
</tbody>
</table>

Marso et al. NEJM 2016.
**LEADER trial: GLP-1 agonist in high CVD risk diabetics**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Patients (%)</th>
<th>Placebo (%)</th>
<th>Hazard Ratio</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary outcome</td>
<td>608 (13.0)</td>
<td>694 (14.9)</td>
<td>0.87 (0.78-0.97)</td>
<td>0.01</td>
</tr>
<tr>
<td>CV death</td>
<td>219 (4.7)</td>
<td>278 (6.0)</td>
<td>0.78 (0.66-0.93)</td>
<td>0.007</td>
</tr>
<tr>
<td>MI</td>
<td>292 (6.3)</td>
<td>339 (7.3)</td>
<td>0.86 (0.73-1.00)</td>
<td>0.046</td>
</tr>
</tbody>
</table>

Weight loss was 2.3 kg more, SBP was 1.2 mmHg lower, and HR was 3.0 beats/min higher in the liraglutide group.

Marso et al. NEJM 2016.

**EMPA-REG trial: SLGT-2 inhibition in diabetics with CVD**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Empagliflozin (%)</th>
<th>Placebo (%)</th>
<th>Hazard Ratio</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary outcome</td>
<td>490 (10.5)</td>
<td>282 (12.1)</td>
<td>0.86 (0.74-0.99)</td>
<td>0.04</td>
</tr>
<tr>
<td>CV death</td>
<td>172 (3.7)</td>
<td>137 (5.9)</td>
<td>0.62 (0.49-0.77)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HF hospitalization</td>
<td>126 (2.7)</td>
<td>95 (4.1)</td>
<td>0.65 (0.50-0.85)</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Zinman et al. NEJM 2015.

**Trials Rx Year CV benefit**

<table>
<thead>
<tr>
<th>GLP-1 agonist Trial</th>
<th>Rx</th>
<th>Year</th>
<th>CV benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADER</td>
<td>Liraglutide</td>
<td>2016</td>
<td>Yes</td>
</tr>
<tr>
<td>ELIXA</td>
<td>Lixisenatide</td>
<td>2015</td>
<td>No</td>
</tr>
<tr>
<td>SUSTAIN-6</td>
<td>Semaglutide</td>
<td>2016</td>
<td>Yes</td>
</tr>
<tr>
<td>EXSCEL</td>
<td>Exenatide</td>
<td>2017</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SGLT-2 inhibitor Trial</th>
<th>Rx</th>
<th>Year</th>
<th>CV benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPA-REG</td>
<td>Empagliflozin</td>
<td>2015</td>
<td>Yes</td>
</tr>
<tr>
<td>CANVAS</td>
<td>Canagliflozin</td>
<td>2017</td>
<td>Yes</td>
</tr>
</tbody>
</table>
High residual risk of CV mortality in diabetic men and women

How do you lower residual CVD risk in diabetes?
- Long term intensive glucose control
- BP control
- High intensity statin
- Smoking cessation

Novel diabetes related therapies

Prevalence of diabetes in Pima populations

Risk factor differences in Pima populations

<table>
<thead>
<tr>
<th></th>
<th>US Pima</th>
<th>Mexican Pima</th>
<th>Mexicans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipid intake (%) BMI (kg/m2)</td>
<td>36.3</td>
<td>26.3</td>
<td>27</td>
</tr>
<tr>
<td>Physical activity (hr/wk)</td>
<td>7</td>
<td>27</td>
<td>25.8</td>
</tr>
<tr>
<td>BMI (kg/m2)</td>
<td>34.6</td>
<td>25.1</td>
<td>25.6</td>
</tr>
<tr>
<td>DM prevalence (%)</td>
<td>38.1</td>
<td>7.1</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Schutz et al. Dia Care 2006.
DPP trial: Impact of lifestyle intervention on incident DM

- Placebo: Cumulative incidence of diabetes (%)
- Metformin: ↓31%  \( P < 0.001 \)
- Lifestyle: ↓58%  \( P < 0.001 \)

- Lose 5–10% weight
- Exercise 2.5 hrs/wk

Cumulative incidence of diabetes (%)

Year: 0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

N = 3234, no diabetes
Age 50
207 lbs
Glucose 107

Trends in CV risk factor control in diabetes

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c &lt; 7%</td>
<td>35.0</td>
<td>49.6</td>
<td>56.9</td>
<td>57.5</td>
<td>54.1</td>
<td>55.5</td>
</tr>
<tr>
<td>BP &lt; 130/80</td>
<td>34.2</td>
<td>42.3</td>
<td>49.5</td>
<td>42.2</td>
<td>49.1</td>
<td>52.8</td>
</tr>
<tr>
<td>LDL-C &lt;100</td>
<td>37.0</td>
<td>38.4</td>
<td>38.5</td>
<td>54.5</td>
<td>61.0</td>
<td>54.4</td>
</tr>
<tr>
<td>BMI &lt; 25</td>
<td>14.1</td>
<td>17.6</td>
<td>16.1</td>
<td>11.1</td>
<td>13.7</td>
<td>10.3</td>
</tr>
</tbody>
</table>

24% were at goal for all three factors of HbA1c, BP, and LDL-C in 2009-2010

DPP trial: Impact of lifestyle intervention on incident DM


Trends in CV risk factor control in diabetes

NHANES. Wong et al. Diab Vasc Dis Res. 2013

Life-long strategy to reduce CV risk in diabetes

- CHD equivalence threshold
- DM diagnosis
- Baseline CVD risk
- Delay DM diagnosis
- Optimize baseline CVD risk
- Intensive rx of DM and CVD risk factors

Have we turned the corner on CV risk for diabetes?

- Diabetes
- Duration
- HTN
- Lipids
- Smoking
- CVD

Long term intensive glucose control
BP control
High intensity statin
Smoking cessation

Novel diabetes related therapies

Life-long intensive lifestyle intervention
Population wide optimization of CVD risk factors
We have come a long way. We have a long way to go.

Thank you.
Workplace safety and health of vulnerable workers

Robert Harrison MD, MPH
Public Health Medical Officer
California Department of Public Health
Clinical Professor of Medicine
University of California, San Francisco

TEL: 415 885 7580
Email: robert.harrison@ucsf.edu

Counting cases…

… Cases count

“Statistics are human beings with the tears wiped away”

Irving Selikoff, MD
1915-1992

Tony Mazzocchi
1926 - 2002
Case presentation (I)

- Admitted to local hospital c/o nausea, vomiting
- PE: normal. ? Alcohol on breath
- AST = 60
- Given IV fluids, discharged improved after 18 hours

Case presentation (II)

- 3 days later - returned to local hospital c/o anorexia, nausea
- PE: icteric, increased liver size
- AST > 12,000, bili 6.9, PT 47, PTT 100, ABG 7.07/18/135, creatinine 2.1, glucose 40
Case presentation (III)

- Transferred to UCSF
- Rapid coma with renal failure — dialysis, GI bleeding, respiratory failure
- Expired 9 days after first admission

Koppers Bitumastic 300-M

- Component A
  - Cyclohexanone
  - Tri (methylamino) methyl phenol
  - 2-nitropropane
- Component B
  - Coal tar pitch
  - Epoxy resin
Fatalities caused by 2-nitropropane

- Gaultier (1964) - fulminant hepatitis (1) following tank coating with epoxy resin
- Hines (1978) fulminant hepatitis (4) after applying coatings in confined spaces
- Demetris (1985) - fulminant hepatitis (2) reported in liver transplant series

Asuncion Valdivia
July 28, 2004

- 53 y.o. man with dizziness, nausea, confusion after picking grapes for 10 hours in >100° heat in Kern County
- Paramedics initially called but did not arrive on scene
- Brought to Kern County Medical Center by son, died on arrival with body temperature > 108°

“Meeting in the Sun”
July 28, 2005

- July 13 - Salud Rodriguez dies in bell pepper field
- July 14 - Ramon Hernandez dies in melon field
- July 20 - Agustine Gudino dies in tomato field
- July 31 - Constantino Cruz dies in tomato field
August 3, 2005

This is a tragedy… and we will do everything it takes to prevent this from happening again.”

August 8, 2005

Emergency regulations for heat illness

May 14, 2008

• Maria Isabel Vasquez, age 17, two months pregnant
  • Immigrant from Oaxaca
  • Pruning grapes, employed by labor contractor x 3 days
  • 95 degree heat in Atwater
  • Collapsed and taken by driver to clinic with core temp = 108o
  • Died 2 days later

“Maria’s death should have been prevented, and all Californians must do everything in their power to ensure no other worker suffers the same fate.”

Public health action

May 14, 2008

Maria Isabel Jimenez
May 14, 2008
17 y.o. picking grapes

Ramiro Rodriguez
July 9, 2008
48 y.o. picking nectarines

Jose Hernandez
June 20, 2008
64 y.o. picking squash

Jorge Herrera
July 31, 2008
37 y.o. loading grapes

Abdon Garcia
July 9, 2008
46 y.o. loading grapes

Maria Alvarez
August 2, 2008
63 y.o. picking grapes

Other faces

Effective July 27, 2006
Flavor manufacturer with batch processes using ribbon blenders
Dust emissions during mixer operations

**D. Process description**

In the mixing room, batches of liquid and powdered flavorings are mixed in a 100-, 500-, or 1500-pound-capacity mixer. At the time of the site visit, as many as three of the 1500-pound batches and up to ten of the smaller 300- or 500-pound batches could be mixed per day. Each batch consists of any of approximately 200 FDA-approved flavor ingredients with approximately 80% dextrose and starch as a base. Ventilation in the mixing room consists of supply and exhaust fans located at opposite ends of the room. Two electrostatic precipitators, located near the mixers, are also used.

<table>
<thead>
<tr>
<th>Flavor</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linalool</td>
<td>0 - Less than 1%</td>
</tr>
<tr>
<td>Linoleyl Acetate</td>
<td>0 - 0.05%</td>
</tr>
<tr>
<td>Butter Esters</td>
<td>0 - 0.5%</td>
</tr>
<tr>
<td>Butter Derivatives</td>
<td>0 - 0.2%</td>
</tr>
<tr>
<td>Anhydrous Butter Fat</td>
<td>0 - 0.2%</td>
</tr>
<tr>
<td>Propoxyl Quatohl</td>
<td>0 - 0.2%</td>
</tr>
<tr>
<td>Ethyl Vanillin</td>
<td>0 - 0.05%</td>
</tr>
<tr>
<td>Diacetyl</td>
<td>0 - 0.05%</td>
</tr>
<tr>
<td>Butyl Butyrate Lactate</td>
<td>0 - 0.05%</td>
</tr>
<tr>
<td>Silicon Dioxide</td>
<td>0 - 0.2%</td>
</tr>
</tbody>
</table>

**Irma Ortiz**

- 40 y.o. woman
- Mixed dry powder with diacetyl x 5 years
- Symptoms of shortness of breath and cough. Treated for asthma.
- FEV1 = 0.55 L (18% predicted). HRCT with ground glass opacities.

**Bronchiolitis obliterans**

- NIOSH study at “sentinel” microwave popcorn plant
- 4 of 8 workers on lung transplant list
- One recent death
NIOSH HHE - 1984

- Request for study of bakery operation in Indiana
- 2 workers with severe lung disease
- Multiple exposures to dusts, flour, flavorings

Toxicology studies

- Multifocal necrotizing bronchitis in rats exposed to 285-371 ppm of diacetyl

Exposed

Control


Epidemiology studies

- Airways obstruction in popcorn workers related to cumulative diacetyl exposure levels (dose-response relationship)


1. SUMMARY

On February 7, 1985, the National Institute for Occupational Safety and Health (NIOSH) received a request from International Bakers Services, Inc., South Bend, Indiana, for a health hazard evaluation. Two young, non-smoking, previously healthy employees in the "mixing room" had developed severe, fixed obstructive lung disease within one year of employment. The onset was insidious, but one second forced expiratory volume (FEV₁) had declined to 1.2 liters and 0.7 liters, respectively, in these two workers within three months of onset of symptoms (eight months from starting work in the plant). There was minimal response to bronchodilators, and there was no significant improvement after 1 and 1 1/2 years, respectively, away from the plant. Forced vital capacity and total lung capacity were relatively less affected, and diffusion capacity initially was normal. Although pathological confirmation was not available, the clinical picture was more compatible with bronchiolitis obliterans than with emphysema.

Young, nonsmoking workers
2/3 mixers affected
Severe loss of FEV₁, with fixed airways obstruction

Young, nonsmoking workers
2/3 mixers affected
Severe loss of FEV₁, with fixed airways obstruction

Toxicology studies

- Multifocal necrotizing bronchitis in rats exposed to 285-371 ppm of diacetyl

Exposed

Control


Epidemiology studies

- Airways obstruction in popcorn workers related to cumulative diacetyl exposure levels (dose-response relationship)

NIOSH HE Report - April 2007

- Production areas had highest diacetyl concentrations, below detection (0.002 ppm) to 1.13 ppm
- Mean personal samples - 0.03 ppm, mean area samples - 0.025 ppm
- Peak concentrations up to 100 ppm

Public health action

- Risk notification of employers, HCPs
- Study of CA companies with use of diacetyl
- Proposed Cal/OSHA standard

MMWR Publication

Industry-wide Medical Surveillance of Workers in California Flavor Manufacturing Companies: Cross-sectional Results

Petition for emergency standard
CalOSHA 2006 - 2010

- AFL/CIO petition 8/24/06 for emergency standard granted by Standards Board 1/18/07 - referred to advisory committee
- Advisory meetings held 9/28/06, 2/13/07, 3/21/07, and 5/18/07
- Public hearing 11/19/09
- Final standard passed September 16, 2010

§ 5197 Occupational Exposure to Food Flavorings Containing Diacetyl.

- Medical surveillance at least every 6 months if > 1% diacetyl is used, or case of fixed obstructive lung disease
- “Knowledgeable” occupational or pulmonary medicine
- Mandatory Flavor Worker Questionnaires
- Spirometry by NIOSH-certified technician
- Medical removal benefits

DCM fatalities in bathtub refinishers: US

- All were linked to DCM inhalation.
Toxicological findings

<table>
<thead>
<tr>
<th></th>
<th>Vista Survivor</th>
<th>Vista Fatality</th>
<th>MMWR Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCM</td>
<td>Not done</td>
<td>220 mg/L</td>
<td>18-223 mg/L</td>
</tr>
<tr>
<td>COHb</td>
<td>4 -&gt; 10%</td>
<td>&lt; 5%</td>
<td>&lt; 5%</td>
</tr>
</tbody>
</table>
Figure 2 – Typical dichloromethane levels after application of 240 g paint remover in test room with doors closed (---) and open (----). Curves A, C, D, and E plotted from grab sampling results.

ACGIH STEL

0.87 g/m³
Baptist Church, Southern California
(May 2010)

- 24 year-old maintenance worker was assigned to strip the Baptismal Font of the church using DCM-containing stripper.
- Worker applied ~ 1 gallon of “Klean-Strip Premium Sprayable Stripper” to floor.

Methods: Survey design

- Product inventory and prices
- Series of consumer questions
  - Best product
  - How to use safely
  - Green/alternative products
Quotes & Anecdotes

“Hire a professional and do not to do it yourself.”

“You really need to read the label - this stuff is dangerous, I know how bad it can be, I've used it myself.”

Advised to use a respirator if there isn’t proper ventilation because it is “very potent”

“It's not dangerous - just follow instructions on label.”

“You can just wear disposable gloves for this.”

One store worker was more concerned about the safety of the job: “I used to carry ‘green’ paint strippers but could not sell.”

Paint Stripping Products:
Safer, Less Toxic Choices

<table>
<thead>
<tr>
<th>Chemical Stripper Type</th>
<th>Hazard</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Benzyl alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Soy based</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Dibasic esters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use with Caution:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sodium hydroxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Calcium hydroxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Magnesium hydroxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxic Caution:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NMP*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extreme Caution:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not recommended:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methylene chloride*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Toluenes*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methanol*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye, nose, throat, &amp; lung Irritation</td>
<td>Chemical goggles</td>
<td>Gloves</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>Chemical goggles</td>
<td>Gloves</td>
</tr>
<tr>
<td>Asthmatics should not use these products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use with Caution:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methylene chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Toluenes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methanol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye injuries</td>
<td>Chemical goggles</td>
<td>Face shield</td>
</tr>
<tr>
<td>Chemical burns</td>
<td>Chemical goggles</td>
<td>Face shield</td>
</tr>
<tr>
<td>Apron</td>
<td>Chemical goggles</td>
<td>Gloves: Caustic resistant</td>
</tr>
<tr>
<td>Gloves</td>
<td>Chemical goggles</td>
<td>Gloves: Ethylene vinyl alcohol laminate</td>
</tr>
<tr>
<td>Respirator:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Organic vapor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cartridge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not recommended:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methylene chloride</td>
<td></td>
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<tr>
<td>• Toluenes</td>
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<tr>
<td>• Methanol</td>
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<tr>
<td>Neurological effects</td>
<td>Chemical goggles</td>
<td>Gloves: Ethylene vinyl alcohol laminate</td>
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<tr>
<td>Heart attacks</td>
<td></td>
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<tr>
<td>Death</td>
<td></td>
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<tr>
<td>Ventilation:</td>
<td></td>
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<tr>
<td>• Mechanical</td>
<td></td>
<td></td>
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<tr>
<td>Respirator:</td>
<td></td>
<td></td>
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<tr>
<td>• Supplied air if used indoors</td>
<td></td>
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</tbody>
</table>

* These chemicals are known to the State of California to produce cancer or reproductive harm. See safety data sheets for up to date formulations.

NOTE: Pre 1978 buildings and some furnishings may contain lead paint. For information on safe removal of lead containing paint, see:
http://www2.epa.gov/lead

For more information on paint stripper product selection, go to:
www.cdph.ca.gov/StripPaintSafely

* The U.S. Environmental Protection Agency (EPA) regulates VOC emissions from paint strippers under the Resource Conservation and Recovery Act (RCRA), Office of Solid Waste.

TSCA Work Plan Chemical Risk Assessment
Methylene Chloride:
Paint Stripping Use
CASRN: 75-09-2

August 2014

June 23, 2017 - California
European Union banned sale to general public in 2009

“Paint strippers containing DCM are used by members of the general public at home to remove paints, varnishes and lacquers both indoors and outdoors. *The safe use of DCM by them cannot be ensured by training or monitoring.* Therefore, the only measure effective in eliminating the risks arising for the general public from paint strippers containing DCM is a ban, with respect to the general public, on the marketing, supply and use of such paint strippers.”
Mother Questions Use of Chemical After Son's Death

Source: WTVF-5 in Nashville, TN

July 16, 2017 - Wendy had her son's clothing banned from her school. She asks the teacher not to let anyone touch the clothing because of the smell.

Another tragic death — time for EPA to ban high-risk chemical paint strippers

By Steven Weinberg | Published June 5, 2017

California is considering whether to make it illegal for all paint strippers to be taken off the market. The state's air district is investigating the paint strippers, which are used in the following locations:

1. San Francisco
2. Los Angeles
3. Orange County

Why is dangerous chemical in common paint strippers still on the market?

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No “Difficult” Patients
Caring for patients resistant to change

Workshop
Medical Care of Vulnerable and Underserved Populations
Continuing Medical Education
3 March 2018

Faculty
Jamie Carter, MD, MPH
Paula Lum, MD, MPH, FASAM
Hannah Snyder, MD
Scott Steiger, MD, FACP, FASAM

Gratitude!
- Tauheed Zaman: CSAM 2017
- Sara Edmonds: AMERSA 2016 and 2017
- Our patients

Learning Objectives
Learners will be able to
- Arrive at a personalized definition of “success” for patients
- Practice a set of strategies for increasing patient and provider satisfaction
Program Outline

1) “Success”
2) The Fist
3) Skills
4) Practice
5) Discussion/comments/questions/evaluation

Care of patients resistant to change

(re)defining “success”

“What you deem “success” for your most challenging patient?”

“Do Now”

Describe your most “change resistant” patient to colleague
(Re)define success
- Relationship
- Process
- Understanding
- Practical goals

This is your fist and you will do with it what you want

Patient engagement
Communication

“The Fist” debrief
Motivating change

Conversational Styles

- **Persuasion**
  - Convince the person
  - Provider as expert
  - Gives in to the “righting reflex”
  - Decision made by provider

- **Motivational Interviewing**
  - Elicit motivation for change
  - Provider as a coach
  - Seeks to understand
  - Decision made collaboratively
Reflections

Practice

Reflections!
- Simple
  - Paraphrase
  - "parrot"
- Complex
  - "double-sided"
  - Inferential
  - amplify

Pair practice
- Identify one thing you might like to change in your life

Eliciting change talk with reflection
No change Feeling

- “I’m going to have diabetes no matter what I eat.”
- Helpless?

No change Reflection

- “I’m going to have diabetes no matter what I eat.”
- “You don’t think your diet will make a difference.”

Name the feeling, generate change talk

No change → change?

- “I’m going to have diabetes no matter what I eat.”
- “I mean, I know it would help my sugar. It’s not that I don’t want to do better”

Reflection

- “You don’t think your diet will make a difference.”

Name the feeling, generate change talk

No change Feeling

- “I just love the taste of beer.”
- Drinking is pleasurable
Name the feeling, generate change talk

**No change → change**
- “I just love the taste of beer.”
- “Yeah! I mean, I’m probably 10 lbs heavier than I’d like to be...”

**Reflection**
- “Beer’s your friend! It doesn’t cause you trouble”

**Name the feeling, generate change talk**

**No change**
- “I’ve tried before. I don’t think I can lose weight.”

**Feeling**
- Lack of confidence

**Name the feeling, generate change talk**

**No change**
- “I’ve tried before. I don’t think I can lose weight.”

**Reflection**
- “You need some help before you’ll feel confident enough to try again”

- “I haven’t been able to do it alone. I’d like some help.”
Name the feeling, generate change talk

**No change**
- "I have to have these pain pills just to get through the day"

**Feeling**
- Compelled. Trapped?

Name the feeling, generate change talk

**No change**
- "I have to have these pain pills just to get through the day"

**Reflection**
- "You feel trapped into taking these medications"
- "You feel like you have no other option"
- "It's the worst! I hate being stuck on these things."

Case

- 53-year-old woman with chronic low back pain and comorbid depression and anxiety
- Has been on opioid for nearly a decade. Currently:
  - morphine extended-release 100mg po three times daily
  - oxycodone/acetaminophen 10/325mg q6h PRN
- **Goal:** Figure out what might make her reduce her dose
- **Skills to to practice:**
  - Express empathy
  - Reflect feeling to generate change talk
  - Avoid argumentation

Practice!
Discussion

- How did patients feel?
- How did providers feel?
- Challenges?