SHOTS FOR TEENS

They're not just for babies!

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WHY NOW?

- More shots recommended
  - High incidence of specific diseases
  - Reservoir for transmission
  - At-risk lifestyles
- Formerly de-emphasized area for routine care

SHOT SCHEDULE, 1979

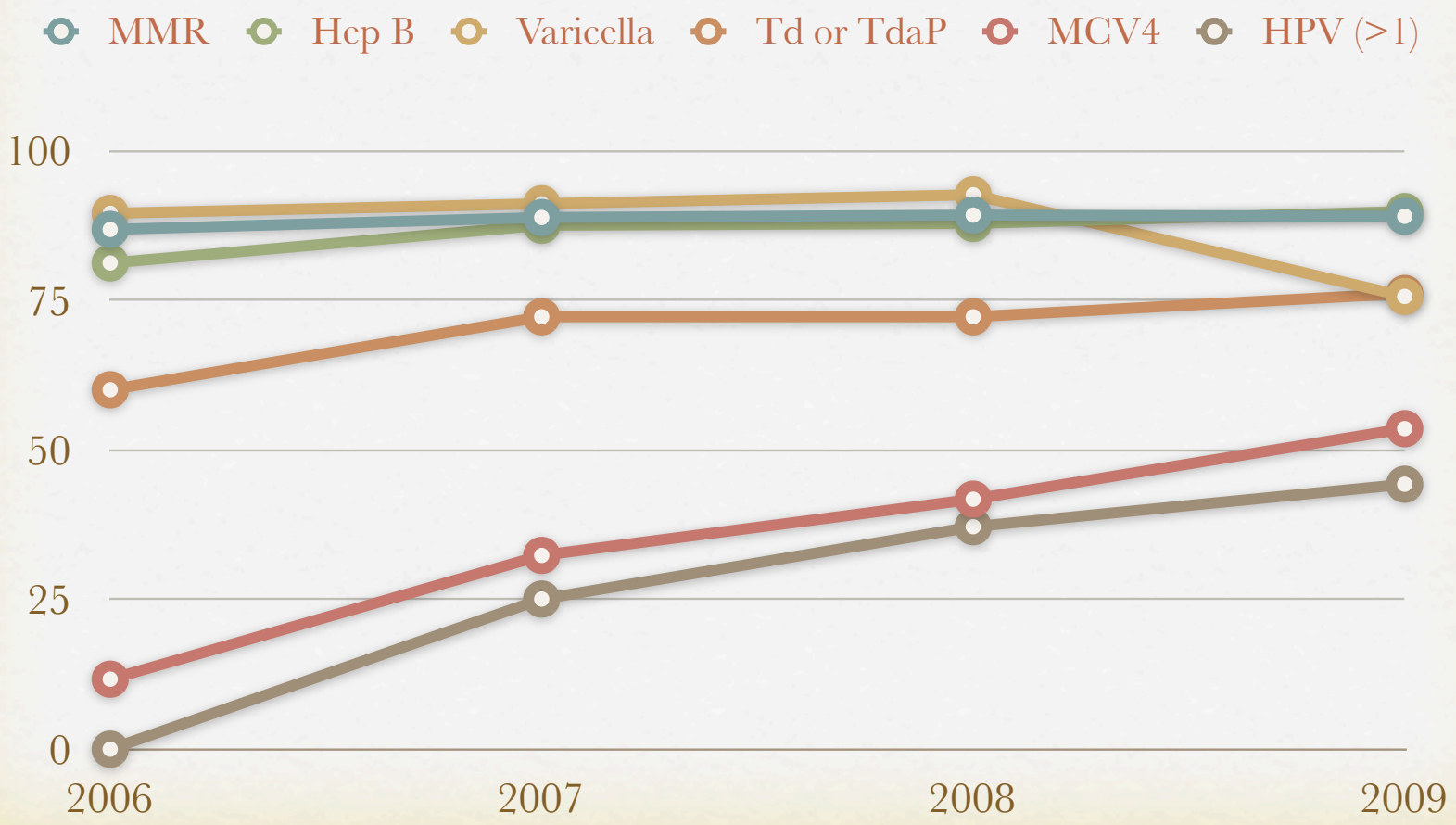
2 Month	DTP	Oral Polio
4 Month	DTP	Oral Polio
6 Month	DTP	Oral Polio
12 Month	MMR	
18 Month	DTP	Oral Polio
5 Year	DTP	Oral Polio
Every 10 yrs	Tetanus or Td booster	

SHOT SCHEDULE, 2011

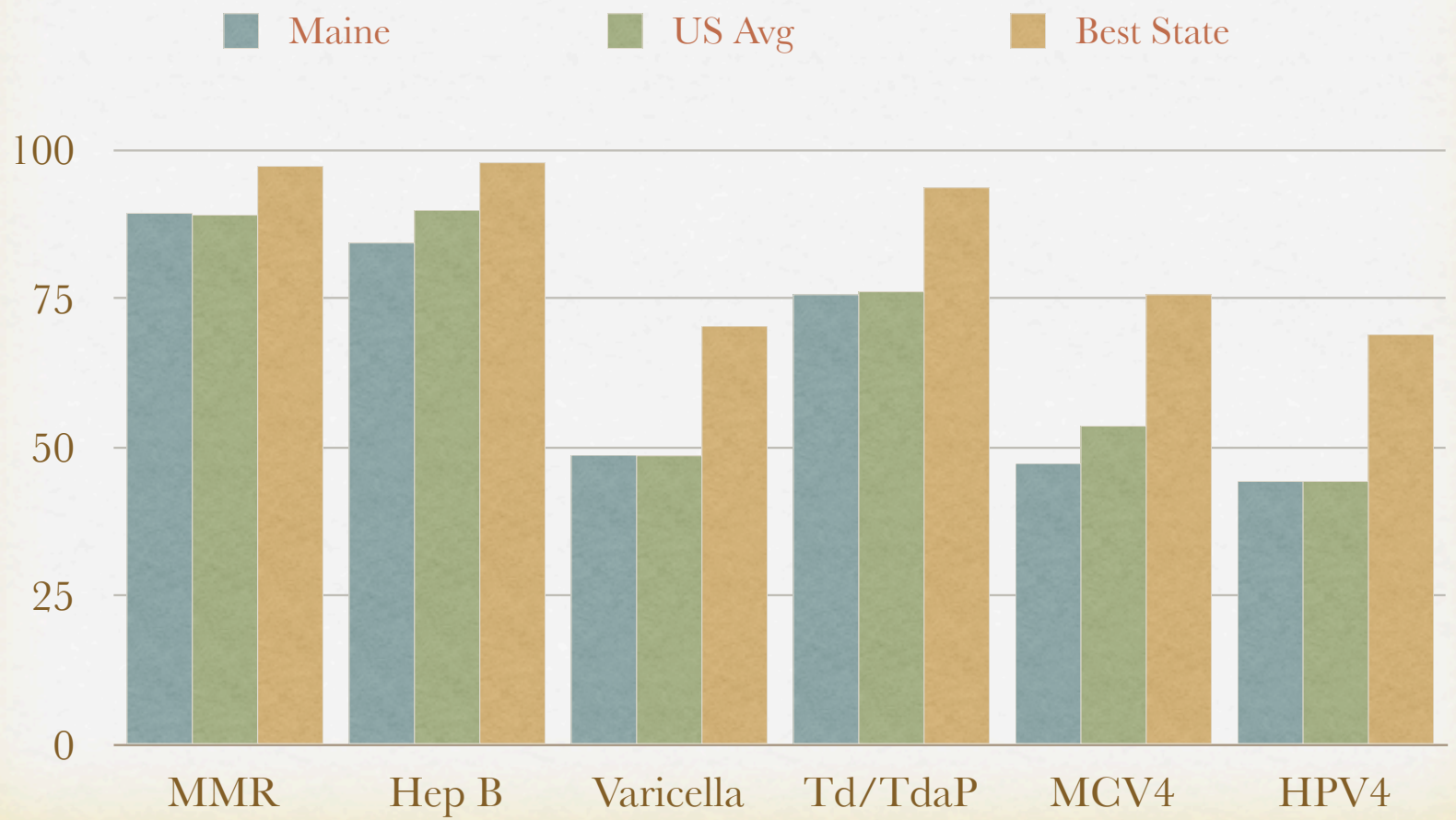
(IGNORING COMBO VACCINES)

Birth	Hep B				
1 Month	Hep B				
2 Month	DTaP	IPV	PN13	HIB	Rota
4 Month	DTaP	IPV	PN13	HIB	Rota
6 Month	DTaP	PN13	(HIB)	(Rota)	
9 Month	Hep B	IPV			
12 Month	HIB	PN13	Hep A		
15 Month	DTaP	MMR	VZV		
18 Month	Hep A				
5 Year	DTaP	IPV	MMR	VZV	
11 Year	TdaP	MCV4	HPV		
16 Year	MCV4				
Yearly	Influenza				

NEW FOCUS--TEENS

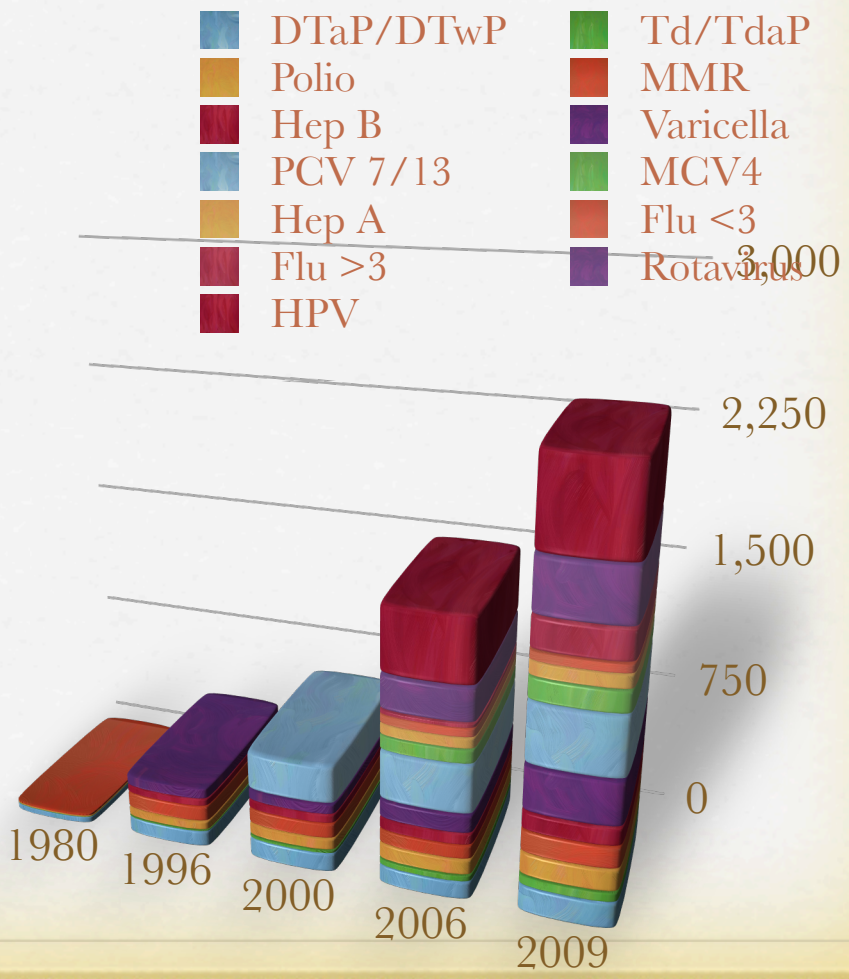


MAINE NOT A LEADER



SKYROCKETING COST

	1980	1996	2000	2006	2009
DTaP/	37	96	114	105	152
Td/TdaP	2	6	17	36	56
Polio	5	51	68	91	125
MMR	15	93	90	81	125
HepB		42	51	64	100
VZV		64	59	104	251
PCV		0	219	277	333
MCV4		0	0	82	123
HepA		0	0	61	78
Flu <3		0	0	52	52
Flu >3		0	0	22	167
Rota		0	0	190	296
HPV		0	0	360	478
Total	59	352	618	1525	2554



LOOK AT TEEN SHOTS

- TdaP
- Meningococcal
- HPV
- Hepatitis A (newly recommended universally)

TDAP

- Replacing teen Td
- Two vaccines--Adacell, Boostrix
- Approved for single dose
- ACIP recommends use outside of approved ages
- Prevent community spread of pertussis
- Morbidity/Mortality in NB/infants

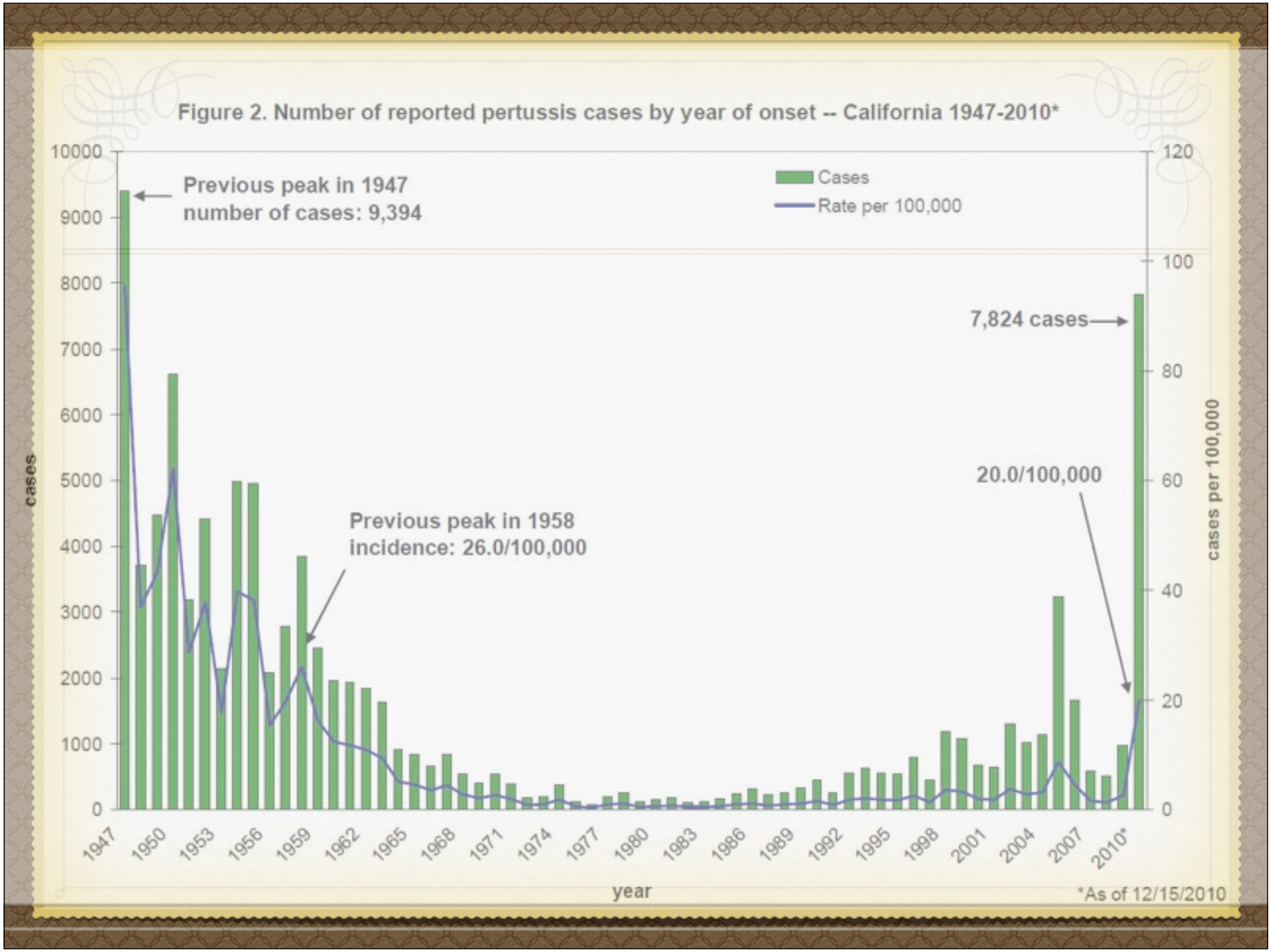


Figure 2. Number of reported pertussis cases by year of onset -- California 1947-2010*
Previous peak in 1947
number of cases: 9,394
Cases
Rate per 100,000
7,824 cases
20.0/100,000
Previous peak in 1958
incidence: 26.0/100,000
cases
cases per 100,000
year
*As of 12/15/2010

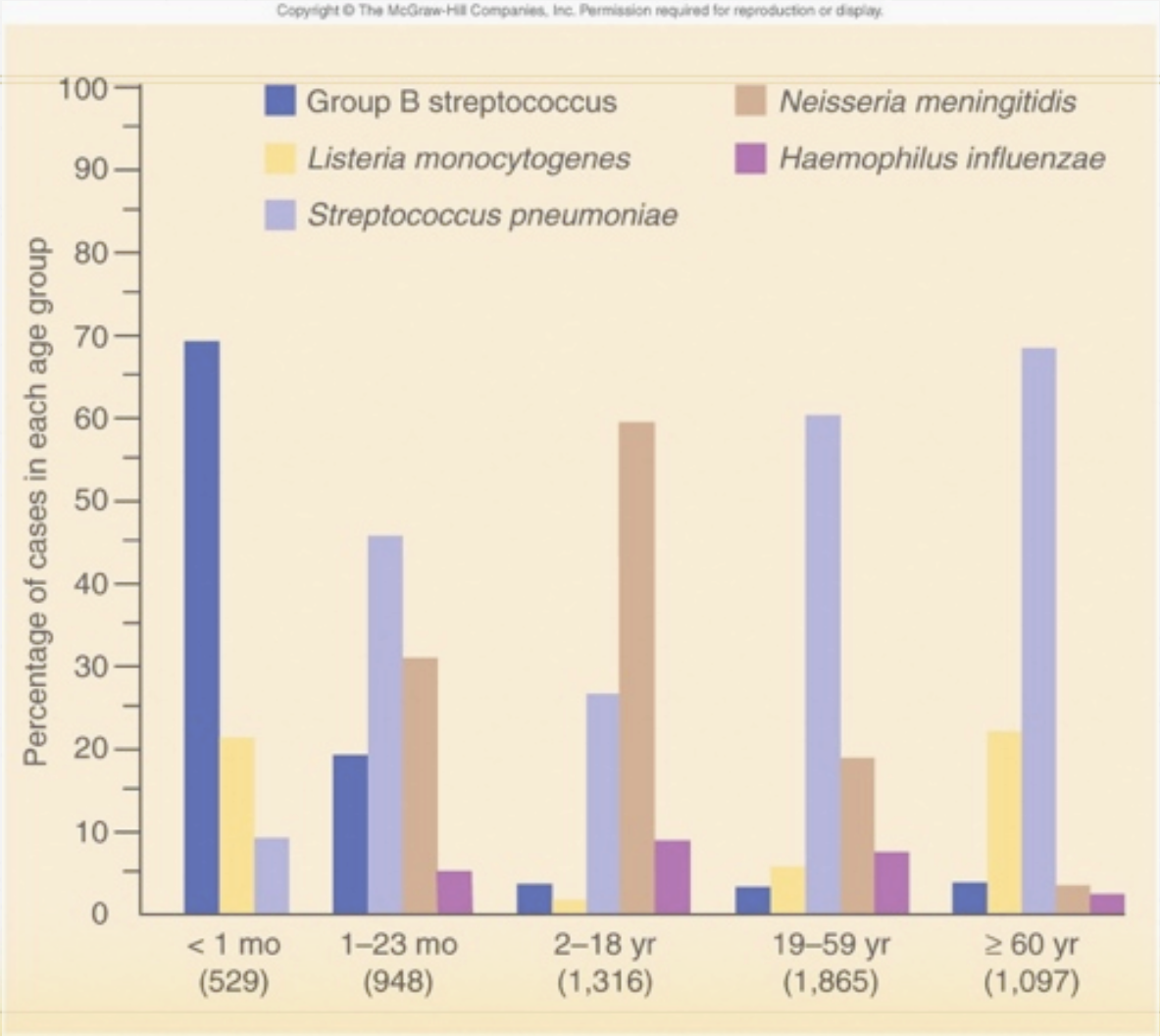
TDAP CHALLENGES

- Cost--minimal increase over Td
- ER use--concern over giving extra dose
- "Coccooning" to protect newborn
  - Post-natal dose for mom
  - How to get dose for dad?
  - ? Prenatal dose for mom
  - Others in contact--ACIP recommends use >65 (off-label)

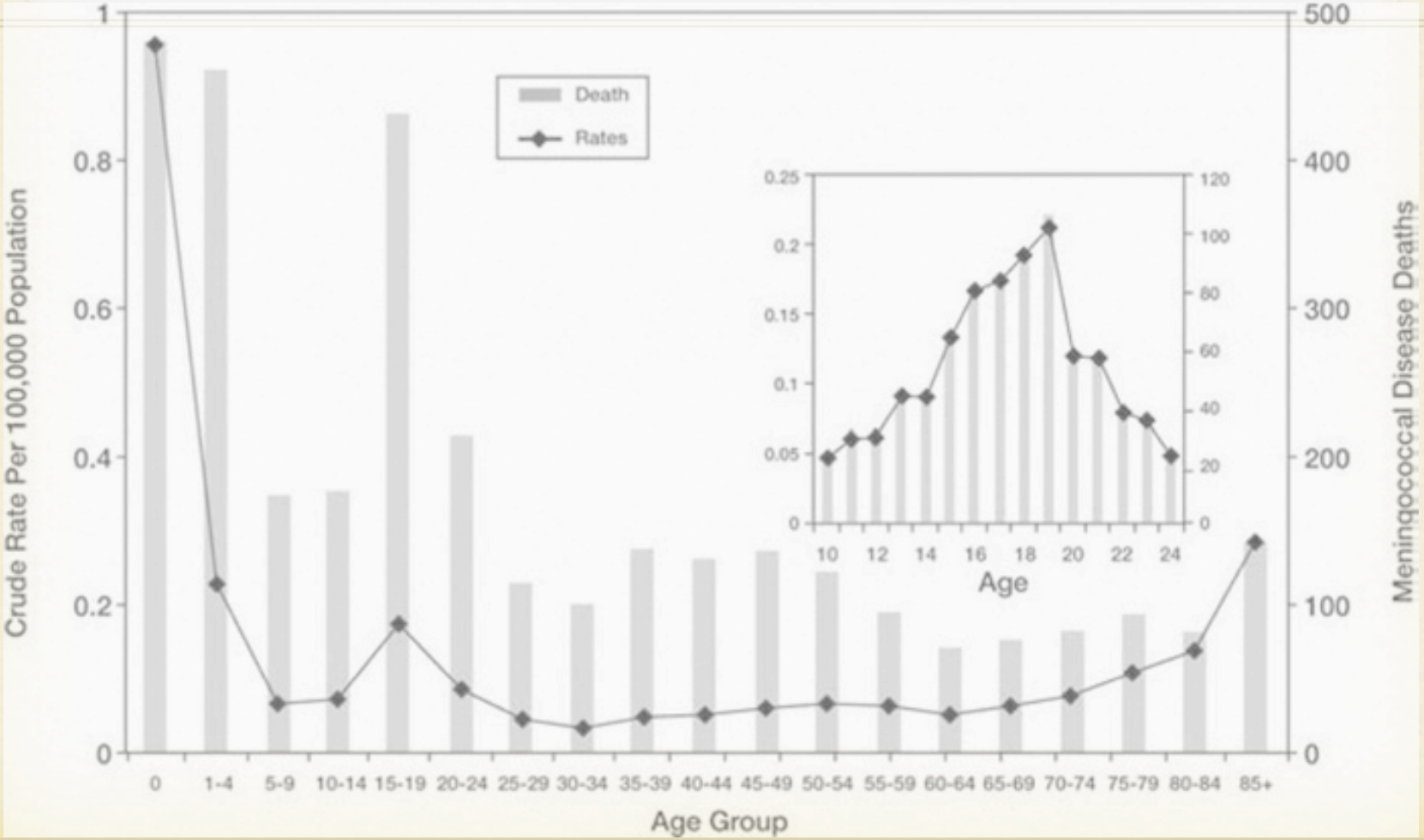
MENINGOCOCCAL

- Two vaccines--conjugate, tetravalent (Menactra, Menveo)
- NO type B coverage (32% of cases)
- Recommended for routine age 11, repeat in 5 yrs if still at-risk
- May give younger if at high risk (Menactra 9 Mos+, Menveo 2y+)
- Low incidence of disease--highest morbidity/mortality

CHILDHOOD MENINGITIS



PEAKS--YOUNG & TEEN



CHANGES IN MCV4 USE

- Recent recommendation for "five year booster"
- Lowered age for high risk to nine months
- Working on
  - Routine use for infants
  - Solution for Type B (in NZ, only one strain of B, here multitude)

HPV

- Two vaccines (Cervarix, Gardasil)
- Given prior to exposure to HPV--recommended 11
- Three doses over 6 months
- Low acceptance, lower completion
- Painful!

NOT THE SAME

- Cervarix--bivalent (16, 18) for cervical cancer protection
- Gardasil--quadrivalent, covers genital wart strains (6, 11) also
- Both highly effective, appear to have additional coverage against oncogenic strains
- Need full series of same vaccine

SLOW RISE HPV VAX

	2007	2008	2009	
US	25.1	37.2	44.3	
Maine		40.3	44.4	
Highest		54.4	69	NH, MA
Lowest		15.8	22.9	MS

HPV FOR GUYS

- Currently (since 2009) a “permissive” recommendation from ACIP
- Prevents genital warts,and anal, oral, penile cancer
- “Herd Immunity” for a STI

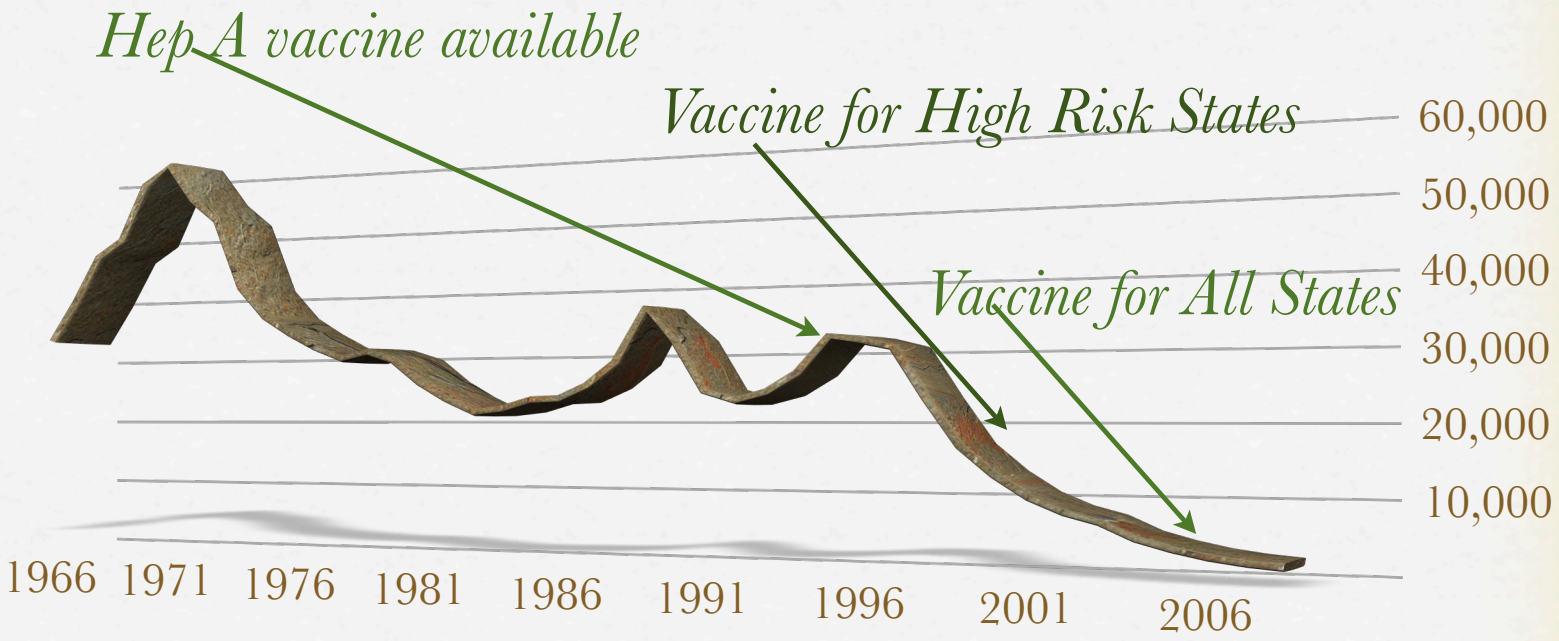
STATED HPV VX WORRIES

- Too young! She won't need it!
  - Most effective given prior to any sexual contact
  - 312 urban adolescent girls (mean 16 y/o)--active X2 yrs, 4 partners, 64% HPV +
  - One study (university) had 29% HPV infection rate after FIRST male sexual partner
  - Giving other adolescent immunizations at 11 y/o
- No viral DNA in vaccine
- Pain/Fainting significantly higher
- Extensive post-marketing surveillance only significant for fainting, thromboembolism

HEPATITIS A

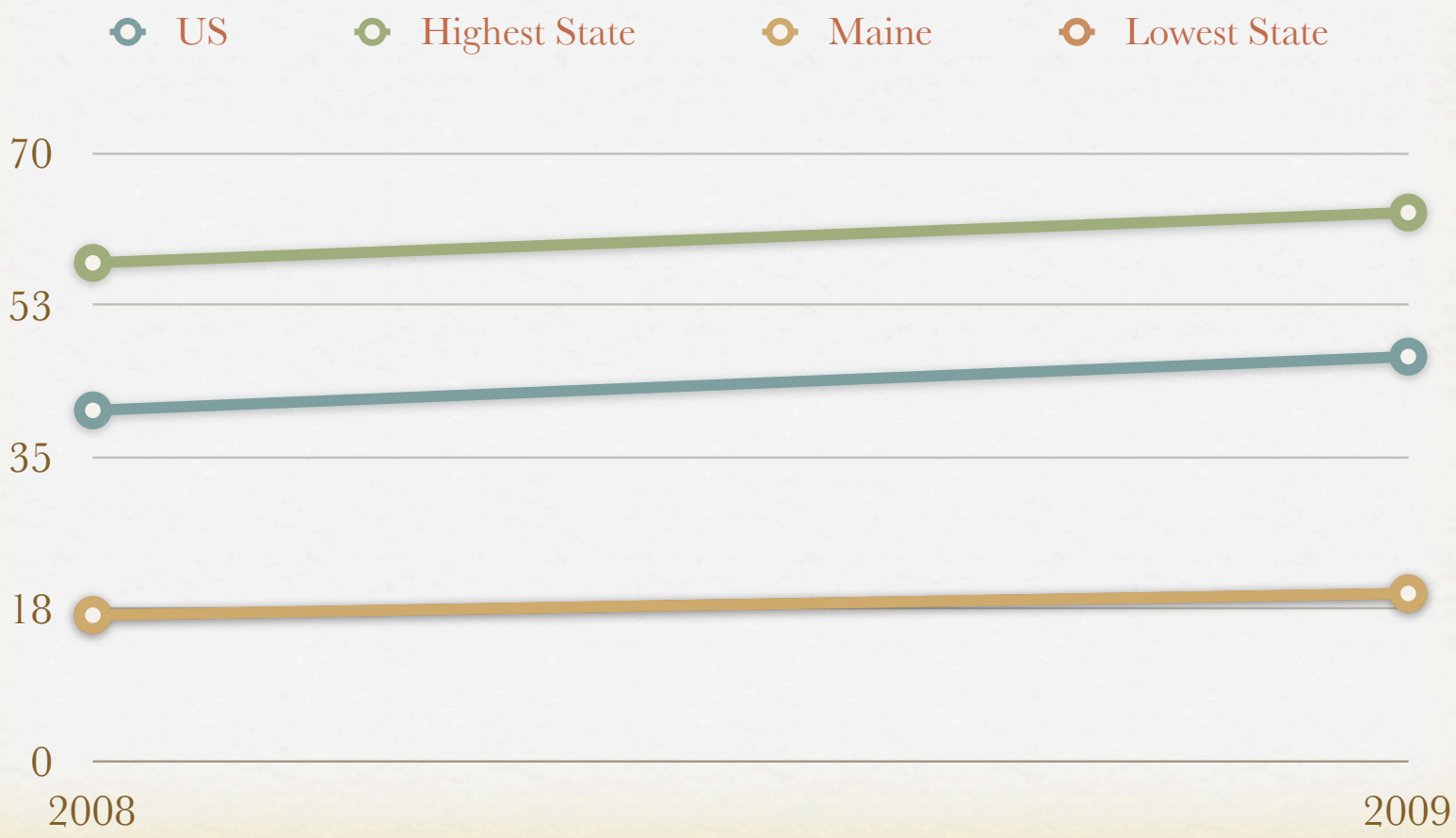
- Recommended at 12 months
- Much “catch-up” needed
- Low utilization of vaccine in Maine
- Elimination of Hep A not felt to be priority in Maine
- Very clustered, in outbreaks

HEPATITIS A IN US



HEP A IMMUNIZATION

CHILDHOOD RATES, NOT TEEN



WHY ARE TEENS NOT IMMUNIZED?

- Cost
- Lack of access
- Lack of routine care
- “Missed opportunities”
- Parental fears

SOLVING THE COST

- PL595 Passed last year, established Maine Vaccine Board
- Provides funding mechanism to immunize ALL Maine children through insurance/TPA assessments
- Vaccines to be available January 1, 2012
- Vaccines for ALL diseases recommended by ACIP
- Assessment budgeted just under $7/PMPM (<18)

HOW DO YOU JOIN?

- Same as current vaccine for VFC
- Will need to use ImmPact2 for ordering
- Can be simply aggregate reporting, not by dose (lose biggest benefit of registry then)
- Will need to anticipate for ordering in fourth quarter (from Maine Immunization Program and private sources)
- Unsure what insurance company will do long-term for payment for purchased vaccines

HOW TO GET YOUR TEENS IMMUNIZED

- Do you know what your practice's rate is?
- Do you review immunization status at each visit?
- Do you have an organized reminder/recall system?

RATES FROM IMMPACT2

- IF data has been put in registry, easy click to obtain rate, run reports.
- PENDING is exchange with EMR--currently have unidirectional data transfer available
- “Meaningful Use” requires data interchange with registry

STUMBLING BLOCKS

- Is this child a patient here now?
- Are all the immunizations accurately recorded in one location?
- Were all shots given at appropriate age and interval?
- Requires resources to make it a regular occurrence
- Were all doses potent and effective?
  - Houston study of 54 fridges--24% of units froze DTaP--correlated with increased incidence Pertussis

WHAT ROLE DOES PARENTAL REFUSAL PLAY?

- 48 states have mandatory vaccines for school attendance--all have religious exemption
- 21 states have "philosophical" exemption (including Maine)
- Between 1991 and 2004, refusal rate in "philosophical" exemption states increased from 0.99% to 2.54%
- Wide small area variations--Washington state 6%, county rates range from 1.2% to 26.9%. One school in Ashland, OR-NO STUDENT IMMUNIZED!

WHAT EFFECT?

- 2008--140 Cases measles (2000-2007 avg=62), imported from Switzerland, spread in unvaccinated groups (16 <1 yr, 63 not vaccinated d/t choice), 15 hospitalized, no deaths.
- California pertussis 2010--6,257 Cases, ten infant deaths. Most pertussis since 1950, highest rate since 1959!

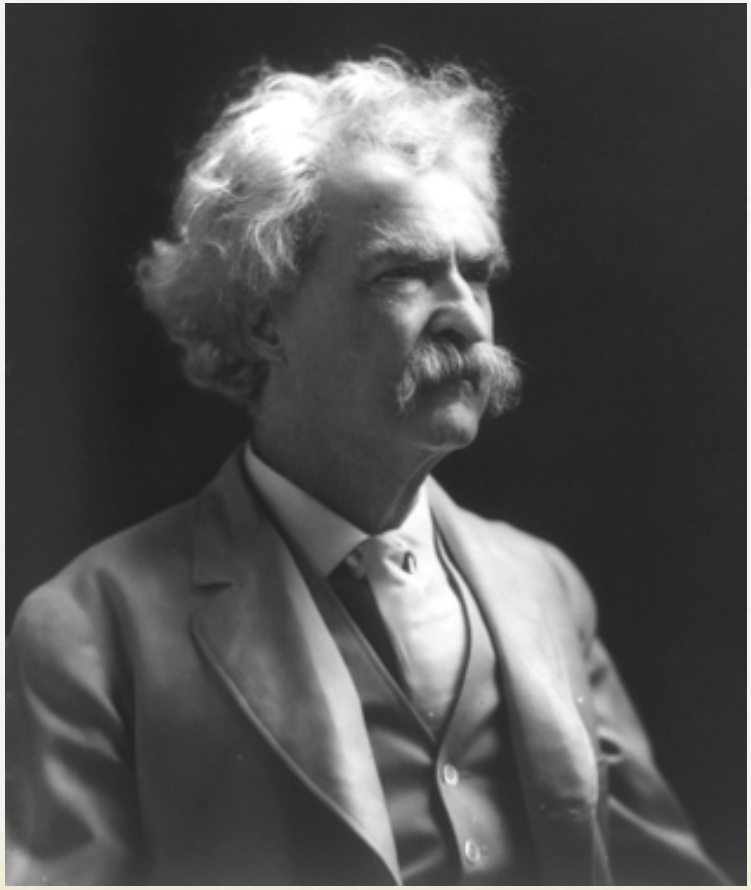
WHY DO PARENTS REFUSE?

- Opt out of medical system
- Distrust of pharma/government
- Concern about autism (25%)
- Other safety concerns (Thimersol, aluminum, gelatin, etc)
- "Not natural"
- Diseases are gone
- My daughter won't need HPV

HOW TO RESPOND

- Paternalism
- Ridicule
- Dismiss from practice
- Extra time
- Education
- Resources/Books
- Guided internet

PUBLIC EDUCATION



- More than a century before the internet, Mark Twain said: “A lie can travel halfway around the world while the truth is putting on its shoes.”

ANTI-VACCINATION

- First compulsory vaccination law--1809 (Massachusetts)
- Anti-Compulsory Vaccination League--1866
- Smallpox vaccine contained “poison of adders, the blood, entrails, and excretions of bats, toads and suckling whelps”

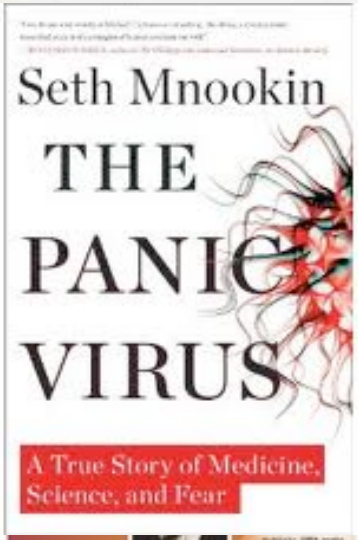
CHARGES ARE THE SAME

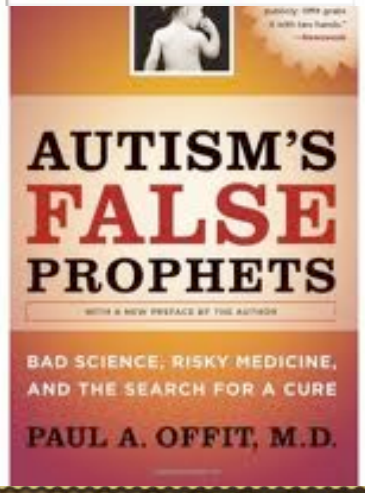
- Doctors are evil
- Public Rallies
- Paranoia
- False claims of vaccine harm
- Vaccines are unnatural
- Rejection of the germ theory
- Lure of alternative medicine
- Fear of medical advances
- Vaccines are act against God
- Rich vs poor
- Lawyers
- Marketing strategies

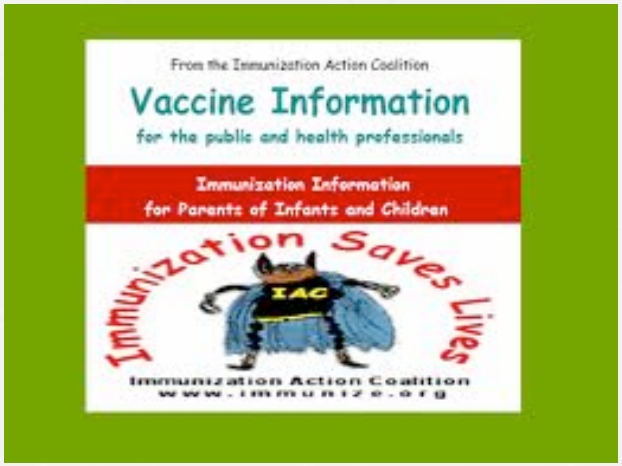
WHAT SHOULD BE TAUGHT?

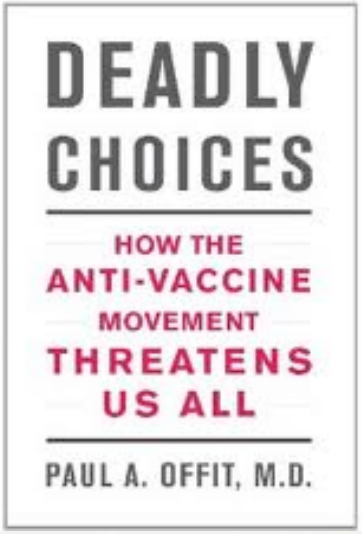
- Scientific Method
- Role of statistics-- common vs. rare effects
- Facts, history of immunizations
- "The tragedy of the commons"

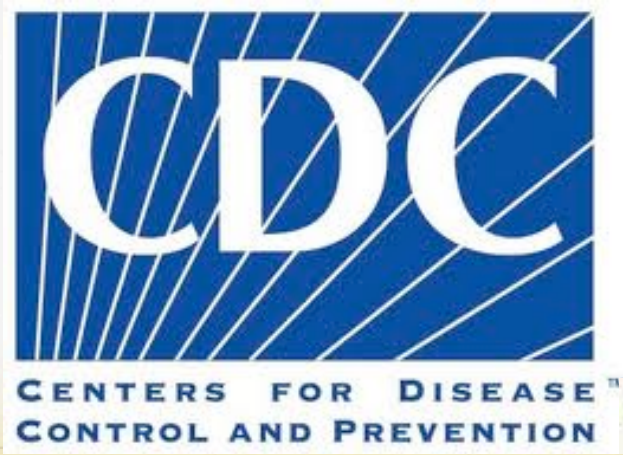
RESOURCES

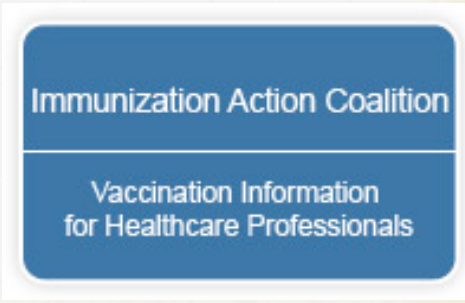

Seth Mnookin
THE PANIC VIRUS
A True Story of Medicine, Science, and Fear


AUTISM'S FALSE PROPHETS
BAD SCIENCE, RISKY MEDICINE, AND THE SEARCH FOR A CURE
PAUL A. OFFIT, M.D.


From the Immunization Action Coalition
Vaccine Information
for the public and health professionals
Immunization Information
for Parents of Infants and Children
Immunization Saves Lives
IAC
Immunization Action Coalition
www.immunize.org


DEADLY CHOICES
HOW THE ANTI-VACCINE MOVEMENT THREATENS US ALL
PAUL A. OFFIT, M.D.


CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION


Immunization Action Coalition
Vaccination Information
for Healthcare Professionals


The Children's Hospital of Philadelphia
Vaccine Education Center

CALL TO ACTION!

- Eliminate financial barrier to costly shots
- Develop office systems to identify and recall kids needing shots
- Measure your progress!
- Use every contact with healthcare system to keep shots current
- Become outspoken, expert advocate for immunizations
- Share your knowledge freely--spend your capital of respect to push for healthy kids