



# Introduction of the Pneumococcal Work Group

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Advisory Committee on Immunization Practices

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# Pneumococcal Vaccines Work Group

- **ACIP Members**
  - Katherine Poehling (Chair)
  - Keipp Talbot
- **Ex Officio Members**
  - Jeffrey Kelman (CMS)
  - Lucia Lee (FDA)
  - Tina Mongeau (FDA)
  - Thomas Weiser (IHS)
  - Kristina Lu (NIH)
- **CDC Lead**
  - Miwako Kobayashi (NCRID)
- **Liaison Representatives and Consultants**
  - Nina Ahmad (AAFP)
  - Mark Sawyer (AAP/COID)
  - Jason Goldman (ACP)
  - David Nace (AGS/AMDA)
  - Jane Zucker (AIM)
  - Oliver Baclic(NACI)
  - Carol Baker (IDSA)
  - William Schaffner (NFID)
  - TBD (NMA)
  - Nancy Bennett (U. of Rochester)
  - Monica Farley (VAMC/Emory)
  - Keith Klugman (BMGF)
  - Sarah Long (Drexel University)
  - Arthur Reingold (UC Berkley)
  - Lorry Rubin (CCMC)
  - Cynthia Whitney (Emory)
  - Richard Zimmerman (U. of Pittsburgh)

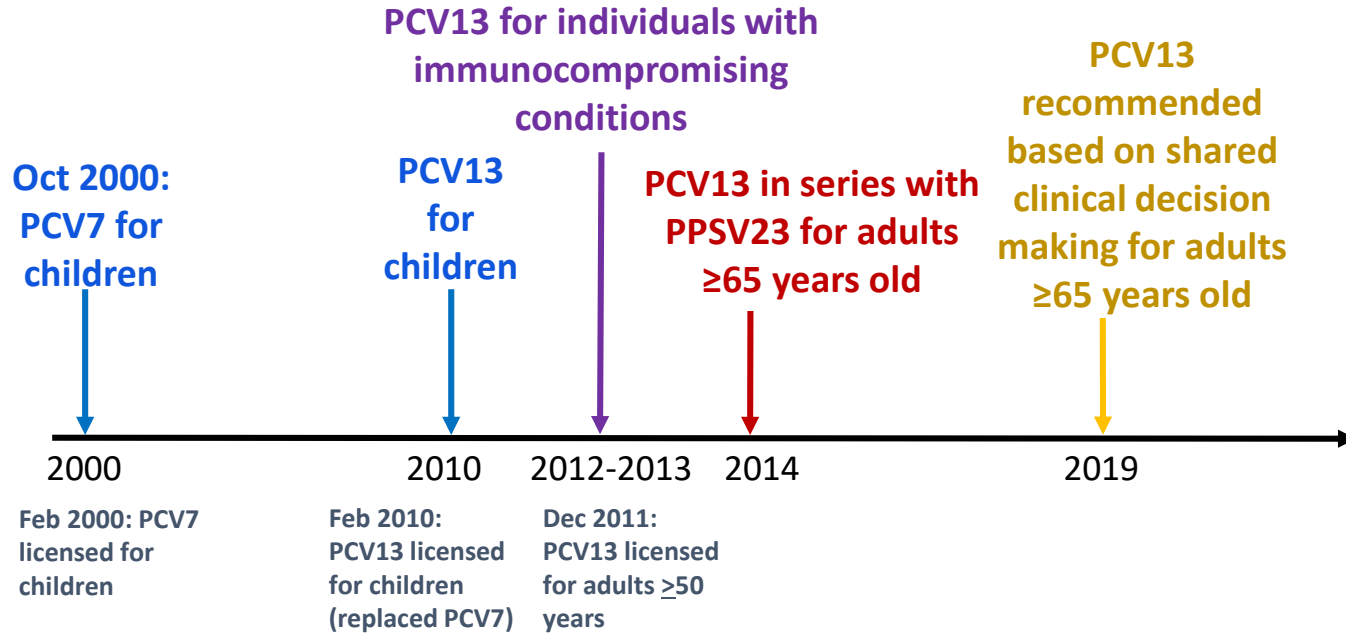
# Pneumococcal Vaccines Work Group

- CDC Contributors
  - Tamara Pilishvili (Respiratory Diseases Branch)
  - Penina Haber, Pedro Moro (Immunization Safety Office)
  - Sarah Schillie (Immunization Services Division)

# Pneumococcal Work Group Terms of Reference: Purpose

- Review current data including efficacy, effectiveness, immunogenicity, epidemiology, and cost-effectiveness of pneumococcal conjugate and polysaccharide vaccines and assess the strength of the evidence
- Review current recommendations considering up-to-date evidence
- Revise or update recommendations for pneumococcal vaccine use as needed

# ACIP PCV Recommendations



# Conclusions from the EtR leading to ACIP vote in 2019

Element	Favoring <u>Continued</u> PCV13 Use	Favoring <u>No Longer</u> using PCV13
<b>Burden of Disease</b>	<ul style="list-style-type: none"> <li>PCV13-type disease reduced, but not eliminated through indirect effects from pediatric PCV use</li> </ul>	<ul style="list-style-type: none"> <li>Indirect effects from pediatric PCV use have reduced the burden of PCV13-type disease to historic lows</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>PCV13 effective in preventing PCV13-type pneumococcal disease</li> </ul>	<ul style="list-style-type: none"> <li><b>Impact from PCV13 use in older adults observed to date is minimal; no impact on IPD and inconsistent findings across studies for impact on pneumonia</b></li> <li><b>Benefits from continued PCV13 use are expected to be minimal</b></li> </ul>
<b>Acceptability</b>	<ul style="list-style-type: none"> <li><b>Frequent changes in recommendations may negatively impact the perceived importance of future adult vaccine recommendations</b></li> </ul>	<ul style="list-style-type: none"> <li>Credibility comes from evidence-based recommendations</li> </ul>
<b>Resources Used</b>	<ul style="list-style-type: none"> <li>A recommendation change would incur a cost to update electronic medical records, decision support tools, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Economic analyses results do not favor continued PCV13 use</li> </ul>
<b>Feasibility</b>	<ul style="list-style-type: none"> <li><b>Universal prevention strategies are easier to implement effectively than risk-based ones</b></li> <li><b>Frequent changes in recommendations present implementation challenges</b></li> </ul>	<ul style="list-style-type: none"> <li>Simplifies the recommendations—current recommendations have been confusing and difficult to implement</li> </ul>

# New PCV Products on the Horizon

	1	3	4	5	6A	6B	7F	9V	14	18 C	19 A	19 F	23 F	2	8	9N	10 A	11 A	12 F	15 B	17 F	20	22 F	33 F	
PCV13	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	White	White	White	White	White	White	White	White	White	White	White	White
PPSV23	Yellow	Yellow	Yellow	Yellow	White	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
PCV15	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	White	White	White	White	White	White	White	White	White	White	Green	Green
PCV20	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	White	Green	White	Green	Green	Green	Green	White	White	Green	Green	White

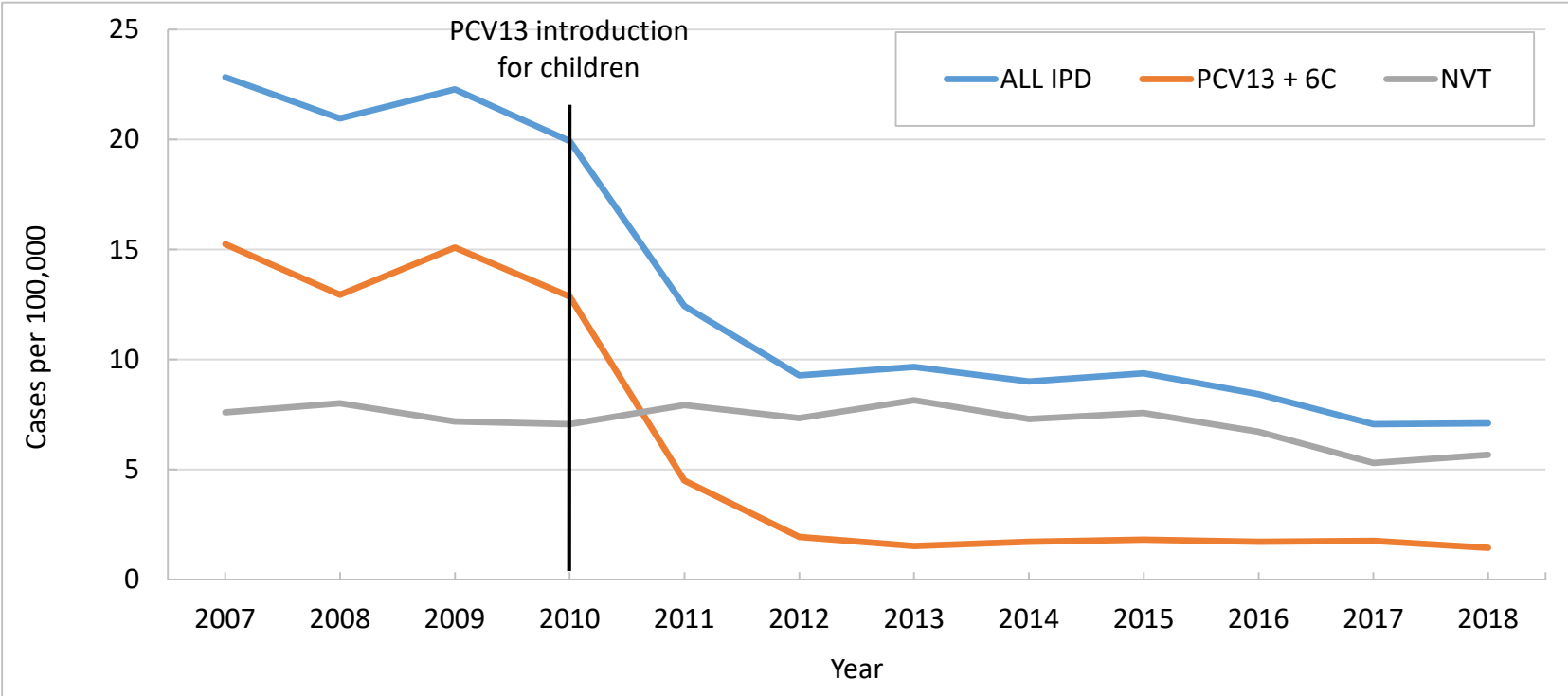
- Merck: PCV15 (PCV13 serotypes + serotypes **22F and 33F**)
  - Licensure anticipated Q3–4 2021
- Pfizer: PCV20 (PCV13 serotypes + serotypes 8, 10A, 11A, 12F, 15B, **22F, and 33F**)
  - Licensure anticipated in June 2021

# Pneumococcal WG ToR, 2020–2021

- Review considerations for and evidence supporting the use of higher valent pneumococcal conjugate vaccines in the general population of US adults.
- Review considerations for and evidence supporting the use of higher valent pneumococcal conjugate vaccines for adults with certain underlying conditions.
- Present policy options for ACIP vote.

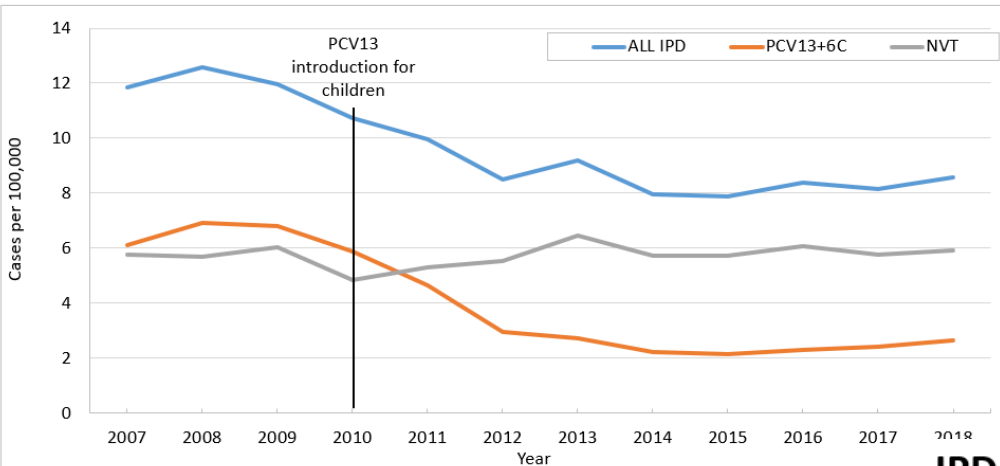


# IPD Rates among Children <5 Years Old, 2007–2018

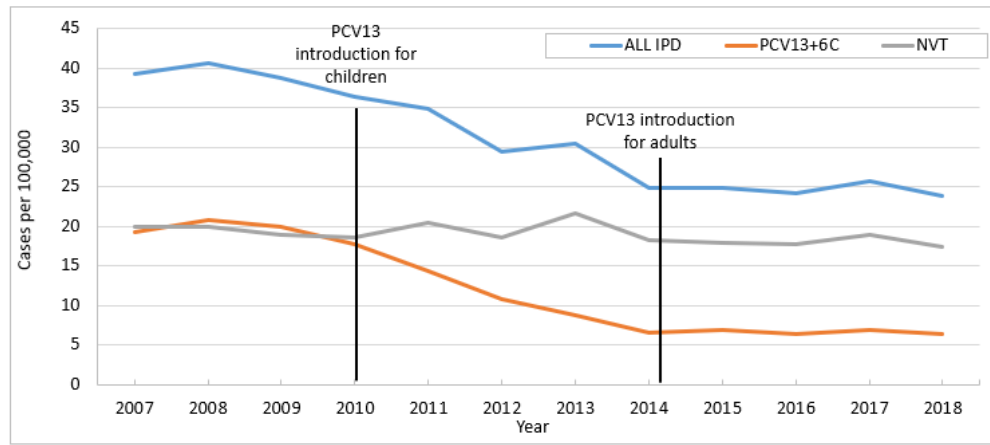


CDC, Active Bacterial Core surveillance

# IPD Rates among Adults 19–64 Years Old, 2007–2018



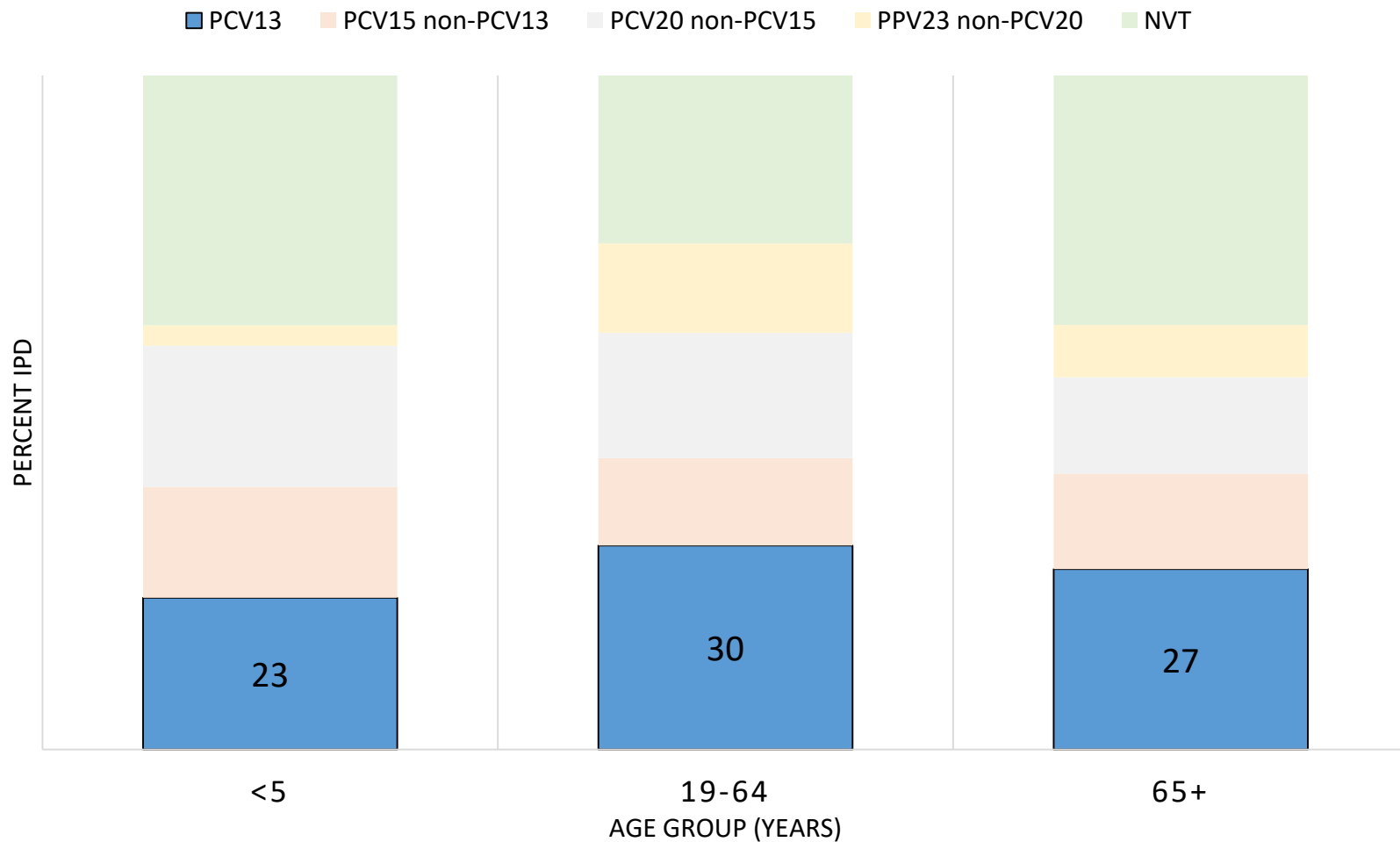
# IPD Rates among Adults ≥65 Years Old, 2007–2018



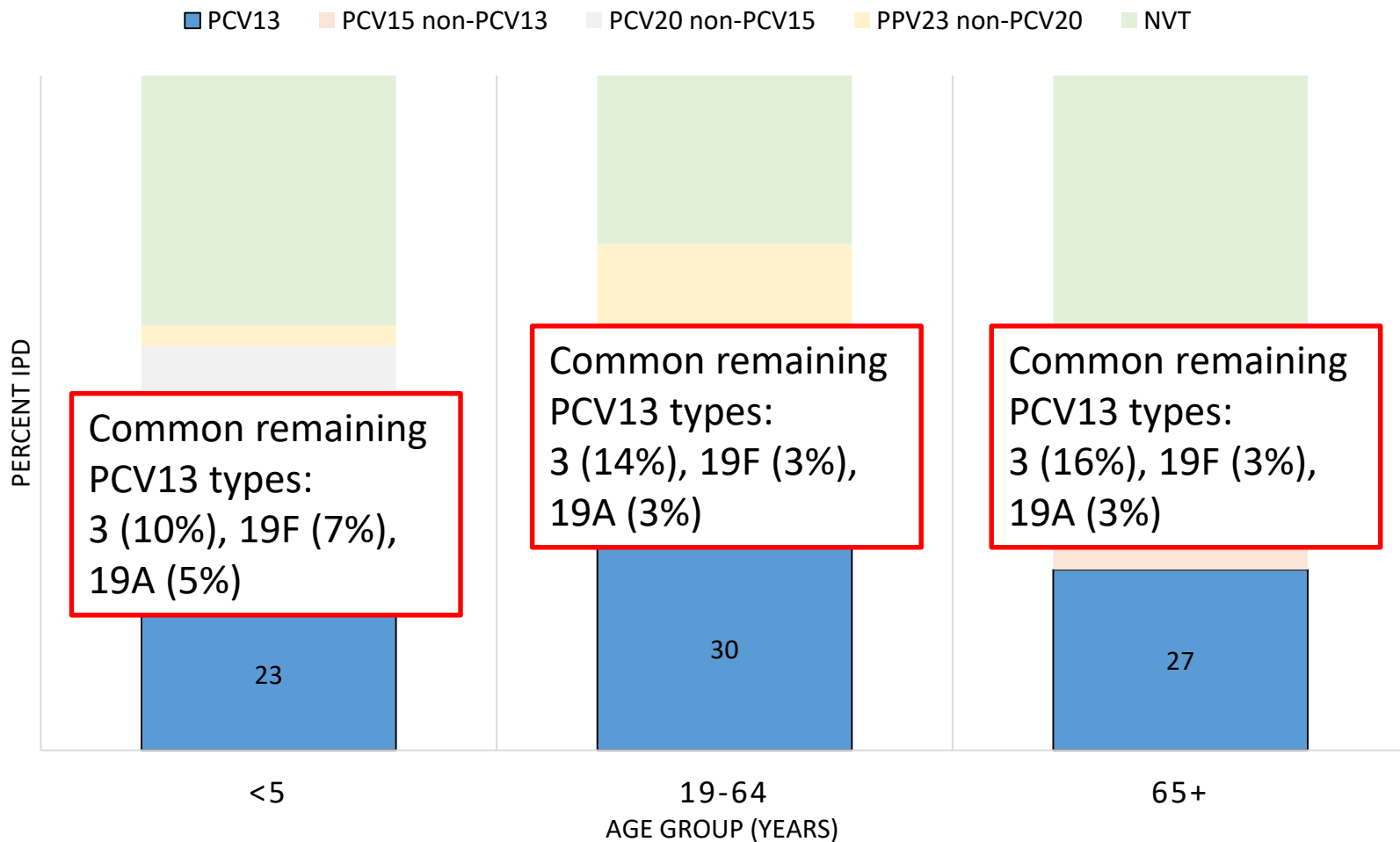
## Key Points:

- PCV13-type IPD incidence declined in adults, likely due to indirect effects from PCV13 use in children.
- Since 2014, no population level impact was observed on PCV13-type IPD in adults ≥65 years.

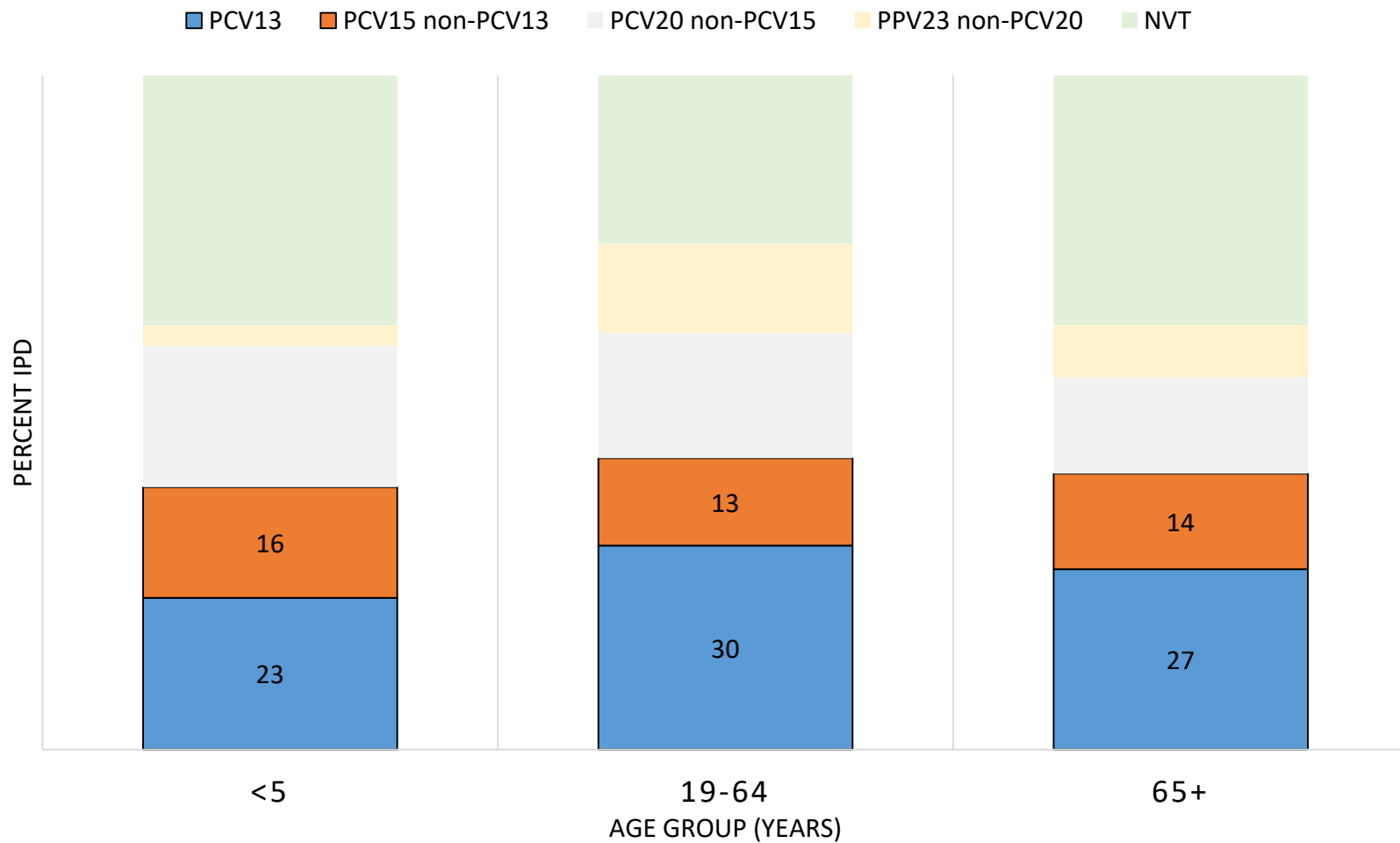
# Proportion of PCV13-Type IPD by Age Group, 2017–2018



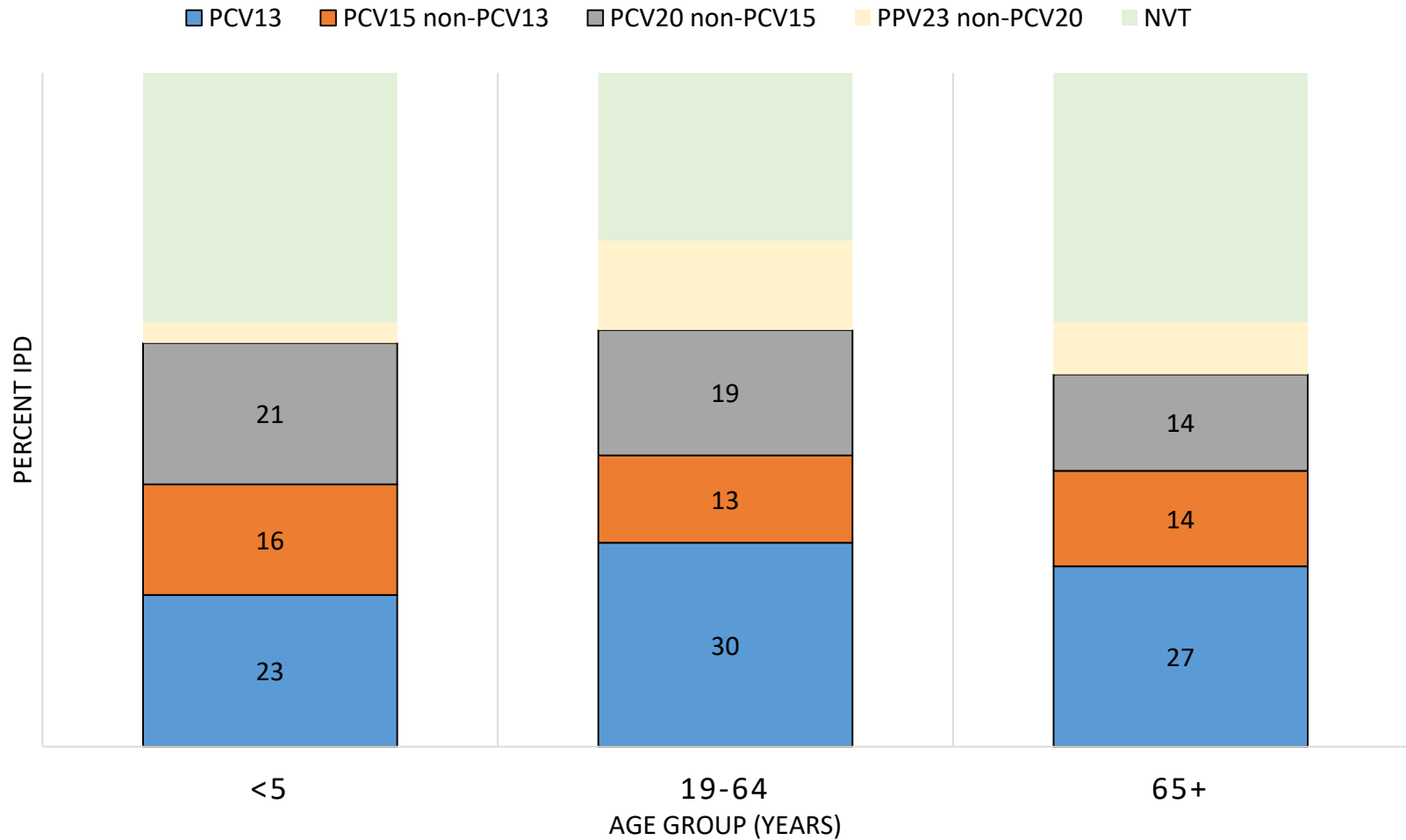
# Remaining PCV13-Type IPD by Age Group, 2017–2018



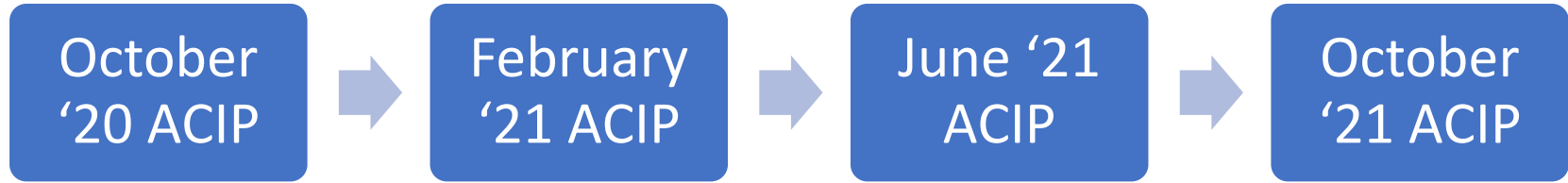
# IPD Serotype Proportion by Vaccine-Type, 2017–2018



# IPD Serotype Proportion by Vaccine-Type, 2017–2018



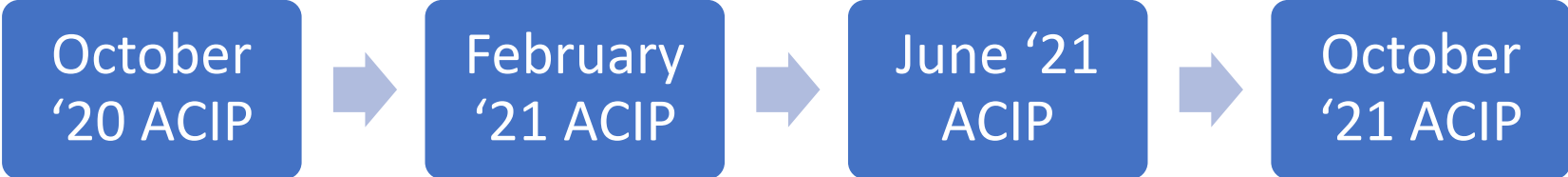
# Anticipated Timeline for Licensure of New Adult PCV Products



Pfizer (PCV20)	Filed to FDA (Oct '20)	Licensure anticipated (June '21)	
Merck (PCV15)	Filing planned (Q4 2020)	Licensure anticipated* (Q3 2021)	Licensure anticipated* (Q4 2021)

\*Q3 2021 approval is assuming US standard review. Q4 2021 approval anticipated if granted priority review by the FDA.

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Licensure for children anticipated in Q2Q3 2022 (PCV15) or mid-2023 (PCV20)

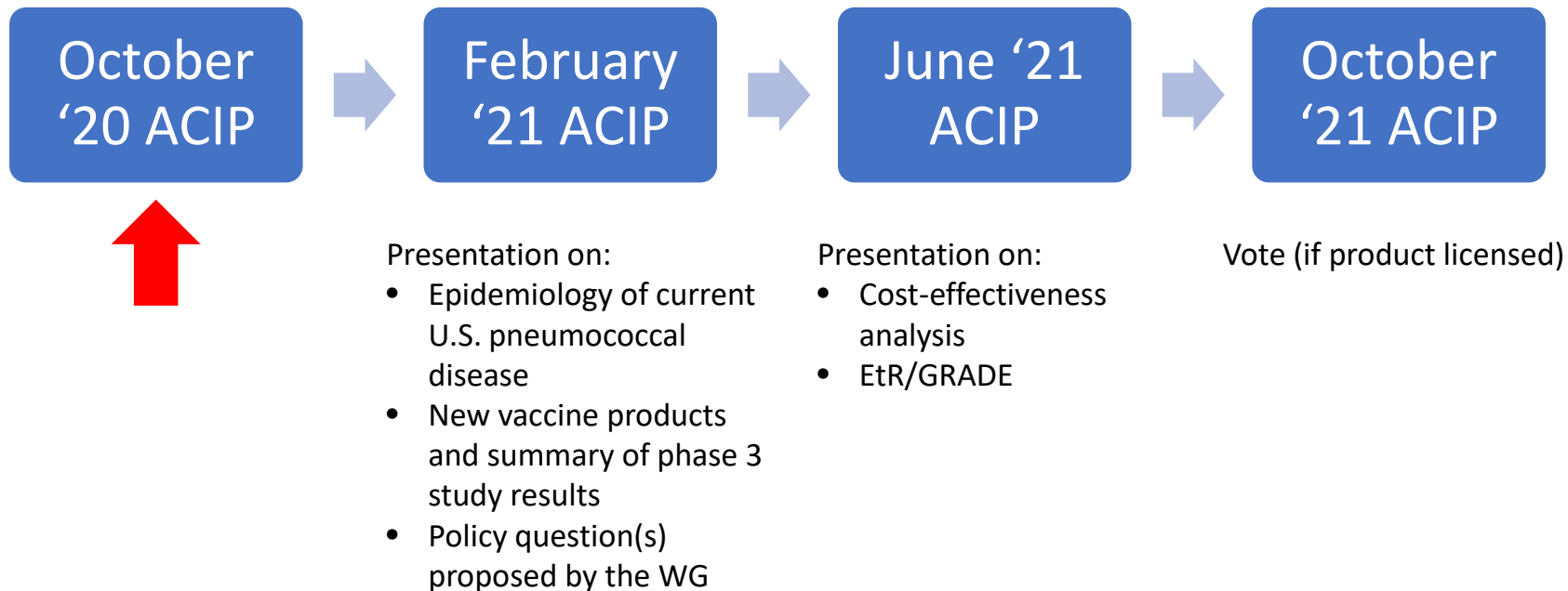
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# Evidence to be Reviewed by the Work Group

- Immunogenicity and safety for new PCVs (Phase 3 studies)
- Epidemiology of pneumococcal disease and vaccine-preventable disease burden for
  - Invasive pneumococcal disease
  - Non-invasive pneumococcal pneumonia
  - Mortality
- Expected public health impact and cost-effectiveness of PCV15/PCV20
  - Estimated direct effects in adults
  - Estimated indirect effects from vaccine use in children
  - Impact on health equity
- Review new evidence on the effectiveness of PPSV23
- GRADE and EtR

# Proposed Timeline of ACIP Presentations



# Thank you

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

