



# Strengthening Disease Prevention: Energizing Vaccine Confidence

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An abstract graphic on the right side of the slide consists of numerous small, semi-transparent circles in shades of pink, purple, blue, and green. These circles are interconnected by thin, light-colored lines, creating a complex, web-like structure that resembles a network or a molecular model. The background is a gradient from dark grey on the left to white on the right.

# Disclosures

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Advisory Boards- Pfizer (COVID-19, Meningococcus, Paxlovid), Moderna (COVID-19) , Seqirus (Influenza), Novavax (COVID-19), Valneva (Travel Vaccines)

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Research- Pfizer (RSV)

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Speakers Bureau- Pfizer (PCV20), Sanofi (Influenza)

# Objectives

Describe

vaccine hesitance and vaccine confidence along with their differences and similarities

Identify

approaches to address hesitance and confidence barriers

Explore

methods to evaluate the effectiveness of interventions

Conceptualize

innovative approaches as we move into a new vaccination age



“In the middle of every difficulty lies **opportunity.**”

~ Albert Einstein



# Our Difficulties

- Understanding vaccine hesitance, vaccine apathy, vaccine resistance and vaccine confidence and their differences
- Spending time ‘where the people are’ in order to develop an understanding and set the stage for dialogue
- Developing strategies to honestly study these phenomena
- Conceptualizing approaches that combine active listening with credible information sharing and being willing to accept that some previously successful approaches will now not work
- Promoting the evidence with a solid ability to convey the messages
- Willingness and ability to self-reflect
- Being unafraid and unashamed of our position

# Do We Really Understand?

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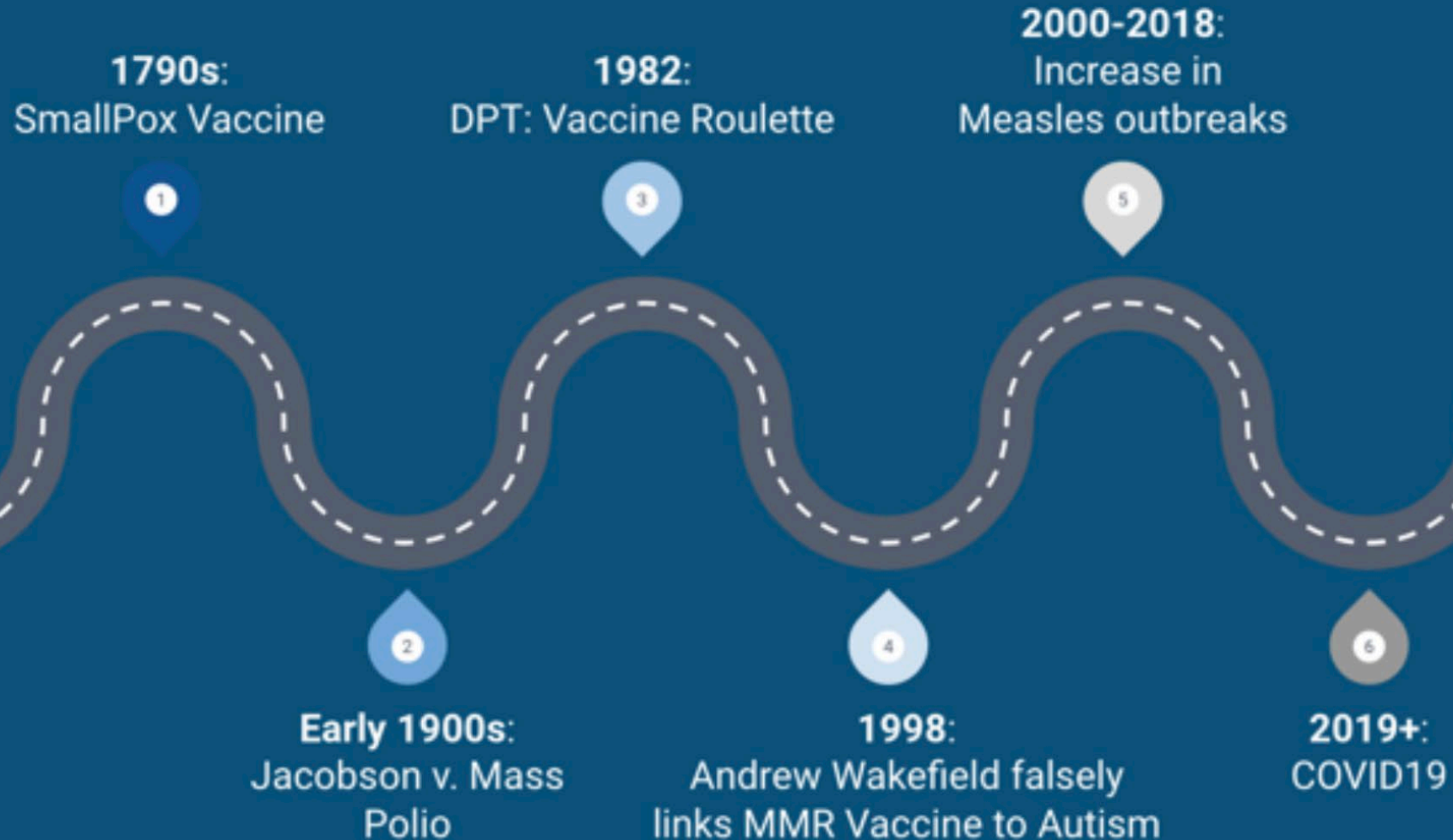
Vaccine  
Hesitant

Vaccine  
Apathetic

Vaccine  
Resistant

Vaccine  
Accepting

# Brief Timeline of US Vaccine Hesitancy









• <https://capture.dropbox.com/dKr6hSLnvZsGDsPq>

A cartoon from a December 1894 anti-vaccination publication (Courtesy of The Historical Medical Library of The College of Physicians of Philadelphia)



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- Misinformation is not a new problem
  - There are just more ways to share it

Source: "Health in Pictures", 1930. Courtesy of the American Public Health Association.

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# Vaccine Hesitance

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A mindful emotional/cognitive response to assessing the risks and benefits of vaccination

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May be an historical perspective driving the hesitance (e.g., mistrust)

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Will the vaccine hurt me?

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Do the benefits outweigh the risks?

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Am I willing to accept the illness that may result?

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Peer pressure, social media, misinformation all fuel hesitance

# Vaccine Apathy

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Disinterested

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Characterized by weak attitudes and little time spent considering vaccination

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Minimal psychological investment in the questions posed by those who are hesitant

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Not part of social consideration or personal value systems

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May get the vaccine if it is convenient to do so (e.g., does not interfere with something that is of value) so apathy is not synonymous with hesitance

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Peer pressure may be of benefit

# Vaccine Resistant

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My right to choose

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Not necessarily about the vaccine or the disease itself

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May be woven into personal or group political views

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May or may not incorporate elements of hesitance or apathy

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Grounded in personal abilities to decide

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May cloak fears about vaccine safety, injection fears

# Vaccine Confidence

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Not certain the vaccine actually works

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May be willing to be vaccinated but not convinced they, as an individual, need to be vaccinated

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Not certain the particular disease is worse than the vaccine

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May accept some vaccines and not others

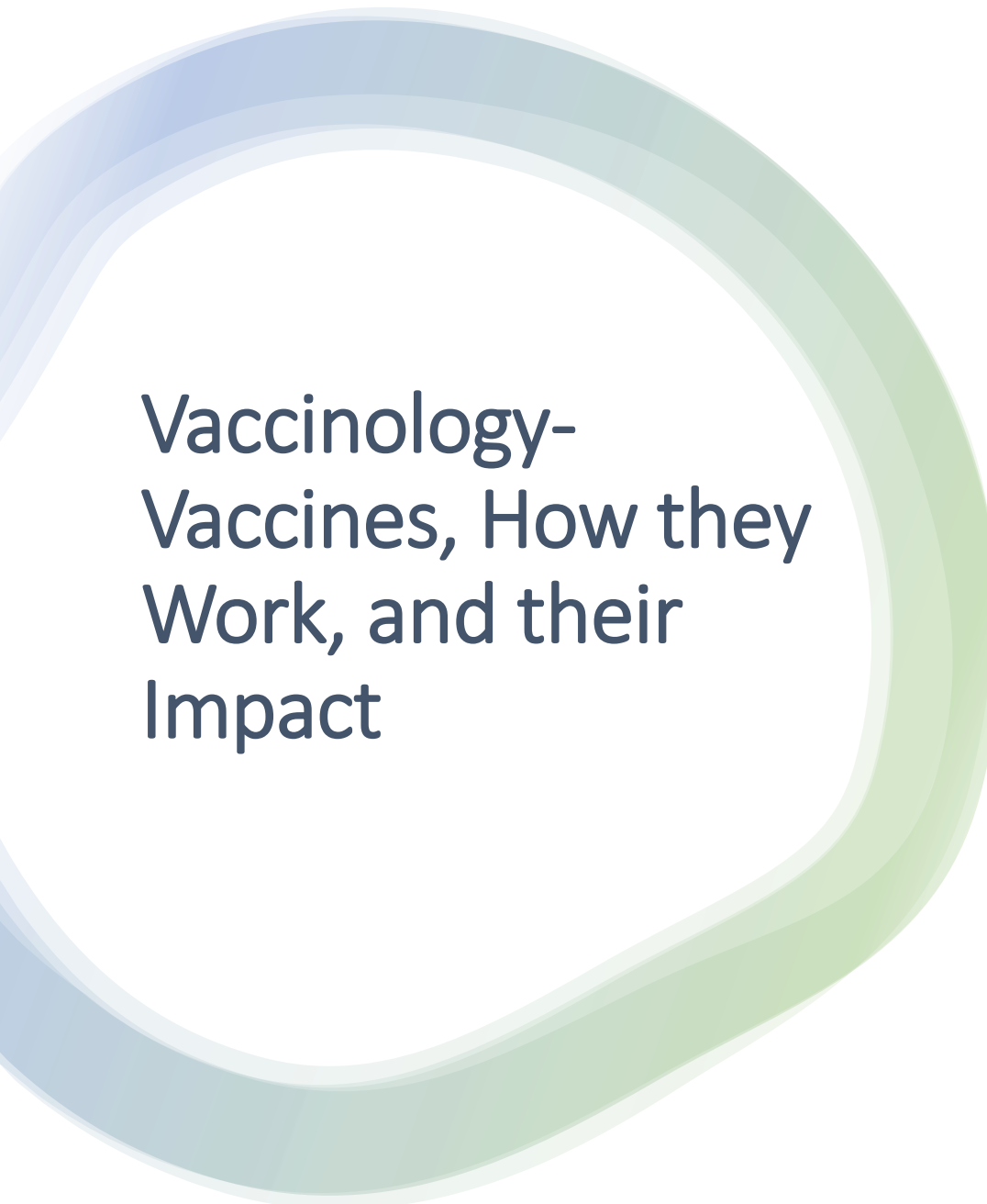
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May influence hesitance, resistance, and apathy for better or for worse



## Our Opportunities

- Changing the messages and the way the messages are delivered
- Understanding how vaccines work
- Understanding how our immune system works
- Understanding the disease(s) targeted by vaccine(s)
- Developing messages (there is no one-size fits all)
- Developing message delivery processes (again, not a singular approach)
- Enabling ongoing dialogue in order to refine, correct, expand messages
- Self-reflection



## Vaccinology- Vaccines, How they Work, and their Impact

- All vaccines are not the same
- Different mechanisms of action
- Different immune responses
- Different effects on the recipient [how they feel after vaccination]
- Different doses
- Different durability or persistence of benefit
- Makes messaging about vaccines, how they work, and their impact very different across different vaccines



# Some Types of Vaccines

Inactivated  
vaccines

Live-attenuated  
vaccines

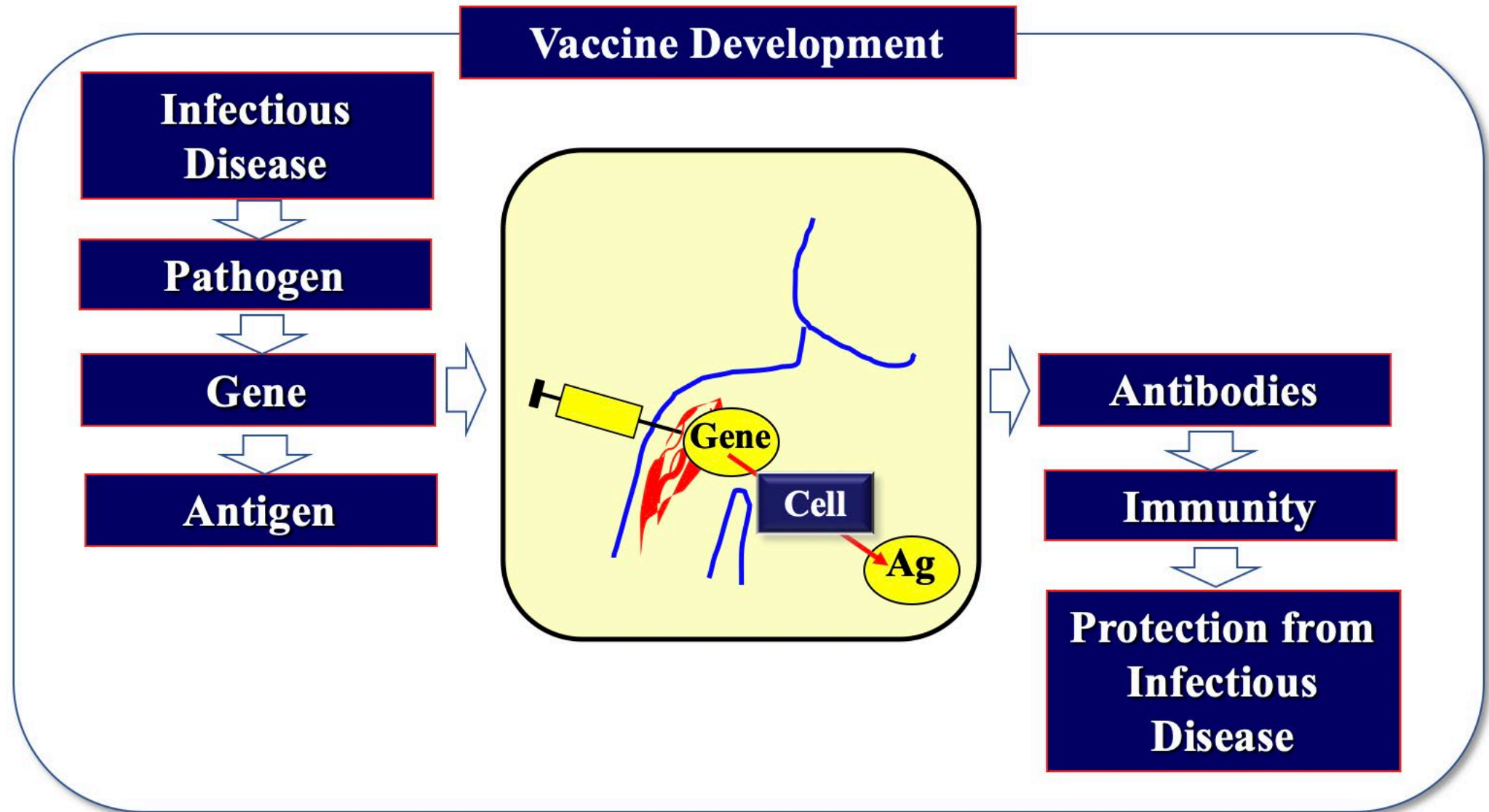
Messenger RNA  
(mRNA) vaccines

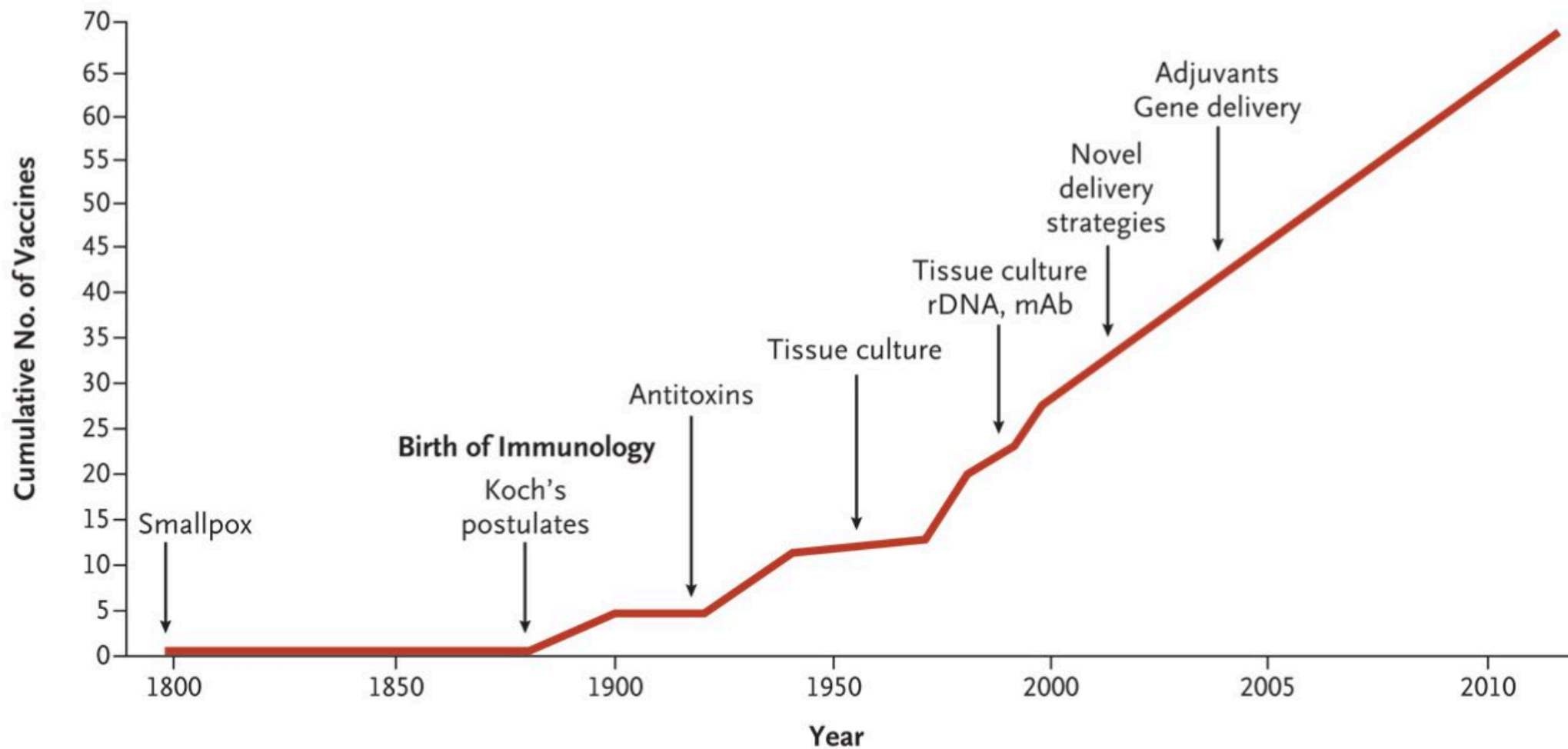
Subunit,  
recombinant,  
polysaccharide, and  
conjugate vaccines

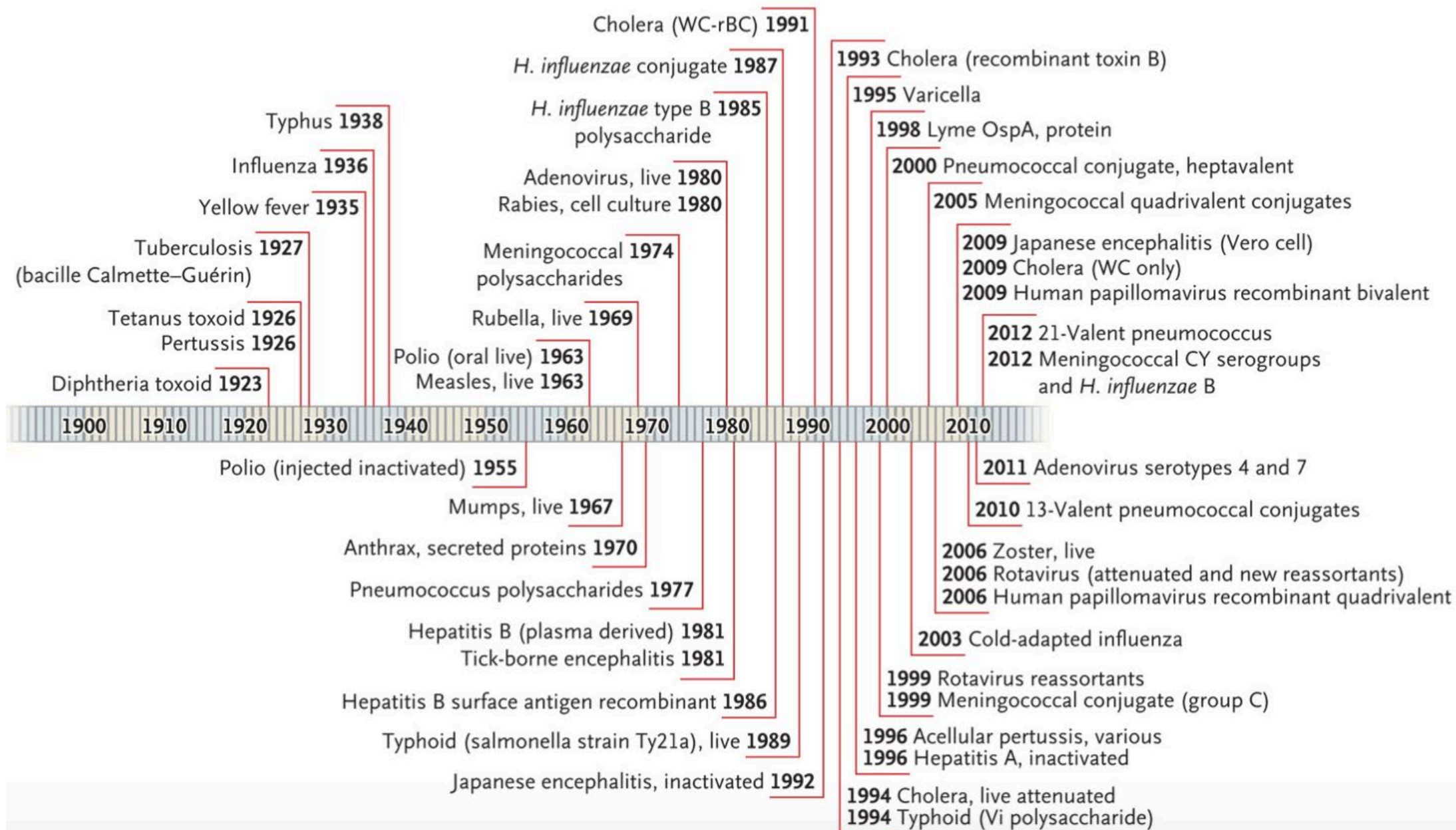
Toxoid vaccines

Viral vector vaccines

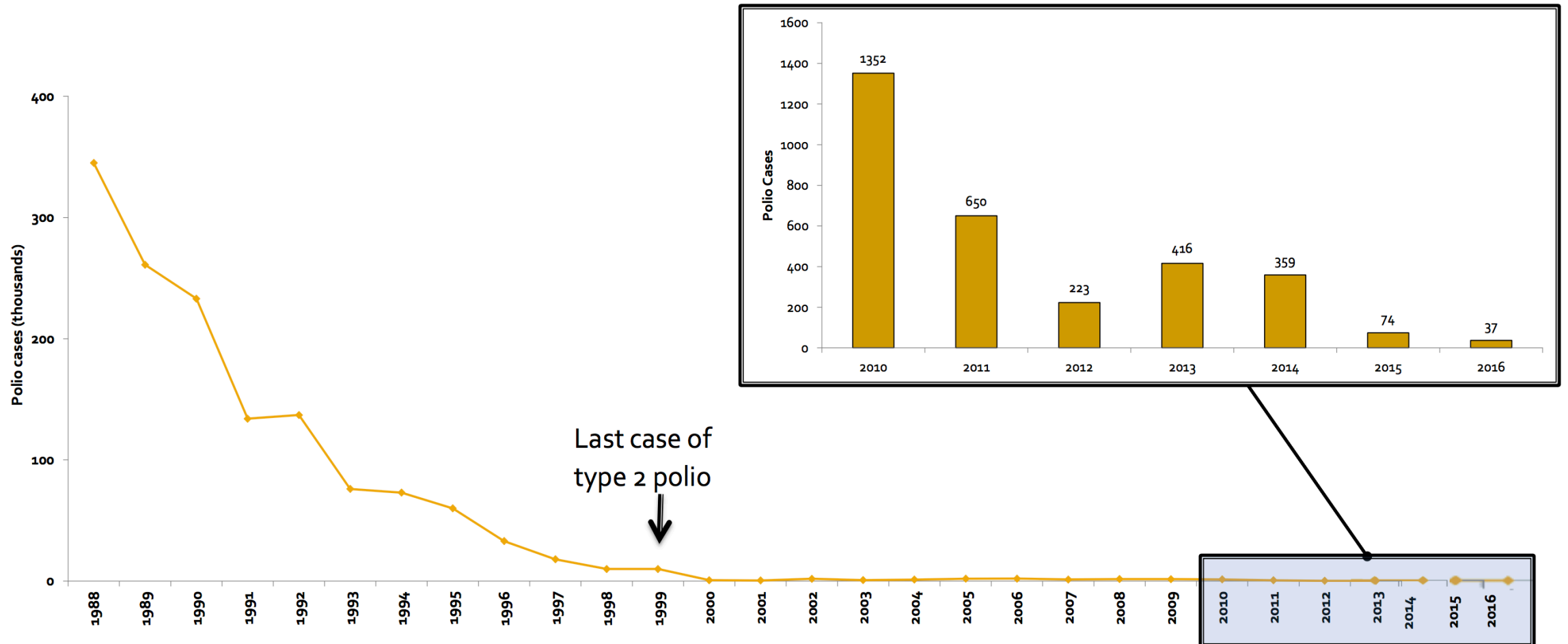
# Immunology- How our Immune System Works



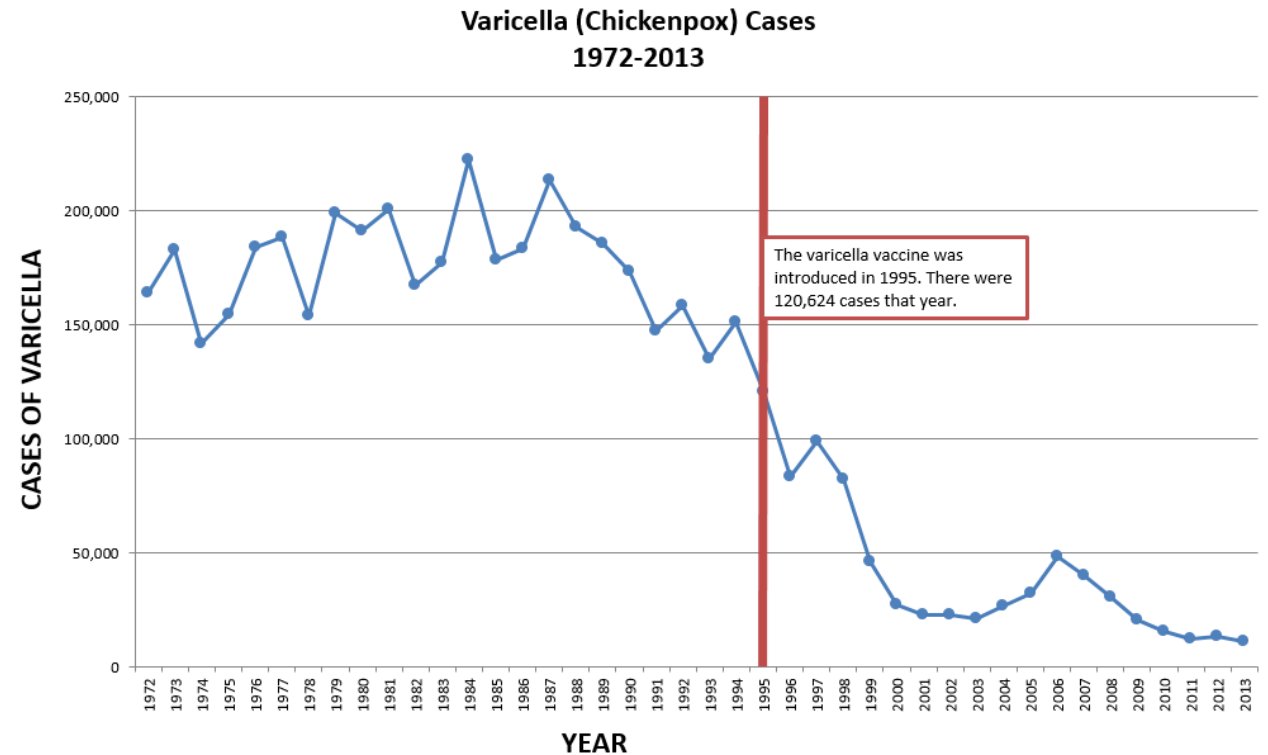
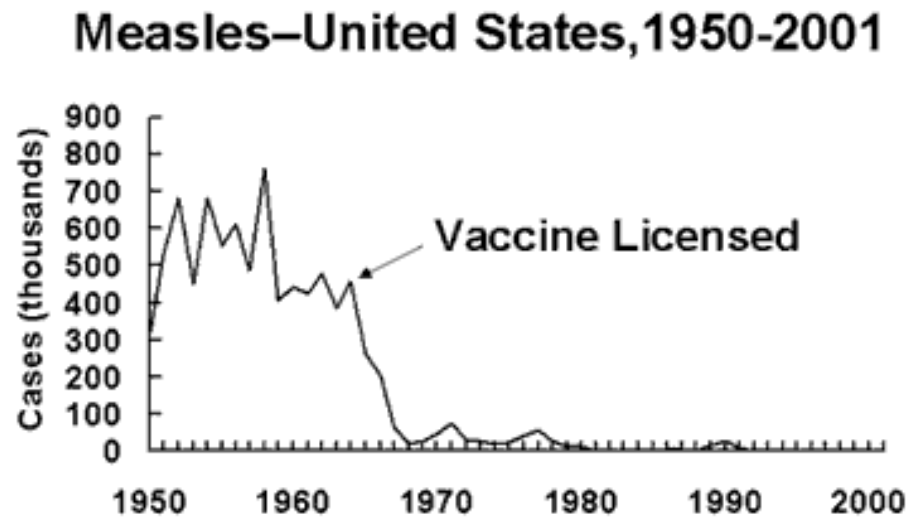




# Significant Decline in the Number of Persons Worldwide Paralyzed by Wild Polioviruses, 1988-2016



# Vaccination Substantially Reduced the Incidence of Other Vaccine-Preventable Diseases



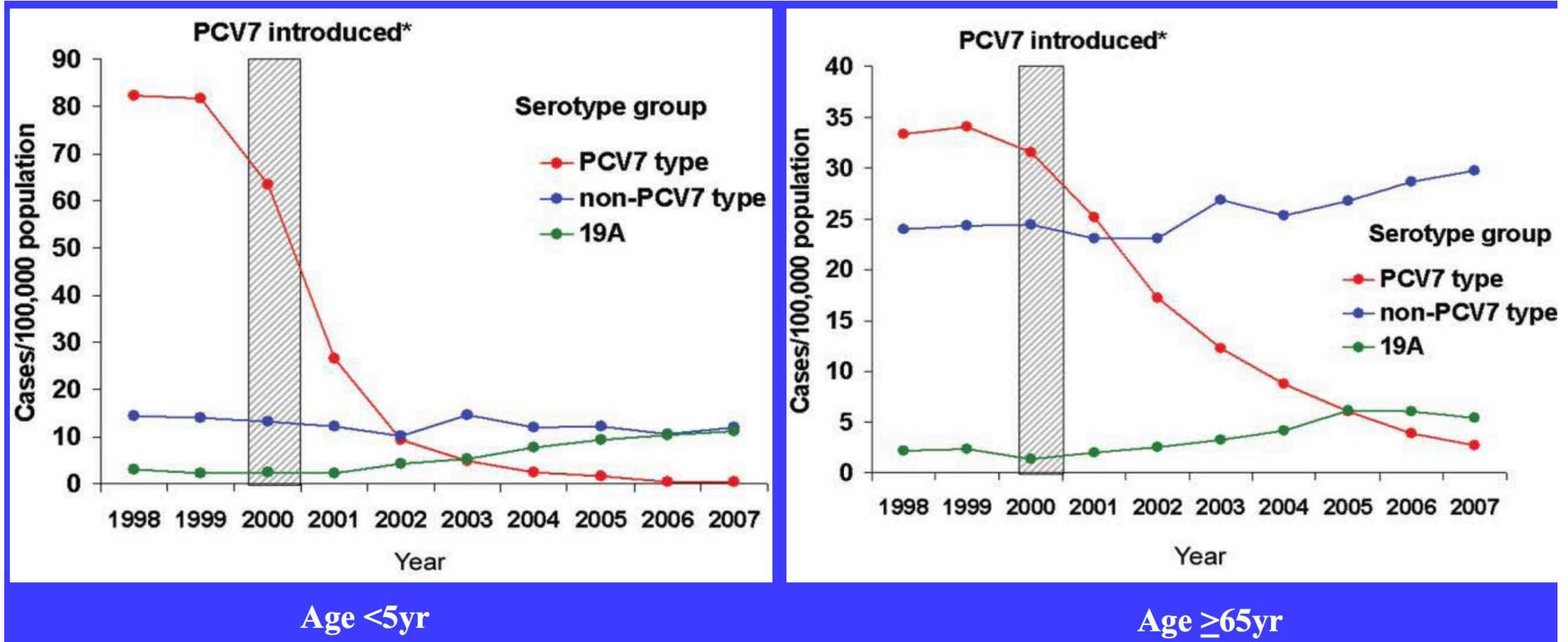
Selected notifiable disease rates and number of new cases: United States, selected years 1950-2011.  
<https://www.cdc.gov/nchs/hus/contents2013.htm#039>

# Vaccination Substantially Reduced the Incidence of Other Vaccine-Preventable Diseases: Meningococcus



1979-1996 NNDSS data, 1997-2014 ABCs data estimated to US population, CDC

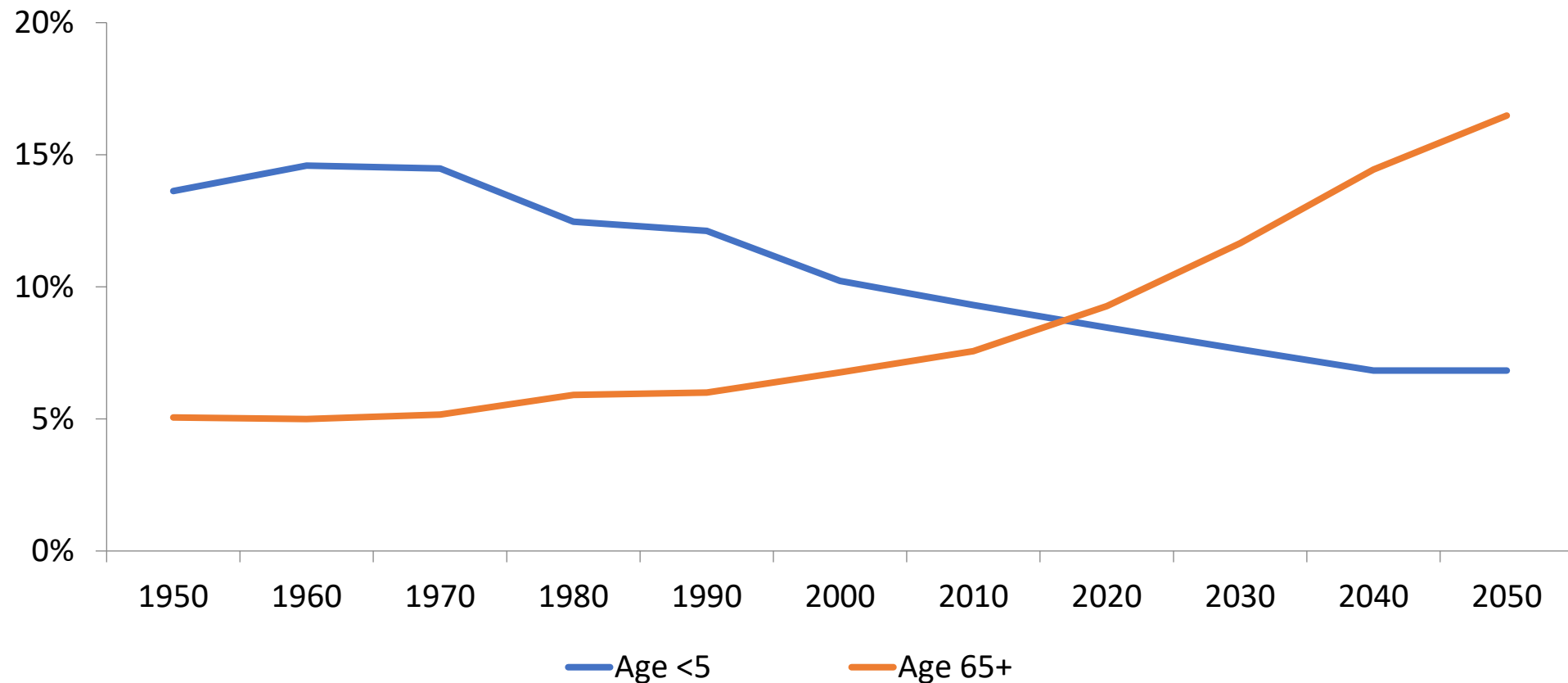
# Impact of 7-valent Pneumococcal Conjugate Vaccine on Rate of Invasive Pneumococcal Disease, US





# The Number of People Aged 65 or Older Globally is Projected to Nearly Triple from 2010 to 2050 to 1.5 Billion, Placing an Increased Burden on Healthcare Systems

Young Children and Older People as a Percentage of Global Population: 1950–2050





# Our Opportunities

- Embrace new concepts and approaches
- Personal investment in learning and trying
- Personal and professional development plan
- Sharing experiences, things that have worked as well as things that have not worked
- Be open to critique as a means of learning and improvement
- Help the community benefit from these actions
- Let's look at a few approaches, both old and new

# Communication, Marketing, Advertising, Storytelling

- How communication occurs impacts hesitance trajectory. Listening and responding. Using trusted community partners
- Elements of the message can be used/altered/enhanced to appeal to different groups
- Where you communicate provides benefit
- Making the messages authentic, visually appealing, and quickly understandable. Having messaging available at places and times most likely to be viewed by population(s) of focus.

# Cultural Competence

## **Intercultural competence**

Ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes

Ability to shift frame of reference appropriately and adapt behavior to cultural context: adaptability, expandability, and flexibility of one's frame of reference/filter

Ability to identify behaviors guided by culture and engage in new behaviors in other cultures, even when behaviors are unfamiliar give a person's own socialization

Behaving appropriately and effectively in intercultural situations based on one's knowledge, skills, and motivation

Ability to achieve one's goals to some degree through constructive interaction in an intercultural context

Good interpersonal skills exercised intercultural: the sending and receiving of messages that are accurate and appropriate

# Cultural Competence

## **Specific components of intercultural competence**

Understand other's worldview

Culture self-awareness and capacity for self-assessment

Adaptability and adjustment to new cultural environment

Skills to listen and observe

General openness toward intercultural learning and the people from other cultures

Ability to adapt to varying intercultural communication and learning styles

Flexibility

Skills to analyze, interpret, and relate

Tolerating and engaging ambiguity

Deep knowledge and understanding of culture (one's own and others')

Respect for other cultures

Cross-cultural empathy

# Listening and Clarifying

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- Reichelt M, Cullen JP, Mayer-Fried S, Russell HA, Bennett NM, Yousefi-Nooraie R. Addressing COVID-19 vaccine hesitancy in rural communities: A case study in engaging trusted messengers to pivot and plan. *Front Public Health*. 2023 Feb 9;11:1059067.
- Interactive program for trusted messengers (TMs) including a stakeholder panel, called the Trusted Messenger Forum (TMF).
- The TMF met every 2 weeks from August 2021- August 2022 to engage local TMs and disseminate up-to-date knowledge in real time.
- During forum sessions, TMs shared detailed accounts of their experiences combating vaccine hesitancy in their communities and supported one another in their efforts through positive interaction and reaffirming conversations.

# Learning from Other Disciplines

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- Theater arts and medicine
- Use of improvisational theatre techniques to train health care workers to have persuasive and respectful conversations with vaccine-hesitant patients about accepting COVID-19 vaccination.
- Science of motivation, having difficult conversations, then changing the conversation
- Participants in the training sessions reported high levels of confidence in their abilities to effectively address hesitancy in patient and community interactions.

Examples of Helpful Improvisational Responses in Vaccine Hesitant Conversations

<b>Vaccine Hesitant Statements*</b>	<b>Improvisational Responses**</b>
<p>“I feel like the government’s recommendations don’t make sense. They are relaxing mask mandates, but also recommending we get vaccinated and boosted. So is COVID not a problem anymore or what?”</p>	<p>“Yes, the guidance does change often with new variants and boosters. I understand there have been a lot of changes.”</p>
<p>“I just feel like the government wants to track people and control people with this whole vaccine and mask thing.”</p>	<p>“Yes, it’s tough to do anything when we feel like our freedom or liberty is under attack. Why do you think that doctors are telling people get vaccinated? Doctors aren’t government employees.”</p>
<p>“I’ve [heard of] serious side effects like people getting really sick and even heart inflammation.”</p>	<p>“You could say that about any vaccine. Nothing we do is 100% perfect. My flu shot hurt my arm more than my COVID vaccine. I know there is a lot of mistrust of the CDC and the FDA, but who I trust are my colleagues that I work with every day.”</p>
<p>“Yeah, I trust my doctor more than anybody from the CDC and FDA.”</p>	<p>“Absolutely, and as your doctor I want to partner with you to make a plan on how to respond to this situation.”</p>
<p>“What about the sides effects after you were boosted? I’ve heard that people can get more sick with every shot!”</p>	<p>“It does vary from person to person, but side effects are uncommon. Sleep is really important to me, and I had a fever one night so I treated it with ibuprofen and it was manageable.”</p>
<p>“I don’t want [COVID] to get in my body and mess with me. I don’t want it to change my DNA.”</p>	<p>“Yes, I’m curious, where have you been getting your information from? Or is there anything I can help share with you in terms of the information that I have about the vaccine?”</p>



# Stability of Hesitance

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- Siegler AJ, Luisi N, Hall EW, et al. Trajectory of COVID-19 Vaccine Hesitancy Over Time and Association of Initial Vaccine Hesitancy With Subsequent Vaccination. *JAMA Netw Open*. 2021;4(9):e2126882.
- This cohort study found that COVID-19 vaccine hesitancy is not a stable trait precluding vaccination but, instead, is labile.
- Hesitancy decreased between late 2020 and early 2021, with nearly one-third (32%) of persons who were initially hesitant being vaccinated at follow-up and more than one-third (37%) transitioning from vaccine hesitant into vaccine willing.
- Early plans regarding vaccination frequently deviated from later action in vaccine seeking.
- Changes in hesitancy have not alleviated health inequities in vaccines received.

# Messaging Opportunities

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- Rodriguez RM, Nichol G, Eucker SA, et al. Effect of COVID-19 Vaccine Messaging Platforms in Emergency Departments on Vaccine Acceptance and Uptake: A Cluster Randomized Clinical Trial. *JAMA Intern Med.* 2023;183(2):115–123.
- **Question** Does provision of COVID-19 vaccine educational messaging increase vaccine acceptance and uptake in unvaccinated emergency department (ED) patients?
- **Findings** In this cluster randomized clinical trial of 496 participants conducted at 7 EDs in the US, delivery of COVID-19 vaccine messaging platforms resulted in statistically significant higher vaccine acceptance among intervention group participants compared with the control group. Outcome effect sizes of the intervention were greater in Latinx persons and participants without primary care physicians.
- **Meaning** These findings support the delivery of COVID-19 vaccine messaging platforms in EDs nationally to improve vaccine acceptance and uptake in underserved populations whose primary health care access occurs in EDs.

# Self- Reflection- My Beliefs, Values, Approaches

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My feelings about vaccines and vaccination

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How are we interacting and influencing others

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Silence versus open communication

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Respect for opinions and rights of others

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Do we recognize that different people need different approaches, different words to be used, different message, more time

# Are Healthcare Workers Good Examples?

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- Momplaisir FM, Kuter BJ, Ghadimi F, et al. Racial/Ethnic Differences in COVID-19 Vaccine Hesitancy Among Health Care Workers in 2 Large Academic Hospitals. *JAMA Netw Open*. 2021;4(8):e2121931.
- **Question** What are the differences in COVID-19 vaccine hesitancy by race/ethnicity among health care workers (HCWs)?
- **Findings** This survey study of 10 871 HCWs from 2 academic hospitals found that, compared with White HCWs, vaccine hesitancy was increased nearly 5-fold among Black HCWs, 2-fold among Hispanic or Latino HCWs, and by nearly 50% among Asian HCWs and HCWs who were members of other racial/ethnic groups.
- **Meaning** These findings suggest that interventions focused on addressing vaccine hesitancy among HCWs are needed, particularly for Black and Hispanic or Latino HCWs, among whom hesitancy is highest.

# Does Our Clinic Speak Vaccination Confidence?

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- What does patient see when they enter the clinic?
- Do clinic personnel begin vaccination conversations at the first opportunity?
- Is there consistent messaging across office personnel?
- What if personnel have questions or disagree?
- Have you asked personnel about vaccination perspectives?
- Does your office have a standard approach for healthcare worker immunization?
- Followup [patients and office personnel]

# Additional Resources

- Wood S, Schulman K. When Vaccine Apathy, Not Hesitancy, Drives Vaccine Disinterest. *JAMA*.2021;325(24):2435–2436.
- Yang X, Smith RE. Beyond attention effects: modeling the persuasive and emotional effects of advertising creativity. *Marketing Sci*. 2009;28(5):935-949
- Schumann DW, Kotowski MR, Young HO. The elaboration likelihood model: a 30-year review. In: Rodgers S, Thorson E, eds. *Advertising Theory*. Routledge; 2019:81-98.