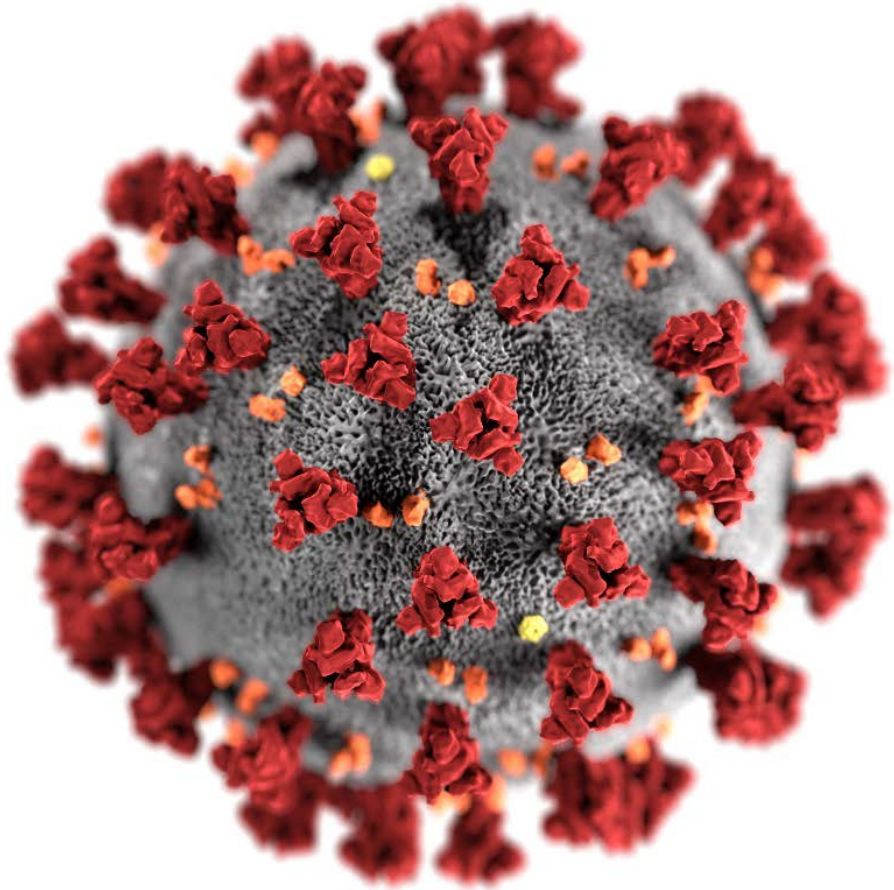
ACIP COVID-19 Vaccines Work Group



COVID-19 vaccine prioritization: Work Group considerations

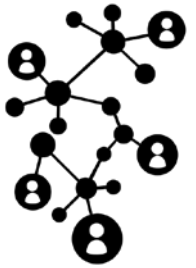
Sarah Mbaeyi, MD MPH

July 29, 2020

Identifying priority groups for COVID-19 vaccination

- Essential to support vaccine implementation planning
  - Challenging due to incomplete information on vaccine safety and efficacy in population subgroups and vaccine dose availability
- Prioritization framework for COVID-19 vaccines adapted from 2018 pandemic influenza vaccine guidance
- June 24th ACIP meeting: Work Group proposed priority vaccination of essential workers (including healthcare personnel) and high-risk populations

Importance of identifying priority groups



Strengthen distribution networks

Create communication strategies

Develop state/ local microplans

Implement safety and effectiveness evaluations

"Interim Updated Planning Guidance on Allocating and Targeting Pandemic Influenza Vaccine during an Influenza Pandemic".
https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2020-06/COVID-08-Mbaey-508.pdf
https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf

Work Group assumptions: Limited number of COVID-19 vaccine doses will be initially available

Limited doses available

- Considerations for essential workers (including healthcare personnel)
- Considerations for other high-risk populations (e.g., LTCF residents)

Large number of doses available

- Target specific populations at increased risk for severe COVID-19 and healthcare personnel/essential workers
- Widespread access to achieve high coverage across population groups

LTCF = long term care facility

Work Group assumptions: Limited number of COVID-19 vaccine doses will be initially available

Phase 1

Limited doses available

- **Today's session:** Essential workers (including healthcare personnel)
- **August:** Other high-risk populations (e.g., LTCF residents)

LTCF = long term care facility

CDC definition of healthcare personnel

- All paid and unpaid persons serving in healthcare settings who have the potential for direct or indirect exposure to patients or infectious materials

- Includes persons not directly involved in patient care but potentially exposed to infectious agents while working in a healthcare setting

https://www.cdc.gov/infectioncontrol/pdf/guidelines/infection-control-HCP-H.pdf

Work Group considerations: inclusion of essential workers (including healthcare personnel) in earliest priority group for vaccination

Goals

- Minimize impact of COVID-19 on healthcare infrastructure and societal functions
- Protect individuals who risk their health and safety to take care of others
- Reduce risk of transmission to vulnerable populations

Considerations

- Risk of exposure, infection, and severe disease
- Risk of transmitting disease to vulnerable populations
- Disparities and equity
- Feasibility of implementation
- Values of the target group and public

Policy question: When COVID-19 vaccines become available, should essential workers (including healthcare personnel) be among the initial priority group?

Evidence to Recommendations framework*

Domain	Criteria
Problem	• Is the problem of public health importance?
Values	• Does the target population feel that the desirable effects are large relative to undesirable effects? • Is there important uncertainty about or variability in how much people value the main outcomes?
Acceptability	• Is the intervention acceptable to key stakeholders?
Feasibility	• Is the intervention feasible to implement?

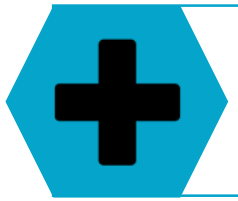
* Evidence to Recommendations Framework: Framework used by ACIP to make evidence-based, transparent policy decisions. Domains of benefits/harms and resource use not assessed due to current lack of data. https://www.cdc.gov/vaccines/acip/recs/grade/downloads/ACIP-evidence-rec-frame-508.pdf

Vaccination of essential workers, including healthcare personnel

Public health problem

Workers at greatest risk for exposure to infectious diseases

Occupational groups most likely to be exposed to infection or disease ≥1 time per month



Healthcare support

(e.g., home health aides, nursing assistants, massage therapists, dental assistants, medical assistants)

Healthcare practitioners & technical

(e.g., physicians, dentists, nurses, pharmacists, physical therapists, respiratory therapists)

Protective service

(e.g., police officers, firefighters, correctional officers, security guards, transportation screeners)

Personal care and service

(e.g., childcare workers, barbers, manicurists, fitness trainers, skincare specialists, gaming service workers)

Community support

(e.g., social workers, therapists, counselors, probation officers, health educators)

Education, training, & library

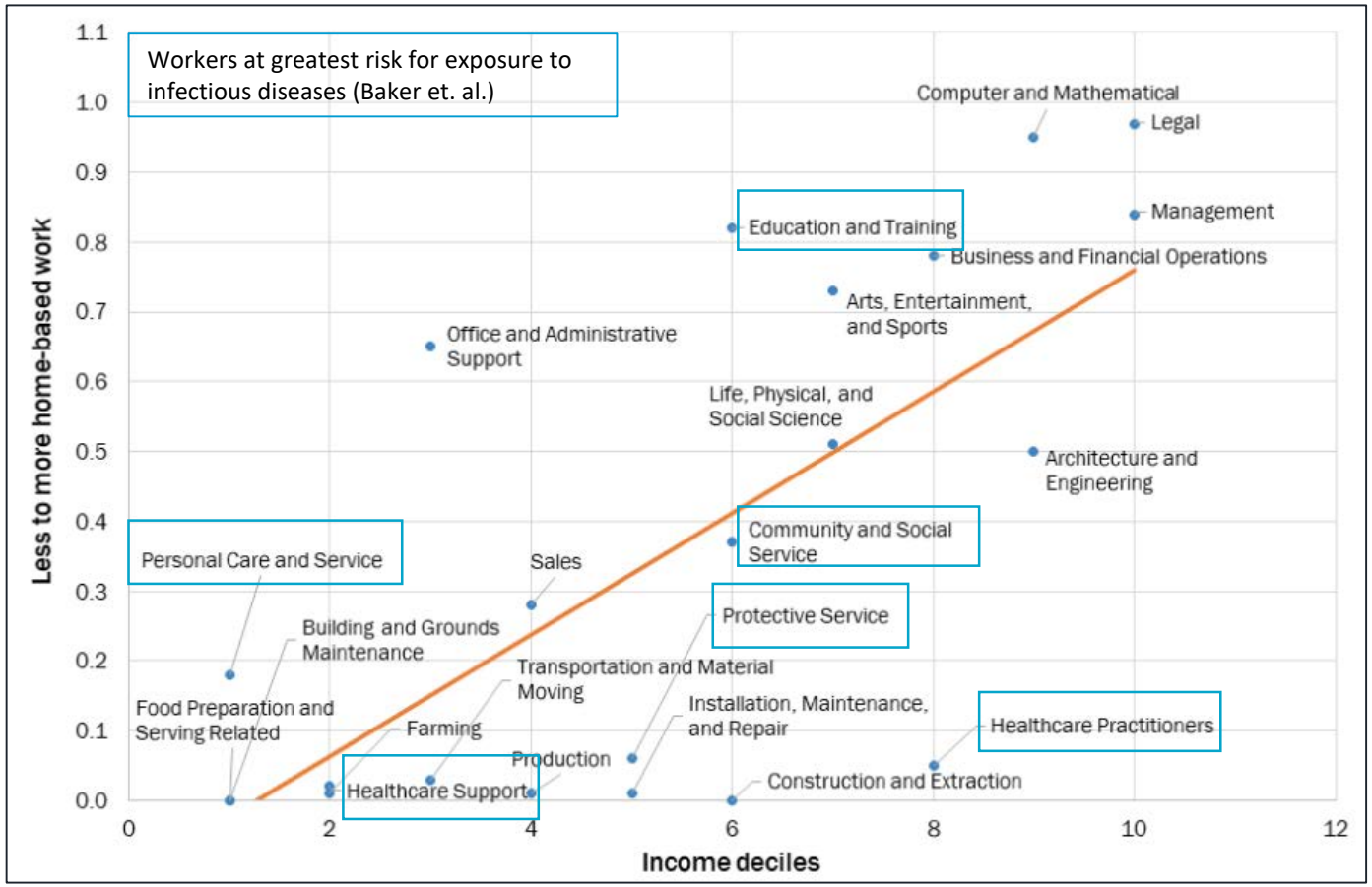
(e.g., teachers (K-12), teaching assistants, librarians)

Baker MG, et al. *PLoS One.* 2020. *15*(4), e0232452.

Definitions: Bureau of Labor Statistics Standard Occupational Classification System

Socioeconomic and racial disparities in worker risk

People with lower income occupations less likely to be able to work from home



Avdiu B, et al. Brookings Institute. March 30, 2020. https://www.brookings.edu/blog/future-development/2020/03/30/when-face-to-face-interactions-become-an-occupational-hazard-jobs-in-the-time-of-covid-19/

Baker MG, et al. *PLoS One*, *15*(4), e0232452.

Racial/ethnic minorities more likely to work in occupations deemed essential or with increased risk of infectious disease exposures:

- Healthcare and social assistance
- Animal slaughtering and processing
- Transportation (bus drivers, flight attendants)

Hawkins D. American Journal of Industrial Medicine. 2020 Jun 15;

COVID-19 burden in healthcare and other essential workers

Summary of presentation to ACIP on epidemiology of COVID-19 disease in occupational groups

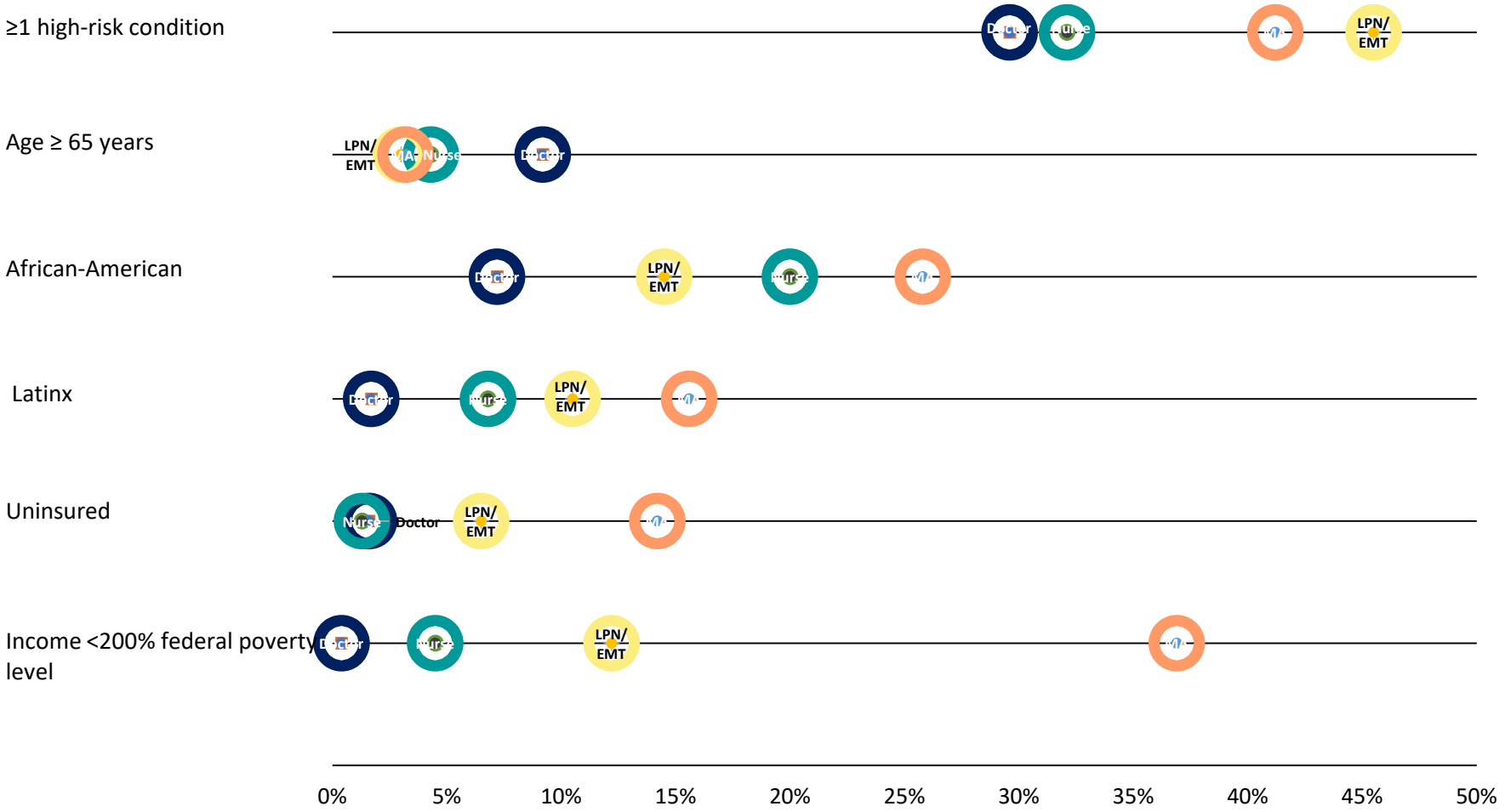
- > 110,000 cases of COVID-19 in healthcare personnel (through July 25, 2020)
  - Among subset reported through COVID-NET*, substantial proportion have high-risk conditions or belong to a racial/ethnic minority group

- Outbreaks and increased incidence in workers of congregate settings, often among lower-wage workers or workers belonging to racial/ethnic minority groups
  - Long-term care facilities
  - Meat and poultry processing facilities
  - Correctional facilities

*COVID-19: COVID-19-Associated Hospitalization Surveillance Network

Oliver S. Epidemiology of COVID-19 in healthcare personnel and other essential workers. ACIP meeting. July 29th, 2020

High proportion of healthcare personnel in high-risk groups for severe COVID-19



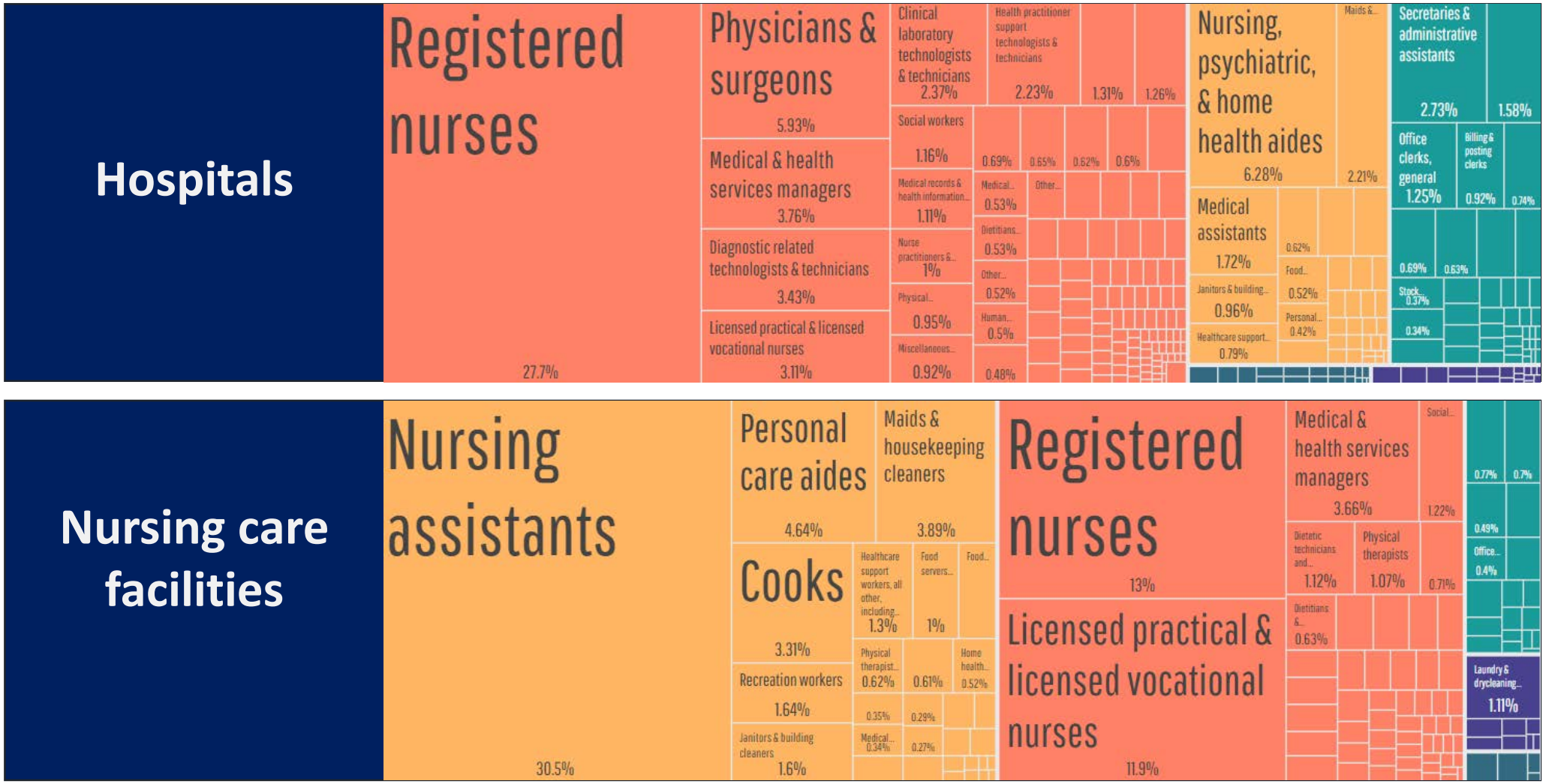
- **39%** of HCP have high-risk condition or age ≥65 years
- High proportion of certain HCP belong to minority groups or are economically disadvantaged

- Doctor or other clinician
- Nurse, nutritionist, or others with bachelor degree
- Licensed practical nurse, emergency medical technician, or others with less than bachelors degree
- Medical assistant, home health aide, or other support roles

Gibson D, J Gen Int Med, 2020

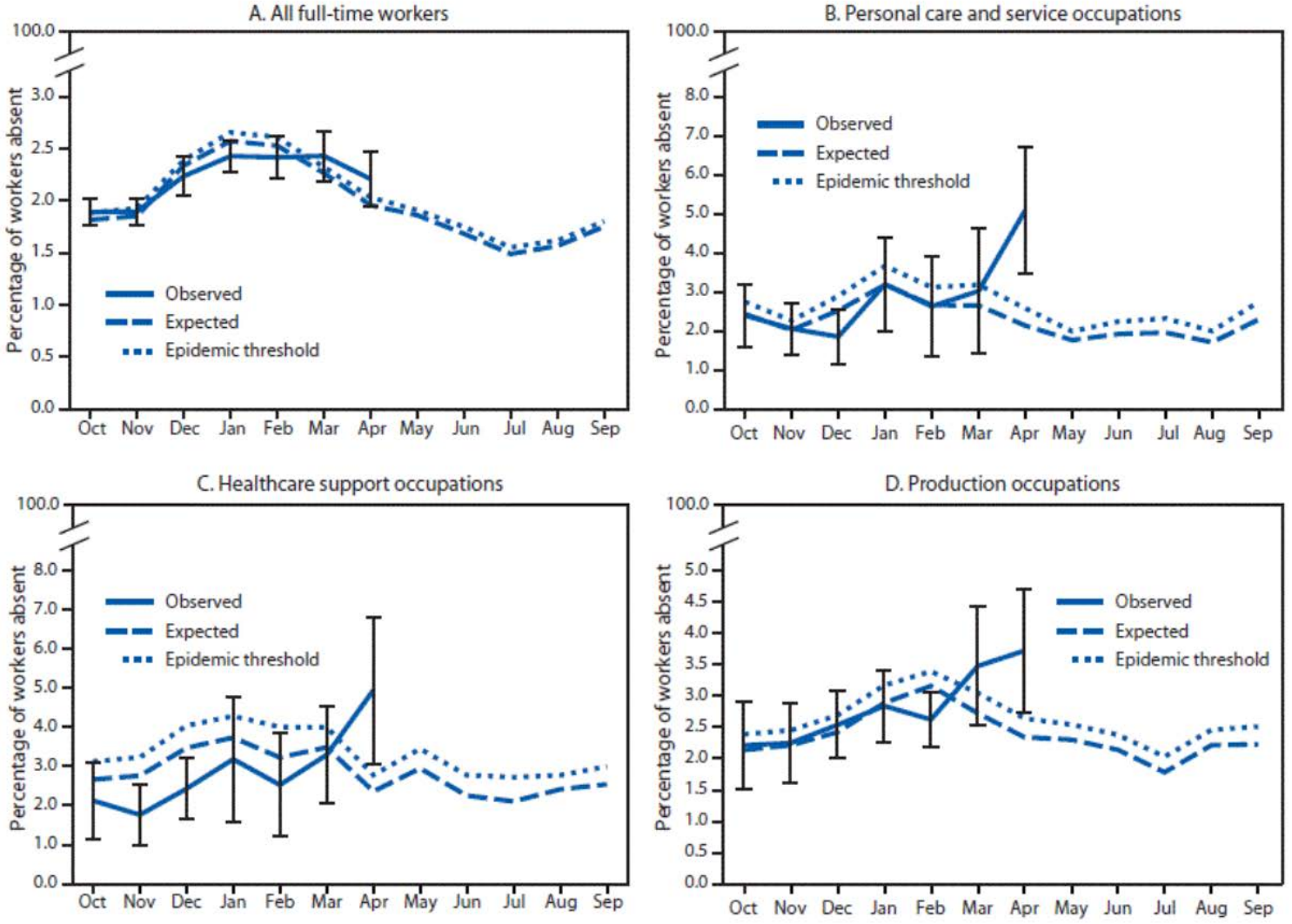
Composition of healthcare workforce varies widely by setting

Considerations for prioritizing healthcare personnel in certain occupational settings



https://datausa.io/profile/naics/hospitals https://datausa.io/profile/naics/nursing-care-facilities

Health-related workplace absenteeism increased in certain essential workforce sectors



- Overall, minor impact of COVID-19 pandemic on absenteeism on national level
- Increased absenteeism in certain critical workforce groups less able to avoid SARS-CoV-2 exposures:
  - Personal care and service
  - Healthcare support
  - Production (includes meat and chicken processing workers)

Groenewold MR, et. al. MMWR Morb Mortal Wkly Rep 2020;69:853–858.

Vaccination of essential workers, including healthcare personnel

Values and acceptability

Public attitudes towards COVID-19 vaccine prioritization

Preliminary topline findings from CDC-sponsored focus groups, June-July 2020

- Objective: Explore attitudes and beliefs about COVID-19 vaccines, including who should be among the first to get the vaccine once available

- Methods:
  - Virtual focus groups led by trained qualitative moderators (33 of 49 sessions to date)
  - Quota sampling via professional recruitment company

- Twelve audience segments:

General population	Adults aged >60 years with low SES	Adults aged >60 years with median SES	Parents of children aged <18 years	Adults aged 20-30 years, no children	Essential workers (non-medical)	Nurses
African-Americans						

CDC unpublished data

SES=socioeconomic status

Public attitudes towards COVID-19 vaccine prioritization

Preliminary topline findings from CDC-sponsored focus groups, June-July 2020

- Focus group participants overwhelmingly support prioritization of healthcare/frontline personnel, essential workers, and high-risk populations
  - Similar beliefs across audience segments

- Rationale: these groups are most likely to be exposed to COVID-19, have higher rates of infection, and perform important public services

- Additional analyses are ongoing to evaluate overall public attitudes, beliefs, and intended practices towards COVID-19 vaccines

Stakeholders and the public consistently name healthcare personnel as a priority group for vaccination during pandemics

COVID-19

- World Health Organization
- UK Joint Committee on Vaccination and Immunisation

Pandemic influenza

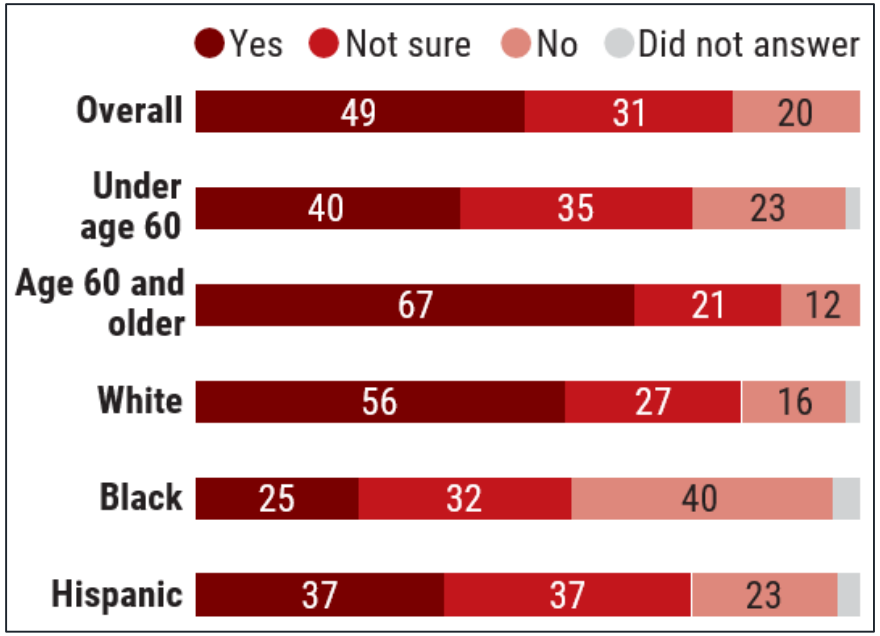
- Public and stakeholder meetings (2007)
- ACIP (2009 H1N1 pandemic)

https://apps.who.int/gb/COVID-19/pdf_files/18_06/Global%20Allocation%20Framework.pdf
https://www.gov.uk/government/publications/priority-groups-for-coronavirus-covid-19-vaccination-advice-from-the-jcvi/interim-advice-on-priority-groups-for-covid-19-vaccination
University of Nebraska. Evaluation of the Public Engagement Project on Pandemic Influenza Vaccine Prioritization. February 7, 2008.
https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5810a1.htm

Acceptance of COVID-19 vaccines likely varies in the general population

- 49-72% of consumer survey respondents express vaccination intention (May-June 2020)
  - Differences in methodology and framing of question likely accounts for some variation
- Substantial variation in population views towards vaccination
- Limited information available in healthcare personnel and other essential workers

"If a coronavirus vaccine becomes available, do you plan to get vaccinated?"

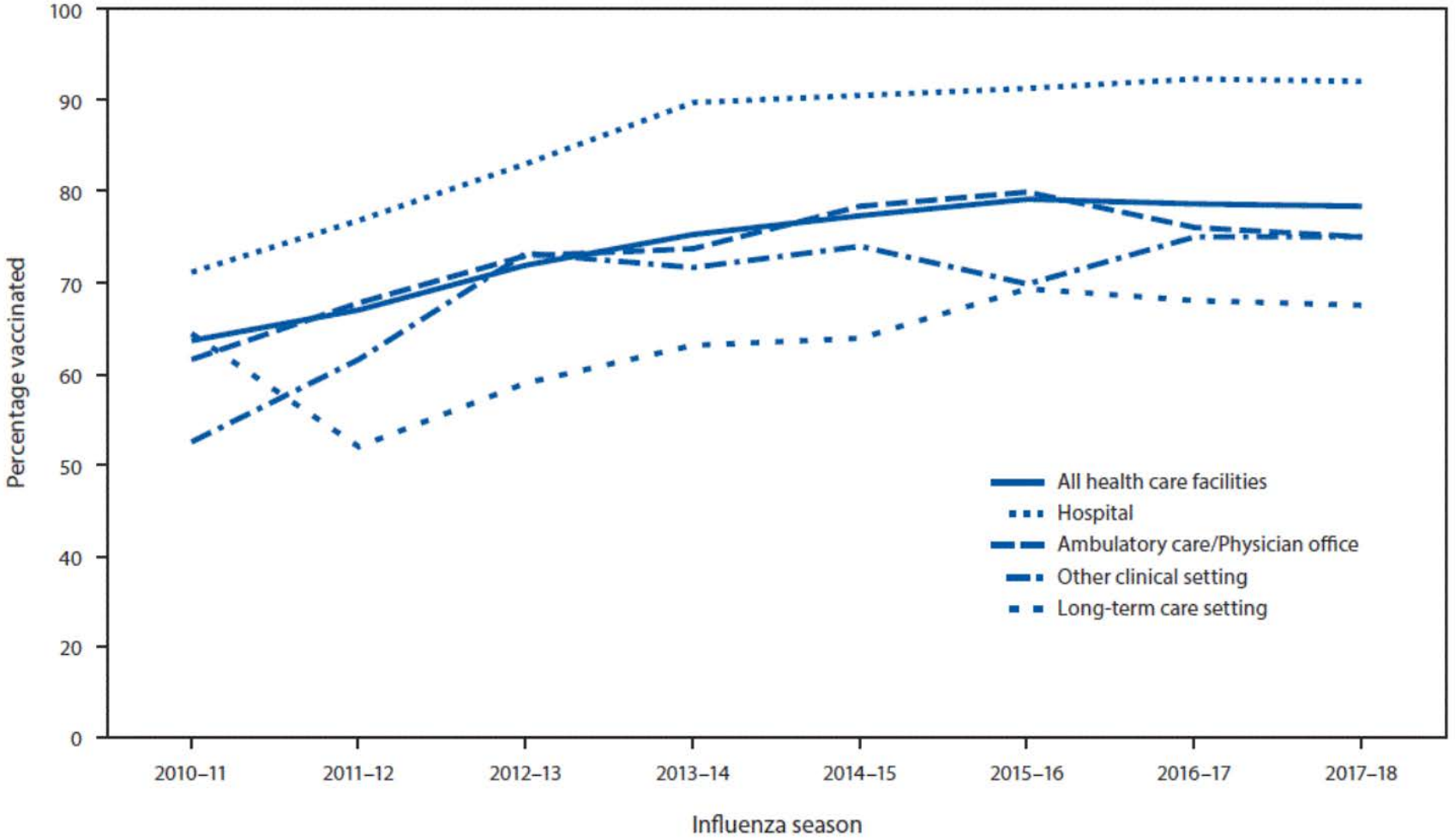


Source: AP/NORC, survey among 1,056 people (May 14-18, 2020)

Washington Post/ABC: https://context-cdn.washingtonpost.com/notes/prod/default/documents/0ed77132-0add-4232-b50f-637bd08dbe15/note/6acfa6e9-e416-4f22-8401-fd871d2ba456
AP/NORC: https://apnews.com/dacdc8bc428dd4df6511bfa259cfec44
Pew: https://www.pewresearch.org/fact-tank/2020/05/21/most-americans-expect-a-covid-19-vaccine-within-a-year-72-say-they-would-get-vaccinated/
ICF: https://www.icf.com/insights/health/covid-19-survey-americans-hesitant-vaccine
IPSOS: https://www.ipsos.com/sites/default/files/ct/news/documents/2020-05/writeup_reuters_2020_coronavirus_vaccine_05_21_2020.pdf
CNN: http://cdn.cnn.com/cnn/2020/images/05/12/rel5b.-.economy.and.reopening.pdf

Influenza vaccination coverage among healthcare personnel

Insight into potential acceptance of COVID-19 vaccines



- **78%** overall coverage in 2017-2018 season
  - Higher than general adult population coverage of 37%
- Workplace vaccination requirement: greatest predictor of coverage
- Lowest coverage in long-term care facility workers

Black CL, et. al. MMWR Morb Mortal Wkly Rep 2018;67:1050–1054.
https://www.cdc.gov/flu/fluvaxview/coverage-1819estimates.htm

Acceptance of COVID-19 vaccines among healthcare personnel: important for overall success of vaccine program

- Healthcare providers rated as most trusted source of information not only on vaccines, but also COVID-19

- Healthcare providers who are confident in vaccines and are themselves vaccinated are more likely to recommend vaccination to patients

- Early acceptance of COVID-19 vaccines among healthcare personnel likely to be important in building public trust in the vaccination program

Freed GL, et al. Pediatrics 2011; 127 Suppl 1: S107-12; Gust DA, et al. Pediatrics 2008; 122(4): 718-25; Paterson P, et al. Vaccine 2016; 34(52): 6700-6.
AP-NORC Center. https://apnews.com/1ca088a559803242579630f88b99b681.

Vaccination of essential workers, including healthcare personnel

Feasibility

Feasibility of COVID-19 vaccination

- Most immunization programs report plans for vaccination of critical workforce, but implementation has not been fully tested during a pandemic

- Several vaccine candidates require a 2-dose series
  - Series completion a challenge for other vaccines: zoster (~80%), meningococcal B (~50%)
  - Multiple non-interchangeable products may be available

- Some vaccines may have different storage or administration requirements

- These barriers apply to all target groups, but may be more management in targeted occupational groups than the general public

CDC, Program Annual Progress Assessment of Immunization Awardees, January 1, 2018 – June 30, 2019
CDC unpublished data

Vaccine allocation to healthcare and other essential workers during a period of limited supply: Potential implementation advantages

- Coordinated vaccine distribution and tracking through occupational health services
- Streamlined vaccine microplanning at the state/local level
- Efficient post-approval routine vaccination monitoring

Vaccination of essential workers, including healthcare personnel

Work Group summary

Work Group summary: COVID-19 vaccination of essential workers, including healthcare personnel

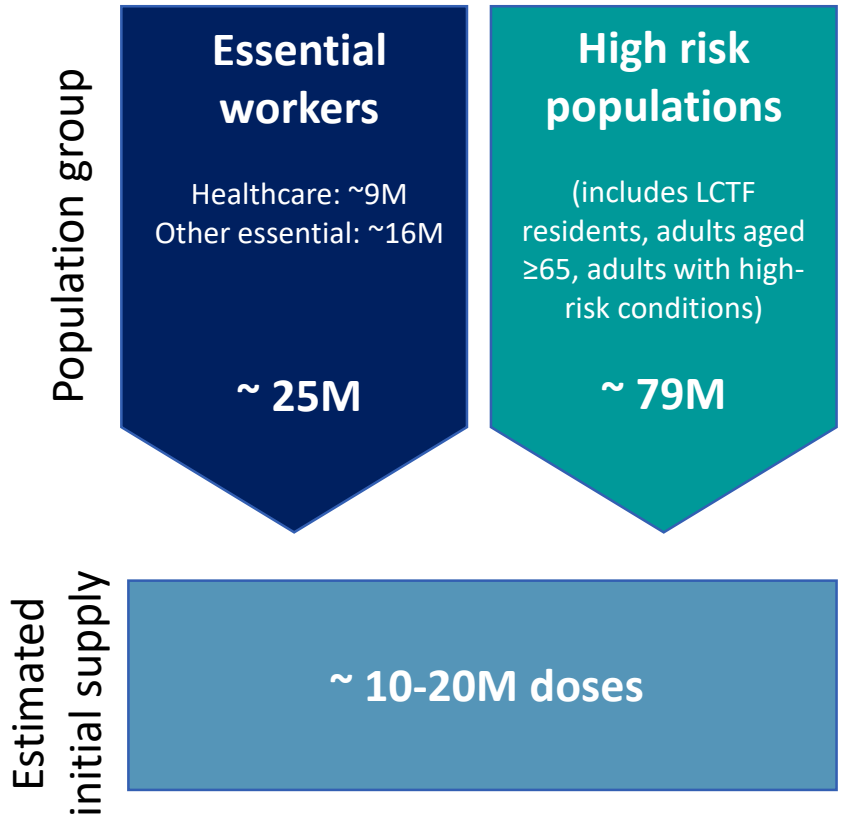
- Protection of the healthcare infrastructure an important consideration
- Health equity a consideration in vaccination of healthcare and other essential workers
  - High proportion of minority, lower income, or medically high-risk populations in some sectors
- Likely broad public support for the prioritization of these groups for COVID-19 vaccine
- Although implementation will likely have challenges, vaccination of these occupational groups likely more feasible than the general public

Work Group considerations: When COVID-19 vaccines become available, should essential workers (including healthcare personnel) be among the initial priority group?

Domain	Criteria	Work Group Interpretation
Problem	• Is the problem of public health importance?	Yes
Values and preferences	• Does the target population feel that the desirable effects are large relative to undesirable effects? • Is there important uncertainty about or variability in how much people value the main outcomes?	Probably yes Yes
Acceptability	• Is the intervention acceptable to key stakeholders?	Probably yes
Feasibility	• Is the intervention feasible to implement?	Probably yes

Overall Work Group interpretation: Initial priority group for COVID-19 vaccination should include healthcare and other essential workers

Work Group considerations: vaccine prioritization during a period of initial limited supply



- Work Group consensus that both essential workers and high risk populations are important groups for early vaccination
  - Given anticipated initial supply, sub-prioritization necessary
- Work Group does not agree that priority group should be limited to only healthcare and other essential workers:
  - Work Group and ACIP largely comprised of healthcare personnel; concern about appearing biased towards this group
  - Groups at highest risk of death would not be included
- **Overall interpretation:** Work Group in agreement that essential workers (including healthcare personnel) should be included as one of the priority groups for early vaccination

* Estimated numbers based on updates to both occupational categories and denominators from 2018 pandemic influenza guidance (https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2020-06/COVID-08-Mbaey-508.pdf). Numbers are preliminary, are currently being updated, and will likely change.

Work Group proposed criteria for sub-prioritization of essential workers for COVID-19 vaccination

Categories of essential workers

- Healthcare personnel
- Homeland and national security
- Other essential workers

Proposed criteria

- Risk of exposure, infection, and severe disease
  - Occupational and community risk
- Protection of the healthcare infrastructure and other societal functions
- Reduce risk of transmission to vulnerable populations
- Equity considerations
- Implementation considerations

* ACIP makes vaccine recommendations for the U.S. civilian population

Discussion

- Does ACIP agree with the Work Groups assessment to include essential workers, including healthcare personnel, in the initial priority group for vaccination?

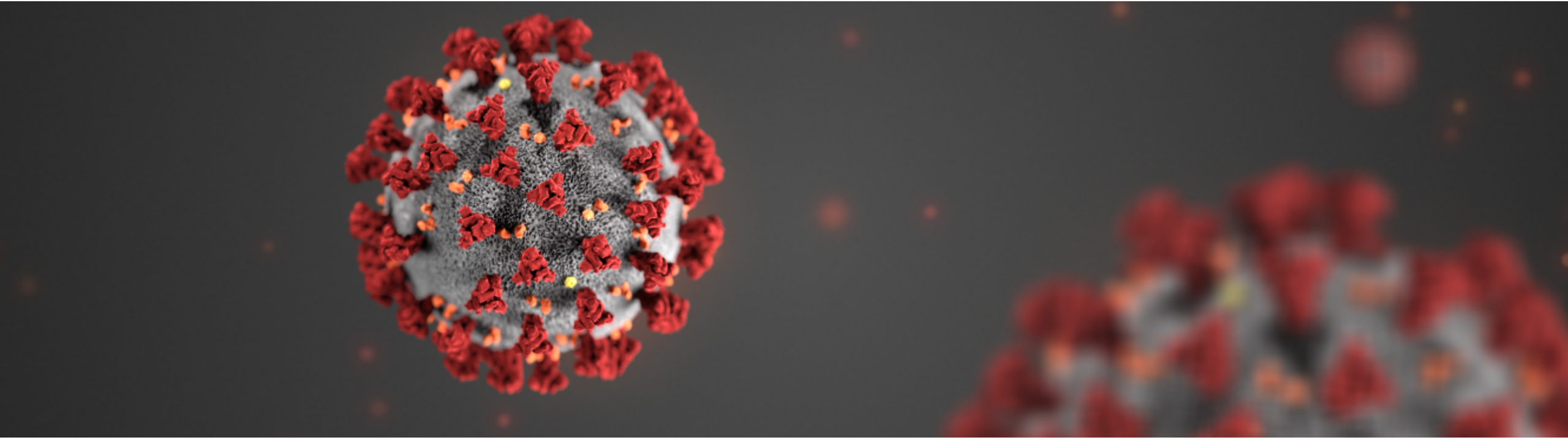
- Does ACIP agree with the proposed criteria for sub-prioritization of essential workers?

- What additional evidence would ACIP like to review?

Next steps

- During August ACIP meeting, review considerations for prioritization of high-risk populations, including persons:
  - Who are older (e.g., ≥65 years)
  - With high-risk medical conditions
  - Residing in long term care facilities and other congregate settings
  - Belonging to certain racial and ethnic minority groups
  - Residing in geographic hot spots

- Future ACIP meetings: continue to review evidence and considerations to develop an overall vaccine prioritization scheme



For more information, contact CDC
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TTY: 1-888-232-6348 www.cdc.gov

Thank you

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.