DR. SHARON’S HYPOTHESES

NERD ALERT!

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DISCLOSURE:

Dr. Humiston’s institution (CMH) receives funding from "Pfizer Independent Grants for Learning & Change" for her work to develop and test a curriculum to teach residents about how to manage vaccine hesitancy. This relationship is not relevant to this presentation.

Dr. Humiston’s time on this talk was funded by a grant from CDC to APA.
Learning Objectives
The learner should be able to:

1. Describe at least 3 characteristics of primary care pediatricians that may diminish our HPV vaccination rates.

2. Argue for support of medical science and science education as these relate to HPV vaccination.

3. Illustrate promising methods of improving HPV vaccine communication with parents.
# of Doses Distributed

Year-to-date Total of Distributed† 4-valent HPV vaccine and 9-valent HPV vaccine Doses in the United States (2012-2016)

Year-to-Date Total of Distributed† 4-Valent and 9-Valent HPV Vaccine, US (2015-2016)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>704,540</td>
<td>758,591</td>
<td>7.7%</td>
</tr>
<tr>
<td>Feb</td>
<td>1,309,896</td>
<td>1,435,056</td>
<td>9.6%</td>
</tr>
<tr>
<td>Mar</td>
<td>2,028,793</td>
<td>2,184,949</td>
<td>7.7%</td>
</tr>
<tr>
<td>Apr</td>
<td>2,730,981</td>
<td>2,911,014</td>
<td>6.6%</td>
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<tr>
<td>May</td>
<td>3,405,341</td>
<td>3,722,032</td>
<td>9.3%</td>
</tr>
<tr>
<td>Jun</td>
<td>4,302,453</td>
<td>4,661,314</td>
<td>8.3%</td>
</tr>
<tr>
<td>Jul</td>
<td>5,455,515</td>
<td>5,745,014</td>
<td>5.3%</td>
</tr>
<tr>
<td>Aug</td>
<td>6,954,029</td>
<td>7,502,757</td>
<td>7.9%</td>
</tr>
<tr>
<td>Sept</td>
<td>7,997,691</td>
<td>8,648,293</td>
<td>8.1%</td>
</tr>
<tr>
<td>Oct</td>
<td>8,873,834</td>
<td>9,756,923</td>
<td>10.0%</td>
</tr>
<tr>
<td>Nov</td>
<td>9,744,100</td>
<td>10,832,569</td>
<td>11.2%</td>
</tr>
<tr>
<td>Dec</td>
<td>10,389,014</td>
<td>11,434,759</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

†These data represent an estimate of all Gardasil and Gardasil 9 HPV vaccine doses distributed in the United States.

Note: Cervarix doses, which represent less than 1% of the HPV vaccine doses distributed in the United States, are not included in this report.
Objective #1

We need to support primary care providers to overcome 3 innate characteristics.
A. We are selected for being nerds
B. We are conflict avoidant
Vaccines Make Adults!
NOW YOU’VE
PISSED OFF
GRANDMA
C. We over-remember emotional exchanges.
The Pediatrician Brain

Do you like me?

Is everyone okay?

Am I making you happy?
Pediatricians rarely have professional experience with HPV infection cancer outcomes.
We mostly focus on babies
Where is the oropharynx?

Image Source: American Cancer Society
Cervical Cancer & Pre-cancers

Drawing from http://www.womeningovernment.org/oncology/hpv
Even pre-cancerous lesions have implications for a woman and her offspring.

New cases of cervical dysplasia each year in the US:
- 1.4 million low grade
- 330,000 high grade

Loop electrosurgical excision procedure (LEEP) or a cold-knife cone biopsy
LEEP and Cone Biopsy

- May be used to **treat** moderate to severe types of abnormal cell changes (CIN II or CIN III) or even **very** early stage cervical cancer

- Subsequent pregnancies are at **risk** of
  - Perinatal mortality
  - Preterm delivery
  - Low birth weight
Cervical Cancer During Child-bearing Years

38% of cervical cancers occur in women between the ages of 20 & 44 years.

Cervical Cancer Incidence Rates by State, 2013

4,120 deaths from cervical cancer anticipated in the US in 2016

Data Source: www.cdc.gov/cancer/cervical/statistics/state.htm
State-based disparities in HPV-associated oropharyngeal cancer

Data Source: Adapted from [www.cdc.gov/cancer/hpv/statistics/state/oropharyngeal.htm](http://www.cdc.gov/cancer/hpv/statistics/state/oropharyngeal.htm)

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**Men**

<table>
<thead>
<tr>
<th>State</th>
<th>Cancer Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.53 to 7.02</td>
</tr>
<tr>
<td></td>
<td>7.03 to 8.19</td>
</tr>
<tr>
<td></td>
<td>8.20 to 9.73</td>
</tr>
</tbody>
</table>

**Women**

<table>
<thead>
<tr>
<th>State</th>
<th>Cancer Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.80 to 1.52</td>
</tr>
<tr>
<td></td>
<td>1.53 to 1.82</td>
</tr>
<tr>
<td></td>
<td>1.83 to 2.33</td>
</tr>
</tbody>
</table>
Deaths from Diseases Covered in Adolescent Vaccine Series

Estimated Annual Deaths

- Meningococcal Disease (all serogroups)
- Meningococcal Disease Serogroup B
- Pertussis
- Cervical cancer (HPV associated)

Data Sources: CDC, 2016; CDC 2015; American Cancer Society
Every part of the practice influences parents’ perceptions
Objective #2

A FEW COMMENTS ON THE HEALTH CARE “SYSTEM”
We need scientists to keep learning about HPV’s oncogenic capabilities.
Human Papillomavirus (HPV)

2 components:
- L1 protein coat
- Double stranded DNA

Note: HPV vaccine is the protein coat, but NO DNA so it’s not alive & cannot reproduce itself

For more details, see You Tube animated videos:
https://www.youtube.com/watch?v=WSL8rBMWW1Y
https://www.youtube.com/watch?v=L7g2LfDwYc8  (from NCI)
In most cases, cells infected with HPV heal on their own.

However, in some cases HPV infection leads to **transformation of cells** from healthy to cancerous.

**How does HPV infection cause cancer?**
There’s a protein made by healthy human cells called “tumor suppressor protein” that:

- Scans the cell’s DNA for mutations
- Stops cells from dividing if there’s a DNA mutation

During an HPV infection, the virus can integrate some of its DNA into the human cell’s DNA.

Then the human cell’s genome itself starts producing a protein that inhibits its tumor suppressor protein!
Without functioning tumor suppressor protein, a human cell may continue to replicate its DNA even if that DNA is mutated. 

Uncontrolled replication leads to cancer.
Who is this woman?
The Immortal Life of Henrietta Lacks

Doctors took her cells without asking. Those cells never died. They launched a medical revolution and a multimillion-dollar industry. More than twenty years later, her children found out. Their lives would never be the same.

Rebecca Skloot
Based on data from 2008 to 2012, about 38,793 HPV-associated cancers occur in the US each year: about 23,000 among women, and about 15,793 among men.

https://www.cdc.gov/cancer/hpv/statistics/cases.htm
Human papillomavirus: a predictor of better survival in ocular surface squamous neoplasia patients

Sheetal Chauhan¹, Seema Sen¹, Anjana Sharma², Lalit Dar³, Seema Kashyap¹, Pankaj Kumar³, Manddeep Singh Bajaj⁴, Radhika Tandon⁵
We need people who can translate science... to make it more accessible
And who will make it as fascinating as chocolate...
We need training tools that reveal the human side of the problem
Oropharyngeal Cancer Survivor

https://www.youtube.com/watch?v=qnwb2-y_yPU&t=41s
Create Immunization Champions

Be sure everyone in the office understands the mission

Human stories usually influence people more than statistics

To understand the human stories behind HPV, listen to survivors

- Shot By Shot
- Unprotected People on www.immunize.org
Objective #3

We need better ways of communicating with families
Parents have always been afraid of vaccines
http://www.moviegi.com/
When is a recommendation not a recommendation?

“I vaccinate whenever a parent requests HPV vaccine.”

“I just can’t bring myself to talk about the possibility that this child will have sex when she’s an 11-year old.”

To parent: “Today we have 3 vaccines for your child: Tdap – which is required for school, MCV – which is required for a lot of colleges, and HPV – which is optional.”
Recommend HPV vaccine the **same day** & the **same way** as other adolescent immunizations

**Same day:** Recommend HPV vaccine *today*, i.e., the *same day* you recommend Tdap & meningococcal vaccines.

Unpublished CDC data, 2013.
Recommend HPV vaccine the same day & the same way as other adolescent immunizations

**Same day:** Recommend HPV vaccine *today,* i.e., the *same day* you recommend Tdap & meningococcal vaccines.

- More convenient for the parent
- More reliable
Recommend HPV vaccine the **same day** & the **same way** as other adolescent immunizations

**Same day:** Recommend HPV vaccine *today*, i.e., the *same day* you recommend Tdap & meningococcal vaccines.

**Same way:** Bundle all the ROUTINELY RECOMMENDED adolescent vaccines and recommend them all in the same way with the assumption that the parent will want protection for their child.

Unpublished CDC data, 2013.
Today, Pat should have 3 shots that will protect her from a form of meningitis, some cancers caused by HPV, and whooping cough.

What questions do you have for me?
If a parent hesitates...

The MA/nurse should say ...

“Our team is so dedicated to cancer prevention. I’m sure the doctor will want to respond to your concerns.”
If a parent has a question...

Don’t panic!

My 2 knee jerk rxns:
- Feel like we’re heading into time-sucking conflict
- Feel like my authority’s being challenged

Interpret a question as a request for 
reassurance from YOU, a clinician they trust
Case example: The hesitant parent

- An 11 year old girl comes to your office for well-care.
- You offer a ‘presumptive’ recommendation for the vaccines, saying “Great, you’re here for your vaccines. We can go ahead and do her tetanus/diphtheria/whooping cough vaccine, her HPV vaccine, and her meningitis vaccine.”

Not so fast. The mother says:

“We’re okay doing that tetanus shot and the meningitis one, but we’re going to hold off on the HPV vaccine.”
How to Handle Resistance:
#1: Ask the parent to share her/his concern(s)

**Example:**
“So you seem to have concerns about the HPV vaccine. Well, that’s perfectly understandable – I’ve had a number of questions about this one. Would you mind sharing what your particular concerns are?” (Note: non-threatening)

“Well, I’ve heard that it’s a vaccine to prevent a disease that’s transmitted by having sex, and she is a loooong way from having sex.”
How to Handle Resistance:

#2 – Reflect, summarize, ask, advise

The provider reflects back what the parent is saying to be sure he/she understands (empathy) and summarizes what has been heard before proceeding, again with permission, to make a recommendation.

**Example:**

“So I can hear that you’re concerned that she’s too young for the HPV vaccine because HPV is transmitted by sexual activity. Well, I completely get that – she’s only 11 after all. I’ve thought a lot about this. Is it okay if I go over how I’ve come to think about this vaccine?”
How to Handle Resistance: #3 – The crucial step

Example:

What NOT to say: “Well, data shows that many adolescents will be having sex by middle school, and if you’re worried about her having sex, studies have shown that it won’t increase the likelihood of her having sex.”
How to Handle Resistance: #3 – The crucial step

Example:

What TO say: “I used to think of this vaccine as something to prevent a sexually transmitted disease, but I’ve realized it’s really about preventing cancer. Almost everyone gets this virus, so I think it’s important for everyone.”
How to Handle Resistance:
#4 – Make a personalized recommendation

**Example:**

“Like you, I want the best for Quinn & I wouldn’t hesitate to recommend this vaccine for him. Most of my patients now are getting all the recommended vaccines.

Having said that, this is a decision that only you and your daughter can make. What do you think?”
UNITY Projects

Pursuit of the Three C's: Confident, Concise, and Consistent Healthcare Provider Recommendations for Adolescent Vaccines

Healthcare provider recommendations are a critical influence on parent and adolescent agreement to vaccinate on time. This quality improvement study is designed with the goal of improving healthcare provider delivery of a confident, concise, and consistent recommendation for routinely recommended vaccines to adolescents (11, 12, and 16 year olds).

To support strong provider recommendations for adolescent vaccines, the UNITY Consortium has developed the following resources:

- Three Cs Rationale
  
  This video provides an overview of the UNITY Consortium (the sponsor of the Three Cs study), reviews current gaps vs. adolescent immunization goals, and provides the rationale for the QI study that focuses on the provider recommendation and applies motivational interviewing principles to the parent-provider conversation.

- Three Cs Demo and Motivational Interviewing
  
  PURSUIT OF THE THREE Cs:
  CONFIDENT, CONCISE AND CONSISTENT HEALTH CARE PROVIDER RECOMMENDATIONS FOR ADOLESCENT VACCINES

  This video provides an overview of the Three Cs intervention (presumptive, bundled, equal recommendation for same day vaccination; FAQs; motivational interviewing guiding style of communications for truly hesitant parents) and demonstrates and reviews various scenarios of parental-provider recommendation conversations. View video worksheet.

- Example language: Three Cs Recommendation and FAQs
- Overview: Parental Disposition and Motivational Interviewing for Hesitant or Refusing Parents
3Cs Quality Improvement Study Team Members

Kathleen Garrett, MA, NCC, TTS-C, Member
Motivational Interviewing Network of Trainers
Research Sr. Instructor, Colorado School of Public Health;
Clinical Associate, Behavioral Health and Wellness Program
University of Colorado Anschutz Medical Campus
Specialty: Behavioral Science and Public Health Research,
HCP Training and Motivational Interviewing

Cynthia Morris, Psy.D.
Clinical Director, Behavioral Health and Wellness Program,
University of Colorado Anschutz Medical Campus
Specialty: Health Behavior Change and Health Promotion

Rebecca Richey, Psy.D., LCSW
Asst. Clinical Director, Behavioral Health and Wellness Program, University of Colorado Anschutz Medical Campus
Specialty: Advocacy, Research and Training for healthcare providers and the community

Gregory D. Zimet, PhD, HSPP
Professor of Pediatrics & Clinical Psychology
Specialty: Adolescent & Adult Health & Psychology

Shannon Wilson, BA
Research Assistant

Judy Klein, President
Louise Stejbach, Secretary
Jane Quinn, Member
Denise Lewis, Member
If a parent **declines**...

- Declination is not final. The conversation can be revisited. Declining = Delaying

- End the conversation with **at least 1 action** you both agree on.

- Because waiting to vaccinate is the risky choice, many pediatricians ask the parent to sign a *Declination Form*
Refusal to Vaccinate

Child’s Name ____________________________ Child’s ID# ____________________________

Parent’s/Guardian’s Name ____________________________

My child’s doctor/nurse has advised me that my child (named above) should receive the following vaccines:

Recommended

- Hepatitis B vaccine
- Diphtheria, tetanus, acellular pertussis (DTaP or Tdap) vaccine
- Diphtheria tetanus (DT or Td) vaccine
- Hemophilus influenzae type b (Hib) vaccine
- Pneumococcal conjugate or polysaccharide vaccine
- Inactivated poliovirus (IPV) vaccine
- Measles-mumps-rubella (MMR) vaccine
- Varicella (chickenpox) vaccine
- Influenza (flu) vaccine
- Meningococcal conjugate or polysaccharide vaccine
- Rotavirus vaccine
- Human papillomavirus (HPV) vaccine

Declined

- Hepatitis A vaccine
- Haemophilus influenzae type b (Hib) vaccine

- That some vaccine-preventable diseases are common in other countries and that my unvaccinated child could easily get one of these diseases while traveling or from a traveler.

- If my child does not receive the vaccine(s) according to the medically accepted schedule, the consequences may include:
  - Contracting the illness
  - The vaccine is designed to prevent
  - The outcomes of these illnesses may include one or more of the following:
  - Certain types of cancer
  - Pneumonia
  - Illness requiring hospitalization, death, brain damage, paralysis, meningitis, seizures, and deafness
  - Other severe and permanent effects from these vaccine-preventable diseases are possible as well.

- Transmitting the disease to others (including those too young to be vaccinated or those with immune problems)
- Possibly requiring my child to stay out of child care or school
- Possibly requiring someone to miss work to stay home with my child during disease outbreaks.

My child’s doctor and the American Academy of Pediatrics, the American Academy of Family Physicians, and the Centers for Disease Control and Prevention all strongly recommend that the vaccine(s) be given according to recommendations. Nevertheless, I have decided at this time to decline or defer the vaccine(s) recommended for my child, as indicated above, by checking the appropriate box.

Parent/Guardian Signature: ____________________________ Date: ____________________________

Witness: ____________________________ Date: ____________________________

I have had the opportunity to discuss my decision not to vaccinate my child and still have the recommended immunizations.

Parent’s Initials: ____________________________ Date: ____________________________ Parent’s Initials: ____________________________ Date: ____________________________

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN

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https://www2.aap.org/immunization/pediatricians/pdf/refusaltovaccinate.pdf
Marriage is not an anti-viral. A newlywed can catch HPV from her/his spouse.
“I don’t want to talk about sex.”
“I don’t want to talk about sex.”

Did you explain fecal-oral spread before you gave the polio vaccine?
“Profiling” does not work.

Do I really want to bet your patient’s life on *guessing* right?
History is on our side.
THE END