COVID-19 Vaccine Prioritization Frameworks Updates and Discussion of Feedback from C-VAC Members

Carolyn B. Bridges, MD, FACP

Consulting physician for Idaho Dept of Health and Welfare

Retired Captain, U.S. Public Health Service

Agenda

- Update on vaccines in development and CDC goals and principles
- Review of DRAFT Idaho COVID-19 Vaccination Program Goals and Principles including comments received
- Review DRAFT Idaho healthcare personnel (HCP) vaccine subprioritization and population estimates, comments, and rankings
- Healthcare Personnel Vaccination Implementation, time permitting

Selected COVID-19 Vaccines Most Likely for U.S. Market

	Univ. of Oxford (Jenner Institute) with AstraZeneca	ModernaTX USA	BioNTech with Pfizer	Johnson & Johnson (Janssen Vaccines)	Novavax	Sanofi Pasteur with GlaxoSmithKline
Vax candidate/ type	ChAdOx1 Adenovirus vector	mRNA-1273	BNT162-b2 mRNA	Ad26.COV2-S or S.PP Adenovirus vector	NVX-CoV2373 Subunit protein with Matrix-M	Subunit protein with ASO3 adjuvant
Dosing	Single dose or Days 0 + 28-42	Days 0 + 28	Days 0 + 21	Single dose or Days 0 + 56	Days 0 + 21	Not available
Storage	2-8°C Resumed	Ship @ -20°C. 2-8°C 1 week; 6 hours to use one 10-dose vial once first dose removed	Ship w/ dry ice. POC dry ice. 2-8°C 5 days; use 5-dose vial within 6 hours of reconstitution	2-8°C Resumed	2-8°C	2-8°C Mix antigen w/ adjuvant prior to vaccination.
Clinical Trial Status	Phase 2/3	Phase 3	Phase 3	Phase 3	Phase 3	Phase 1/2
Ages Studied (y)	18-55, 5-12	18+	12-85	18+	18-84	18+

*Publicly reported information. Subject to change.

CDC/ACIP Discussions on Prioritization, October 30, 2020

Ethical principles updated to actionable phrases and folded fairness into justice. CDC/ACIP COVID-19 Vaccine Program Goals revised.

- Goals
  - Ensure safety and effectiveness of COVID-19 vaccines
  - Reduce transmission, morbidity, mortality of COVID-19 disease
  - Help minimize disruption to society and economy, including maintaining healthcare capacity
  - Ensure equity in vaccine allocation and distribution
- Ethical principles
  - Maximize benefits and minimize harms
  - Promote Justice
  - Mitigate Health Inequities
  - Promote Transparency

Likely CDC-Recommended Early Groups for Vaccine Prioritization

- 1a. Healthcare personnel – any paid or unpaid persons working in healthcare serving in healthcare settings who have the potential for direct or indirect exposure to patients or infectious materials
- 1b. Large group including:
  - Essential workers
  - Adults 65 years and older
  - Adults <65 yrs with high risk conditions

- ACIP / CDC meeting Oct 30 reiterated these priorities

Idaho DRAFT COVID-19 Vaccine Program Goals

- Reduce transmission, severe illness and death
- Preserve functioning of healthcare system
- Recover functioning of society
- Protect persons at risk who have access and functional needs
- Ensure equitable distribution and the equity of opportunity to enjoy health and well-being

Comments Received On COVID-19 Vaccination Program Goals

- Suggested additions
  - Foster public trust or confidence in the vaccine(s) – three comments
  - Encourage the public to get vaccinated
  - Support economic vitality of the state by enhancing consumer confidence through fostering public trust in the effective rollout of an approved vaccine.
  - Ensure transparency in decision-making
- Other comments
  - Disagreement with adding goal "foster public trust…" as this may lead to the reverse effect. The committee should not pre-suppose safety of a vaccine still in clinical trials
  - Communication of accurate information is a core goal of the immunization program and does not need to be included as a COVID-19 vaccination prioritization goal
  - Disagreement with adding "preserving the economy" to goals. This is already subsumed in the "recover functioning of society" goal. Adding this may incorrectly imply that vaccination is driven by economic interests of more affluent or businesses and would be inconsistent with the principles and factors for consideration
  - Consider local economy and local pharmacies

Principles and Factors Considered

- Ethical frameworks published by others described above
- Risk of severe disease or death (e.g., because of age, medical conditions, race or ethnicity)
- Risk of exposure to COVID-19-infected persons based on occupation, the ability to physically distance, access to personal protective equipment (PPE), and living circumstances (e.g., congregate or crowded living conditions).
- Risk of exposing others who are at increased risk of severe disease or death (e.g., live with or caregiver for those at increased risk)
- Impact of occupation on resuming community functioning
- Maintenance of community safety, including law and order

Feasibility of implementation for specific vaccine products

Comments on Principles and Factors Considered

- Commenters concurred with the Oct. 23 draft

Discussion and Consensus

- Goals
  - Any that should be added or changed from October 23?
- Principles and factors considered
  - Any that should be added or changed from October 23?

Healthcare Personnel Sub-prioritization Groups – Population Estimates in Development

Category	Estimated No. Persons	Cumulative No. Persons
Hospital and clinic staff essential for care of COVID-19 patients and maintaining hospital capacity.	~32,117 = hospital staff (IDLC)	32,117
• LTCF staff, including adult protective services, ombudsmen, contract staff • Home care providers for adults age 65 years and other adults and children with high risk medical conditions.	~14,800–18,400 LTCF staff (BLS vs IDLC) ~16,260 home health/personal care aides (IDL)	63,237 – 66,837
Emergency medical services (EMS)*	~5,270 (IDHW Bureau of EMS & Preparedness)	68,507 – 72,107
Outpatient and inpatient medical staff not already included in earlier groups who are unable to telework, including HCP in correctional and detention facilities	~26,340 outpatient, excluding home health above (BLS) ~400 corrections/detention HCP (IDOC/IDHW)	95,247 – 98,847
• Pharmacists, pharmacy technicians, and pharmacy aides not already included in earlier groups • Dentists, dental hygienists, and dental assistants	~3,860 pharmacy staff (BLS) ~5,064 dental staff (ID State Dental Assoc)	104,171 – 107,771
Public health and emergency management response workers who are unable to telework†	~782 public health (PHDs, IDHW) ~88 emergency management (BLS)	105,129 – 108,729

*Includes all licensed EMS providers regardless of affiliation

†Frontline PHD staff, essential function IDHW staff; assumes 50% emergency management staff unable to telework

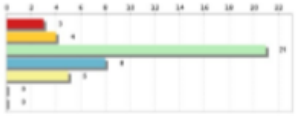
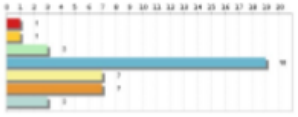
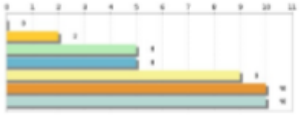
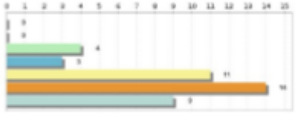
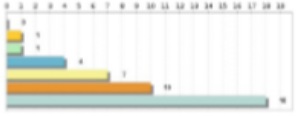
Abbreviations: BLS=Bureau of Labor Statistics; IDL=Idaho Dept. of Labor; IDLC=Idaho Division of Licensing and Certification; IDHW=Idaho Dept Health & Welfare; IDOC= Idaho Dept of Corrections; LTCF=skilled nursing, assisted living, and intermediate care facilities; PHD=public health district

Comments on HCP Subprioritization

- Add dental assistants citing risk of exposure during dental procedures which are aerosol generating and dental care as a component of essential healthcare
- Estimated ID dental workforce (including dental assistants, but excluding office staff) at n=5,064
- Move dental category up to group 3 or 4 (with outpatient or EMS)
- Add adult protective services (n=16) and long-term care Ombudsmen (n=44) to HCP staff in LTCF staff category for vaccination
- Consider adding as a category persons who will be administering vaccines
- Consider adding family caregivers of high risk persons
- Explicitly mention jail/corrections HCP for clarity
- Place pharmacy staff providing immunizations higher on the list

Committee Member Rankings (n=41 surveys completed)

- Overall high level of consensus for rankings:
  - Hospital and clinic staff essential for care of COVID-19 patients and maintaining hospital capacity – rank 1.2
  - LTCF staff and home care givers/aids for adults 65+ and other high risk adults and children – rank 2.3
  - EMS – rank 3.2
  - Public health/emergency management – rank 5.9
- Less consensus among
  - Outpatient and inpatient HCP not in category 1 – rank 4.5
  - Dental staff – rank 5.2
  - Pharmacy staff – rank 5.5

	1 - Highest Priority	2	3	4	5	6	7 - Lowest Priority		Mean Score
Hospital and clinic staff essential for care of COVID-19 patients and maintaining hospital capacity	82.93% (34)	14.63% (6)	2.44% (1)	0% (0)	0% (0)	0% (0)	0% (0)		1.2
LTFC staff, and home care providers for adults age 65 years and other adults and children with high risk medical conditions	7.32% (3)	65.85% (27)	14.63% (6)	4.88% (2)	4.88% (2)	0% (0)	2.44% (1)		2.3
Emergency Medical Services (EMS)	7.32% (3)	9.76% (4)	51.22% (21)	19.51% (8)	12.2% (5)	0% (0)	0% (0)		3.2
Outpatient and inpatient medical staff not already included above who are unable to telework	2.44% (1)	2.44% (1)	7.32% (3)	46.34% (19)	17.07% (7)	17.07% (7)	7.32% (3)		4.5
Dentists, dental hygienists and dental assistants	0% (0)	4.88% (2)	12.2% (5)	12.2% (5)	21.95% (9)	24.39% (10)	24.39% (10)		5.2
Pharmacists, pharmacy technicians and pharmacy aides	0% (0)	0% (0)	9.76% (4)	7.32% (3)	26.83% (11)	34.15% (14)	21.95% (9)		5.5
Public health and emergency management response workers who are unable to telework	0% (0)	2.44% (1)	2.44% (1)	9.76% (4)	17.07% (7)	24.39% (10)	43.9% (18)		5.9

All CVAC Responses—41 responses out of 58 total members

Discussion Questions and Consensus on HCP Subprioritization

- Is there further discussion on subprioritizing COVID-19 vaccine for HCP?

- Does the committee support subprioritization, if needed, as reflected in the poll?

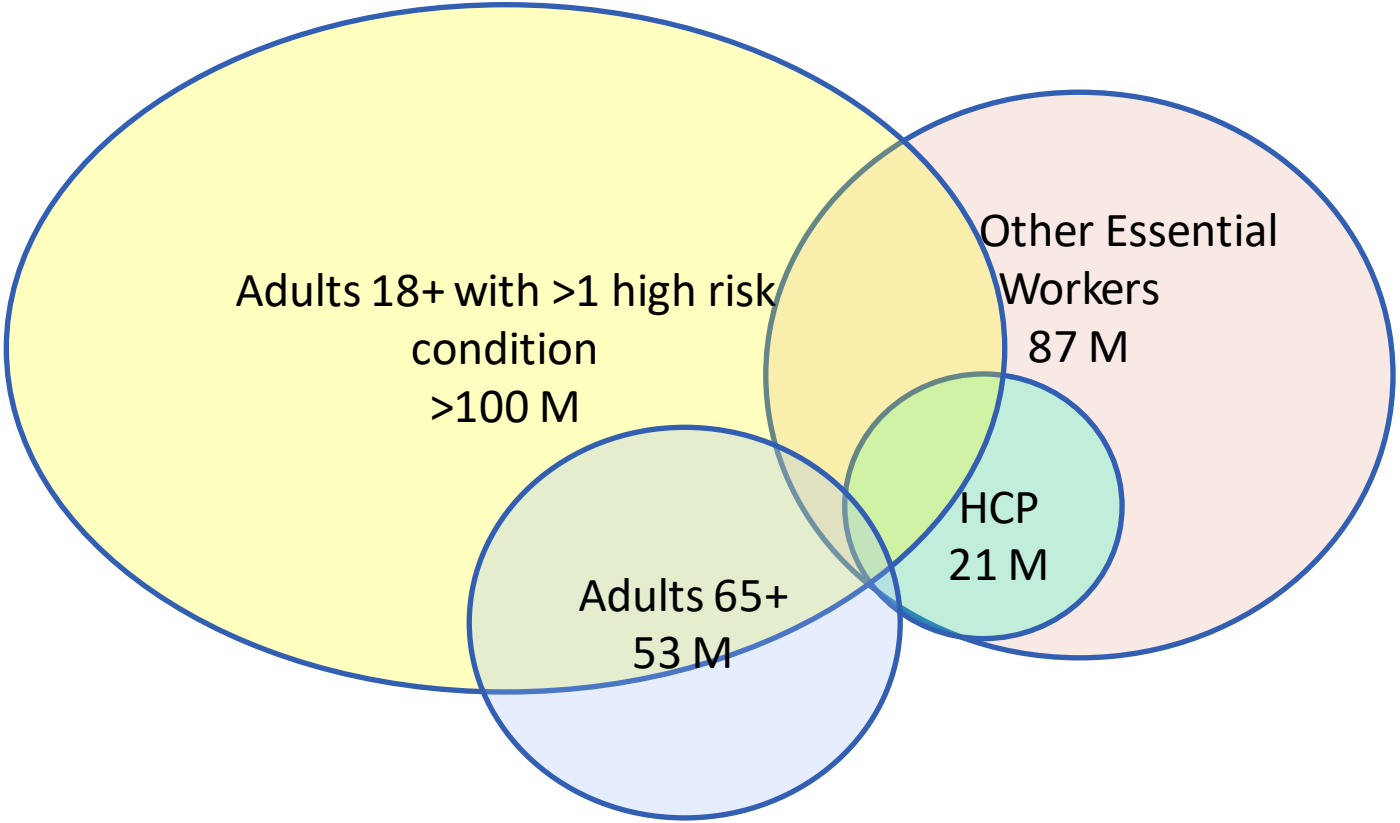
Healthcare Personnel Vaccination Implementation

- Discussions will include how to achieve equity in COVID-19 vaccine distribution to
  - Rural settings
  - Nursing home and assisted living facility staff
  - Home healthcare
  - Private providers and staff not affiliated with hospitals
    - Part time, full time, contracted, private practice, smaller practices

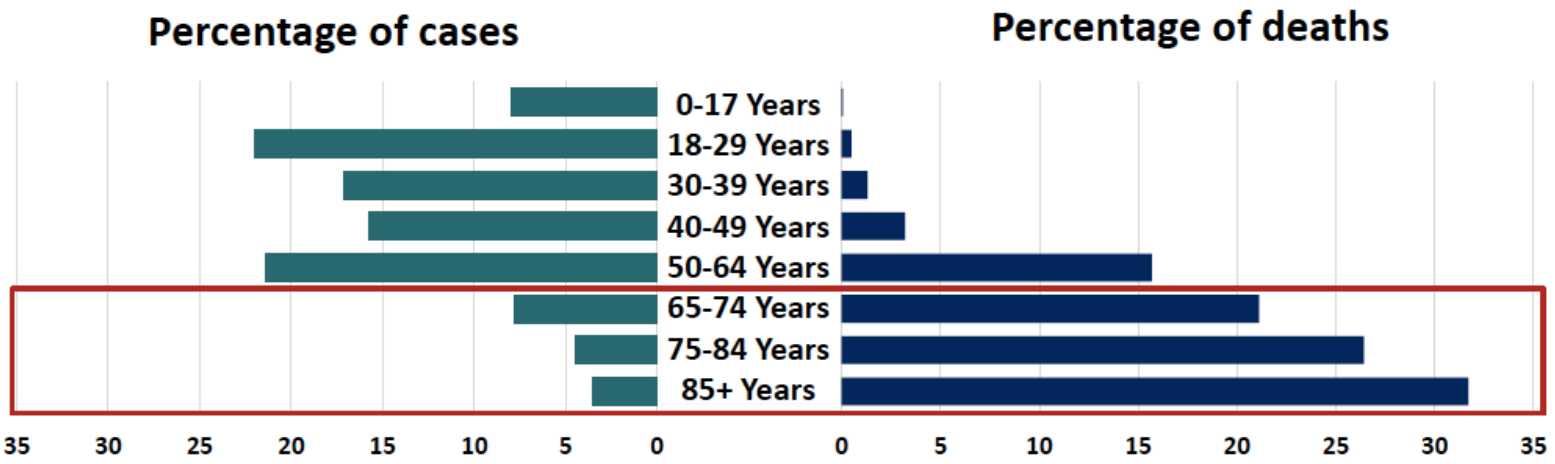
Groups for Consideration for COVID-19 Vaccination Phase 1b

- Essential workers not already included in phase 1a.
- Adults 65 years and older
- Adults <65 years with one or more chronic conditions that increase the risk of hospitalization or death from COVID-19
- Includes LTCF residents when specific vaccine recommended for this group.
- CDC estimates
  - ~40% of adults have ≥1 high risk condition – % increases with age
  - ~3 times higher risk of death compared to no high risk condition

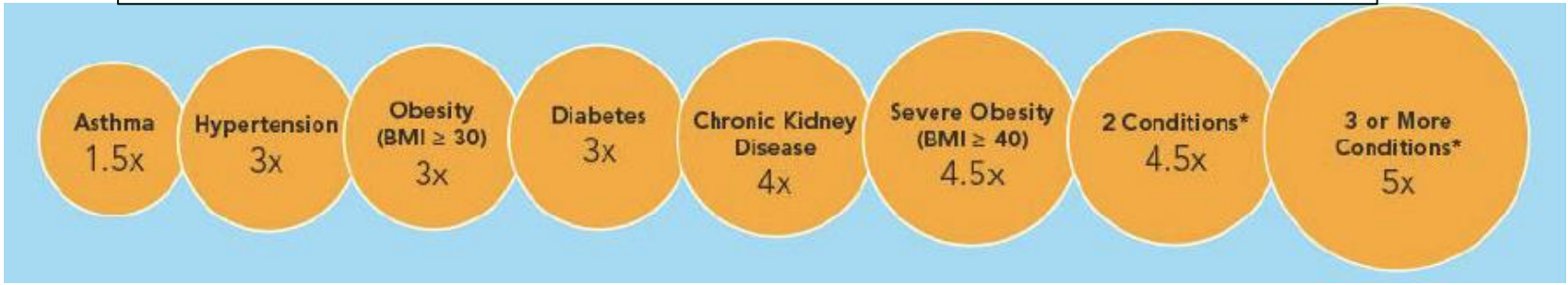
https://www.cdc.gov/mmwr/volumes/69/wr/mm6936a3.htm?s_cid=mm6936a3_w.


Adults 18+ with >1 high risk condition
>100 M
Other Essential Workers
87 M
HCP
21 M
Adults 65+
53 M

In the United States, adults aged 65 years or older represent 16% of COVID-19 cases, but nearly 80% of COVID-19 deaths



Chronic Conditions Increased risk of being hospitalized with COVID



CDC: Risk of Hospitalization and Death Among Hospitalized by Age Group Relative to Persons Age 18-29 Years

Age Group	Hospitalization[1]	Death[2]
0-4 years	4x lower	9x lower
5-17 years	9x lower	16x lower
18-29 years	Comparison Group	Comparison Group
30-39 years	2x higher	4x higher
40-49 years	3x higher	10x higher
50-64 years	4x higher	30x higher
65-74 years	5x higher	90x higher
75-84 years	8x higher	220x higher
85+ years	13x higher	630x higher

https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-age.html.

CDC: Risk of Hospitalization by Race and Ethnicity Relative to Non-Hispanic White

	Non-Hispanic American Indian or Alaska Native	Non-Hispanic Black	Hispanic or Latino	Non-Hispanic Asian or Pacific Islander	Non-Hispanic White
Age Group	Rate Ratio	Rate Ratio	Rate Ratio	Rate Ratio	Rate Ratio
0—17 years	3.3	5.1	7.0	2.0	1
18—49 years	7.6	5.3	7.7	1.6	1
50—64 years	5.6	4.7	5.4	1.5	1
65+ years	2.4	3.4	2.6	1.1	1
Overall rate (age-adjusted)	4.3	4.2	4.4	1.3	1

https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html.

Critical Infrastructure Sectors

- Non-HCP Critical Infrastructure Personnel Highlighted by ACIP
  - Corrections
  - Food processing
- Other Critical Infrastructure Sectors
  - Education – includes daycare
  - Chemical
  - Commercial facilities
  - Communications
  - Critical Manufacturing
  - Dams
- Other CI, cont.
  - Defense industrial base
  - Emergency Services (law enforcement, child protective services, etc.)
  - Energy
  - Financial services
  - Government
  - Information technology
  - Nuclear reactors, materials, and waste
  - Transportation systems
  - Water and wastewater systems

https://www.cisa.gov/identifying-critical-infrastructure-during-covid-19.

Idaho Population Estimates For Phase 1b Vaccination

Group	Population Estimate	Source
Residents of LTCF	~12,223	IDLC
Adults age 65+ years, living in community	~266,059	BVRHS: adults 65+ minus LTCF estimate
Adults 18–64 years with high risk condition	~371,127	Assumes 35% of n=1,060,364 adults age 18–64 yrs have 1+ HR condition
Adults 50–64 years	~317,334	Includes w/ & w/o HR conditions
First responders (not including EMS in Phase 1a) and safety (fire/police/protective services/community support)	~22,231	BLS 2019 and Idaho Commission on Aging Annual Report (n=17 APS staff)
Teachers (includes daycare)	~26,800	Includes substitute teachers (n=5570) BLS
Food processing workers	~35,694	BLS/Other
Grocery store/convenience store workers	~29,100	BLS
Idaho National Guard	~5,584	DOD Defense Manpower
Correctional/detention facility staff (not including medical staff in Phase 1a)	~3,071	IDOC/IDJC/Idaho Sheriff's Association/county juvenile detention centers
Other essential workers not already included and unable to telework	In progress	BLS/IDL

Estimates of Other Idaho Populations to Consider – In Development

Group	Population Estimate	Source
Incarcerated persons (correctional & detention facilities)	~13,050 (adults) ~303 (juveniles)	ID Dept Corrections/Juvenile Corrections, county juvenile detention facilities (small underestimate)
People living in migrant housing	~18,082	Peak migrant workforce, U Idaho Extension
Homeless persons	~4,628	50% of annual estimate (for 6 mos campaign) Idaho Housing and Finance Association, 2019 State of Homelessness in ID report
Family caregivers of persons at high risk	~83,000 –229,663	Idaho Commission on Aging estimates of 83,000 voluntary caregivers provided respite services. 1 in 5 Idaho adults provide some voluntary caregiver services. (20% of 1,338,864=229,663)
Persons in high risk groups based on race/ethnicity (disproportionately among essential workers)	~325,473	American Indian/Alaska Native non-Hispanic; Black non-Hispanic; Hispanic/Latino, Asian/Pacific Islander IDHW BVRHS, Census Population Estimate July 2019
Adults with conditions that might put them at increased risk	~929,331	Multiple data sources; overestimate as conditions might overlap. Includes pregnant women.
People with disabilities	~241,391	Civilian noninstitutionalized population, ACS

Thank you!

- The public are invited to submit written comments on COVID-19 vaccine prioritization through designated email address covid19vaccinepubliccomment@dhw.idaho.gov

EXTRA

- Review of NMA Framework and Prioritization

National Academy of Medicine Framework For Equitable Allocation of COVID-19 Vaccine

- Phase 1a. High-risk health workers (e.g., in hospitals, nursing homes, or providing home care) – those involved in direct patient care.
  - Specifically includes workers who provide transportation, environmental services, and others who risk exposure to bodily fluids or aerosols.
- Phase 1a. First responders

National Academy of Medicine Framework For Equitable Allocation of COVID-19 Vaccine

- Phase 1b.
  - Older adults living in congregate settings—such as nursing homes or skilled nursing facilities—and other similar settings.
  - Individuals with select high-risk comorbid and underlying conditions
- Phase 2
  - K-12 teachers and school staff
  - Other workers in essential industries
  - Older adults
  - Adults with high risk conditions
  - Persons living in congregate settings and staff (corrections, group homes, homeless shelters)

National Academy of Medicine Framework For Equitable Allocation of COVID-19 Vaccine

- Phase 3 – broad immunization of other workers, young adults and children (if vaccines tested in children)

- Phase 4 – persons interested in vaccination for their personal protection