- Persons aged 16–64 years with medical conditions *that increase the risk* for severe COVID-19

- All other essential workers, including:

  - transportation and logistics
  - water and wastewater
  - food service
  - shelter and housing (e.g., construction)
  - finance (e.g., bank tellers)

  - information technology and communications
  - energy
  - legal
  - media
  - public safety (e.g., engineers)
  - public health workers

Option	Persons to be Included	Estimated Idaho Population Group Size (Based on category of condition, what we know about pop numbers and age)	
~~A~~	~~Align with ACIP: Persons 16-64 years of age with Medical Conditions *and* Essential Workers~~	~~297,967 (16-64 w/ at least one high-risk medical conditions) + 82,844 (other essential workers)~~ ~~380,811~~	2 Straw Poll Votes
~~B~~	~~Persons 50-64 years of age with at least one High-Risk Medical Conditions as defined by CDC *and* Essential Workers~~	~~168,364 + 82,844 (other essential workers) = 251,208~~	2 Straw Poll Votes
C	Persons 50-64 years of age with at least one High-Risk Medical Conditions as defined by CDC *before* Essential Workers	**168,364**	Leading Straw Poll Votes: Configuring and bringing more options to you today
D	Age group only	• 55-64 next = **218,360** • then, 45-54 = **201,766** • then, 35-44 = **227,172** • then, 25-34 = **236,490** • then, 18-24 = **164,406**	

- Concepts based on straw poll vote:
  - age and medical conditions
- Input from the public
- Input from CVAC members
- Input from Governor and public health
- Summary:
  - Simplicity and equity
  - Self-attestation
  - Efficient vaccine administration

Frontline Essential Workers and Adults 65 Years of Age and Older
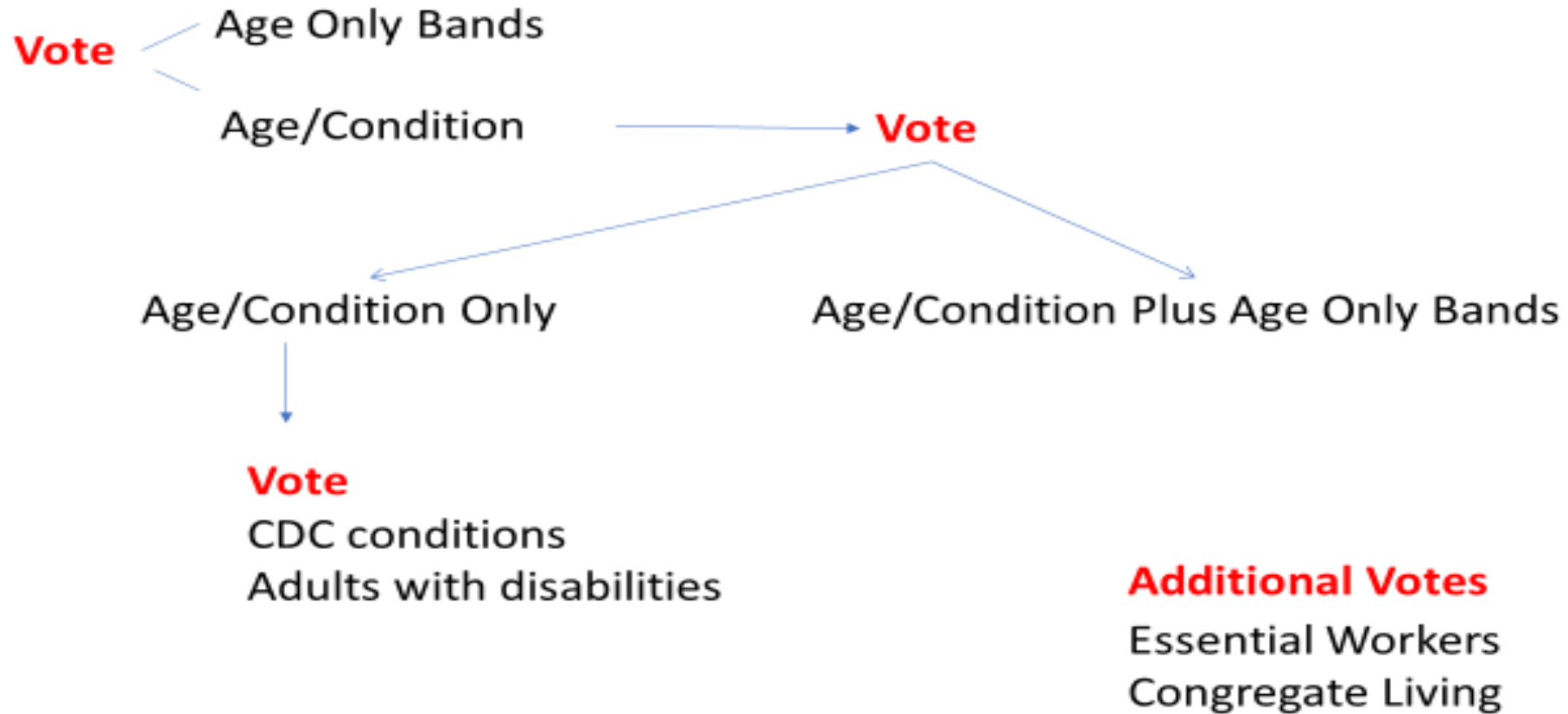
The essential workers (ACIP 1b) were first presented to CVAC 12/04/2020 based on the recommendations of ACIP and the Centers for Disease Control and Prevention. CVAC has recommended to the Governor priority groups for administration of limited vaccine and the following is the current prioritization as approved on 2/22/21.

Category	Idaho Group/ Subgroup
Frontline Essential Workers & Adults 65 Years of Age and Older *Frontline essential workers: workers who are in sectors essential to the functioning of society and are at substantially higher risk of exposure to SARS-CoV-2.*	2
First responders (firefighters/police) and safety (protective services/community support) • Coroners, medical examiners and mortuary and funeral service personnel • Idaho Fish and Game and USDA law enforcement officers • Adult and child protective services • Child welfare workers • Community food, housing, and relief services (includes Social Security Administration staff who are unable to telework and are serving vulnerable populations)	2.1
Education: pre-K–12 school staff and teachers and daycare [childcare] workers • Residential schools/facilities providing behavioral health treatment	2.1
Correctional and detention facility staff (other than medical)	2.1
Adults 65 years of age and older	2.2
Homeless shelter residents	2.3
Food and agriculture workers • Food processing workers, includes USDA processing plant inspectors • Grocery, convenience store, and food pantry workers	2.3
Idaho National Guard (if not already included in group 1.4 or 1.7)	2.3
Subset of essential gas, electric, water, and telecommunications utility workers, who work indoors	2.3
Manufacturing workers	2.3
Public transit workers	2.3
U.S. Postal Service workers	2.3
Flight crews	2.3

Note: Interpreters (ASL or other language) and janitorial and cleaning staff should be vaccinated with the sector and setting in which they work.

- Series of votes
  - Decision tree – walk through a series of decisions
  - Simple votes – if/then decisions
  - Review and re-evaluate the final product

- Considerations
  - Age only
  - Age plus medical conditions
  - Essential Workers

Option	Persons to be Included
A	Age only bands
B	Age/Condition

An example would be:
   a) 60-64 next
   b) Then, 55-59
   c) Then, 50-54
   d) Then, 45-49
   e) Then, 40-44
   f) Then, 35-39
   g) Then, 30-34
   h) And so forth

One example would be:
   a) Persons 16-64 years of age with at least one High-Risk Medical Conditions as defined by CDC
      i.   60-64 with at least one medical condition – open for 2 weeks, then move to next
      ii. 50-59 with at least one medical condition – open for 2 weeks, then move to next
      iii. 16-49 with at least one medical condition

Option	Conditions
A	Use CDC top tier conditions (conditions that put people at *"increased risk"*)
B	CDC all conditions (conditions that put people at *"increased risk"* and that *"might put them at increased risk"* for severe illness)

Option A

- Cancer
- Chronic kidney disease
- COPD (chronic obstructive pulmonary disease)
- Down Syndrome
- Heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies
- Immunocompromised state (weakened immune system) from solid organ transplant
- Obesity (body mass index [BMI] of 30 kg/m^2 or higher but < 40 kg/m^2)
- Severe Obesity (BMI ≥ 40 kg/m^2)
- Pregnancy
- Sickle cell disease
- Smoking
- Type 2 diabetes mellitus

Option B- (Includes Option A List Also)

- Asthma (moderate-to-severe)
- Cerebrovascular disease (affects blood vessels and blood supply to the brain)
- Cystic fibrosis
- Hypertension or high blood pressure
- Immunocompromised state (weakened immune system) from blood or bone marrow transplant, immune deficiencies, HIV, use of corticosteroids, or use of other immune weakening medicines
- Neurologic conditions, such as dementia
- Liver disease
- Overweight (BMI > 25 kg/m^2, but < 30 kg/m^2)
- Pulmonary fibrosis (having damaged or scarred lung tissues)
- Thalassemia (a type of blood disorder)
- Type 1 diabetes mellitus

VOTE #2a – Disabilities

Include adults with disabilities in the
list of medical conditions Y/N

- People who have limited mobility or who cannot avoid coming into close contact with others who may be infected, such as direct support providers and family members

- People who have trouble understanding information or practicing preventive measures, such as hand washing and social distancing

- People who may not be able to communicate symptoms of illness

Option	Persons to be Included
A	Age/Condition ONLY
B	Age/Condition ALTERNATING with Age Only Bands

One example would be:
Persons 16-64 years of age with at least one High-Risk Medical Conditions as defined by CDC

    i.   60-64 with at least one medical condition – open for 2 weeks, then move to next

    ii.   50-59 with at least one medical condition – open for 2 weeks, then move to next

    iii.   16-49 with at least one medical condition

One example would be:
Alternate age groups and people with at least one High-Risk Medical Conditions as defined by CDC:

    i.   55-64 with at least one *medical condition* – open for 2 weeks, then move to next

    ii.   55-64 *general population* – open for 2 weeks, then move to next

    iii.   45-54 with at least one *medical condition* – open for 2 weeks, then move to next

    iv.   45-54 *general population* – open for 2 weeks, then move to next 2 weeks

    v. And so forth

Option	Essential Workers
A	**Do not** prioritize remaining essential workers separately and assume they are included in the group on which you just voted (e.g. age band or age/condition)
B	**Prioritize** remaining essential workers separately from the groups in which you just voted. (if yes, before or after)

Option	Congregate Settings
A	**Do not** prioritize congregate living separately in Group 3 and assume they are included in the group on which you just voted (e.g. age band or age/condition)
B	Prioritize congregate living **after** groups as voted
C	Prioritize congregate living **in conjunction with** groups as voted
D	Prioritize congregate living **before** groups as voted

Population by Age Group and Medical Condition (BRFSS)*

Age Group (years)	Population Estimate†	Number at least first dose in IRIS as of 3/3/21	One High Risk Medical Condition	Two or More High Risk Medical Conditions	At Least One High Risk Medical Condition	At Least One Condition that Might Increase Risk	At Least One Condition that Does or Might Increase Risk
60-64	108,819	16,505	48,453	32,007	80,460	23,511	103,971
55-59	109,541	14,881	33,285	27,963	61,248	21,684	82,932
50-54	98,974	14,439	36,040	30,346	66,386	17,928	84,314
45-49	102,792	14,076	28,862	16,045	44,907	19,823	64,730
40-44	108,939	14,495	54,556	20,500	75,056	20,018	95,074
35-39	118,233	13,504	47,940	18,647	66,587	28,507	95,094
30-34	114,859	11,086	49,423	14,560	63,983	27,949	91,932
25-29	121,631	9,581	51,570	9,796	61,366	19,886	81,252
18-24	164,406	8,186	66,437	7,923	74,360	43,596	117,956

*BRFSS 2019. High-risk conditions included: Kidney Disease; COPD/Emphysema/Chronic Bronchitis; Angina/ Coronary Heart Disease; Current Pregnancy; Current and/or Former Cigarette Smoking ; Diabetes (includes Type 1 and Type 2); Obesity (BMI ≥ 30);Heart Attack. Might increase risk conditions included: Current Asthma, High Blood Pressure, Serious Cognitive Impairments, Overweight (25≤BMI <30. Courtesy of Emily LaFrance, BVRHS.

† Census Bureau
Idaho Resident Population, Estimate July 1, 2019
Single-Age 0 to 85+
Internet Release Date June 25, 2020

Age Group (years)	Population Estimate†	Number at least first dose in IRIS as of 3/3/21	At Least One High Risk Medical Condition	At Least One Condition that Might Increase Risk‡	At Least One Condition that Does or Might Increase Risk
60-64	108,819	16,505	80,460	23,511	103,971
55-59	109,541	14,881	61,248	21,684	82,932
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‡Excludes those who have a high risk condition as well.

† Census Bureau Idaho Resident Population, Estimate July 1, 2019 Single-Age 0 to 85+ Internet Release Date June 25, 2020

- CDC evidence tables: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/evidence-table.html
- VACO (30-day all-cause mortality)
  - https://www.mdcalc.com/veterans-health-administration-covid-19-vaco-index-covid-19-mortality#evidence
  - As suspected, age itself was predictive of mortality, especially when the Charlson Comorbidity Index (CCI) was included in the risk model. Since the CCI incorporates a patient's entire spectrum of comorbidities, myocardial infarction and peripheral vascular disease were the other two independent predictors of mortality once the CCI was included.

Supplementary Table 1. Model coefficient (log hazard ratio of COVID-19 death) for each category of the various risk factors.

Variable type	Variables	Log-hazard ratio			Notes
		UK OpenSAFELY	US CDC	Fully adjusted	
	Age				
	15-<45	-	-3.025	-3.035	Assumed the estimate for 18-<45 age group is the same
	45-<55	-	-0.966	-0.997	
	55-<65	-	0.000	0.000	Reference category
	65-<75	-	0.950	0.775	
	75-<85	-	1.898	1.647	
	85+	-	2.976	2.744	
	Race/Ethnicity				
	White	-	0.000	0.000	Reference category
	Black	-	1.157	0.968	
	Hispanic	-	1.017	0.854	
Socio-demographic	Asian	-	0.322	0.302	
	American Indian/Alaska native	-	0.544	0.539	
	IMD quintile				
	1 (least deprived)	0.000	-	0.000	Reference category
	2	0.148	-	0.148	
	3	0.231	-	0.231	
	4	0.432	-	0.432	
	5 (most deprived)	0.571	-	0.571	
	Sex				
	Female	0.000	-	0.000	Reference category
	Male	0.432	-	0.432	

Supplementary Table 1. Model coefficient (log hazard ratio of COVID-19 death) for each category of the various risk factors.

Variable type	Variables	Log-hazard ratio			Notes
		UK OpenSAFELY	US CDC	Fully adjusted	
	BMI				
	Not Obese	0.000	-	0.000	
	Obese class I	0.049	-	0.049	
Behavioral	Obese class II	0.344	-	0.344	
	Obese class III	0.652	-	0.652	
	Smoking status				
	Never	0.000	-	0.000	Reference category
	Ex-smoker	0.199	-	0.199	
	Current	-0.072	-	-0.072	

Supplementary Table 1. Model coefficient (log hazard ratio of COVID-19 death) for each category of the various risk factors.

Variable type	Variables	Log-hazard ratio			Notes
		UK OpenSAFELY	US CDC	Fully adjusted	
	Blood pressure				
	Normal	0.000	-	0.000	Reference category
	Hypertension	-0.094	-	-0.094	
	Respiratory disease excluding Asthma	0.501	-	0.501	
	Asthma	-0.047	-	-0.047	
	Chronic heart disease	0.148	-	0.148	
	Diabetes				
	Controlled	0.247	-	0.247	
	Uncontrolled	0.621	-	0.621	
Predisposing conditions	**Non-hematological cancer**				
	<1 year	0.513	-	0.513	
	1-5 year	0.191	-	0.191	
	≥5 year	-0.020	-	-0.020	
	Hematological cancer				
	<1 year	0.845	-	0.845	
	1 - 5 year	0.928	-	0.928	
	≥5 year	0.438	-	0.438	
	Stroke/Dementia	0.770	-	0.770	
	Kidney disease	0.362	-	0.362	
	Rheumatoid arthritis	0.140	-	0.140	

Individual and community-level risk for COVID-19 mortality in the United States
https://www.nature.com/articles/s41591-020-01191-8
https://covid19risktools.com/riskcalculator

"High-Risk Conditions" refers to medical conditions which are considered by the CDC to increase risk of severe illness from the COVID-19 virus.*

- Cancer (having cancer)

- Chronic kidney disease

- COPD (chronic obstructive pulmonary disease)

- Down Syndrome

- Heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies

- Immunocompromised state (weakened immune system) from solid organ transplant

- Obesity (body mass index [BMI] of 30 kg/m^2 or higher but < 40 kg/m^2)

- Severe Obesity (BMI $\geq$ 40 kg/m^2)

- Pregnancy

- Sickle cell disease

- Smoking [current or former cigarette smoker, https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#smoking]

- Type 2 diabetes mellitus

*https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html

- Data from BRFSS account for people with one or more conditions
- Cancer (having cancer)
- Chronic kidney disease
- COPD (chronic obstructive pulmonary disease)
- Down Syndrome
- Heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies
- Immunocompromised state (weakened immune system) from solid organ transplant
- Obesity (body mass index [BMI] of 30 kg/m^2 or higher but < 40 kg/m^2)
- Severe Obesity (BMI ≥ 40 kg/m^2)
- Current pregnancy
- Sickle cell disease
- Smoking [current or former cigarette smoker, https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#smoking]
- Type 2 diabetes mellitus

Blue = Idaho Behavioral Risk Factor Surveillance System (BRFSS)

Green = multiple other data sources

- Cancer
  - Resident cases (all ages): **9,576** (invasive or in situ, with exclusions) (2018 CDRI), [est. <100 pediatric]
  - Note: Adults receiving chemotherapy: ~**6,000** (2018, CDRI 10/21/20)
- Down Syndrome
  - Adults in developmental disability waiver: **4,510** (IDHW Facts, Figures, Trends SFY 2018)
- Sickle cell disease
  - ~ **77** (estimated 1 per 365 African-American births, 1 per 16,300 Hispanic-American births; applied to Idaho Census estimates 2019 for Black and for Hispanic/Latino without consideration for lifespan)
- Smoking (former) 2019 BRFSS
  - Former: **302,583**

**A
5-year age groups**

First group 60-64
Followed by 55-59
Followed by 50-54
Followed by 45-49
Followed by 40-44
Followed by 35-39
Followed by 30-34
Followed by 25-29
Followed by 20-24
Followed by 16-19

Every two weeks, as supply allows

This vote only taken if Vote #1 A is selected
AGE BANDS ONLY

**B
10-year age groups**

First group 55-64
Followed by 45-49
Followed by 35-39
Followed by 25-29
Followed by 16-19

Every four weeks, as supply allows

This vote only taken if Vote #2 does not have medical conditions deemed appropriate, e.g. no consensus.

- Lung conditions
- Diabetes
- Obesity
- Immunosuppression
- Cardiovascular
- Chronic Kidney Disease