Summary: (assumes no treatment that decreases serious risks by 80+% by time of releasing 1st two groups) —

Open economy with people who have at most 2 x risk of common flu (and probably less than that) and actually less than might be expected in suicides etc (deaths of despair) from no economy open save essential businesses-see data below summary:

Groups 1 and 2: Open up economy by releasing all under 60 without one of 6 comorbid conditions (hypertension, obesity, type2diabetes, chronic lung disease, immune dysfunction, kidney disease requiring dialysis) without testing and testing all caregivers [antibody (IgM and IgG) test] and first responders; Ask both groups to avoid comingling with any of other groups. Estimate that 45% of working population can be released to work, which might get as much as 75% of economy open, with at most a risk of 0.2% deaths (about same as might occur in 2 months without economy open)

Groups 3,4,5,and 6: Then virus and quantitative antibody (IgM and IgG) test in the following sequence: those under 60 with a comorbidity; those 60 to 69; those 70 to 79; those over 79. Inform each group of risk and let each make decision about comingling After vaccine, test [antibody (IgM and IgG) test] those first responders, then in reverse order starting with age 80+ (poor take rate), then 70 to 79; then 60 to 69.
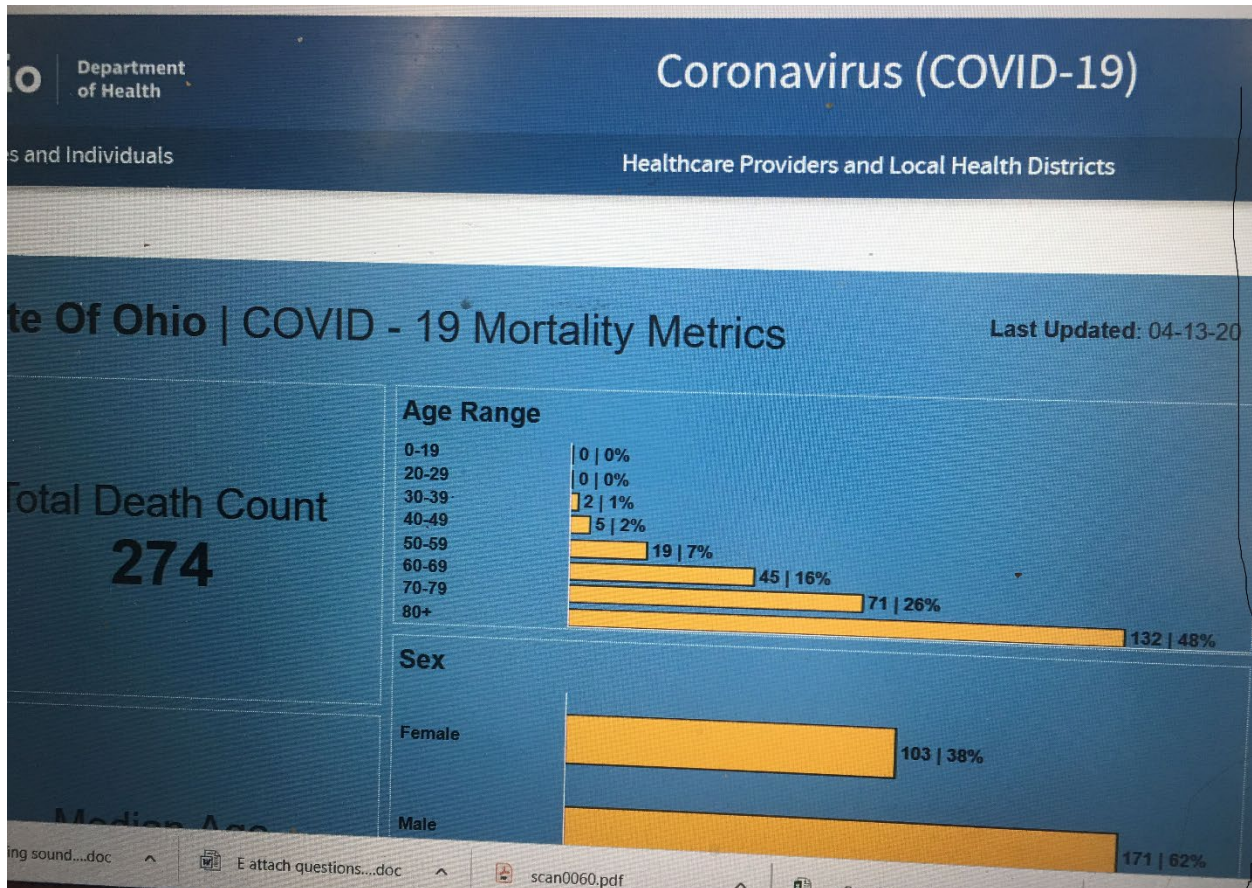
If it comes back, the hospitals and economy should be able to handle the situation relatively easily (and be better prepared if it expands to cause illness in those who now have very little risk), and second, the opening will be in those least likely to suffer from its return—those under 60 without comorbities and those with immunity.

PS Key research question for disease risk and opening the economy: Almost all in NYC and Italy and Ohio and USA data have comorbid conditions   Can we find out if these conditions are treated to 6 normals if they go to low risk groups**?**

The Data supporting:

Age of Coronavirus Deaths

Ohio Data: 90% of deaths are 60 and above

COVID-19 Fatality Rate by AGE:

*Death Rate = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). This probability differs depending on the age group. The percentages shown

below **do not have to add up to 100%**, as they **do NOT represent share of deaths by age** group. Rather, it represents, for a person in a given age group, the **risk of dying** if infected with COVID-19.

AGE	DEATH RATE confirmed cases	DEATH RATE all cases
80+ years old	**21.9%**	**14.8%**
70-79 years old		**8.0%**
60-69 years old		**3.6%**
50-59 years old		**1.3%**
40-49 years old		**0.4%**
30-39 years old		**0.2%**
20-29 years old		**0.2%**
10-19 years old		**0.2%**
0-9 years old		**no fatalities**

Risk for a Green Immunity Status person catching disease and dying = 0% times age risk factor

Risk for a Blue Immunity Status person catching disease and dying = 10% times age risk factor

Risk for a white or yellow immunity status person catching disease and dying = 1 times age risk factor

Risk for a red immunity status person dying from disease = age risk factor

Modified by gender and ethnicity :

Minority Men (decrease for minority female by 1-2.8/4.7 = 40%)

Risk for a Green Immunity Status person catching disease and dying = 0% times age risk factor

Risk for a Blue Immunity Status person catching disease and dying = 15% times age risk factor

Risk for a white or yellow immunity status person catching disease and dying = 1.5 times age risk factor

Risk for a red immunity status person dying from disease = 1.5 times age risk factor

Modified by gender and ethnicity :

Caucasian Men (decrease for Caucasian female by 1-2.8/4.7 = 40%)

Risk for a Green Immunity Status person catching disease and dying = 0% times age risk factor

Risk for a Blue Immunity Status person catching disease and dying = 6 % times age risk factor

Risk for a white or yellow immunity status person catching disease and dying = 0.6 times age risk factor

Risk for a red immunity status person dying from disease = 0.6 times age risk factor

CDC this am 4 13 2020 per NPR report this am said over 95% of all ICU cases had:

Age over 80 and/or

Obesity

Type2 diabetes

Hypertension

Copd or asthma

Immune suppression

But those constitute probably about 45%-55% of all in Ohio

Cases and Deaths

Last updated: February 29, 4:40 GMT

There are two sources that provide age, sex, and comorbidity statistics:

- The *Report of the WHO-China Joint Mission* published on Feb. 28 by WHO, [2] which is based on **55,924 laboratory confirmed cases**. The report notes that "*The Joint Mission acknowledges the known challenges and biases of reporting crude CFR early in an epidem*ic" (see also our discussion on: How to calculate the mortality rate during an outbreak)

- A paper by the Chinese CCDC released on Feb. 17, which is based on **72,314 confirmed, suspected, and asymptomatic cases** of COVID-19 in China as of Feb. 11, and was published in the Chinese Journal of Epidemiology [1]

We will list data from both, labeling them as "**confirmed cases**" and "**all cases**" respectively in the tables.

Age of Coronavirus Deaths

COVID-19 Fatality Rate by AGE:

***Death Rat**e = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). This probability differs depending on the age group. The percentages shown below **do not have to add up to 100%**, as they **do NOT represent share of deaths by age** group. Rather, it represents, for a person in a given age group, the **risk of dying** if infected with COVID-19.

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20-29 years old		0.2%
10-19 years old		0.2%
0-9 years old		no fatalities

***Death Rat**e = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). The percentages **do not have to add up to 100%**, as they **do NOT represent share of deaths by age** group.

In general, relatively few cases are seen among children.

Sex ratio

COVID-19 Fatality Rate by SEX:

*__Death Rate__ = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). This probability differs depending on sex. When reading these numbers, it must be taken into account that **smoking** in China is much more prevalent among males. Smoking increases the risks of respiratory complications.

SEX	DEATH RATE confirmed cases	DEATH RATE all cases
Male	4.7%	2.8%
Female	2.8%	1.7%

*__Death Rat__e = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). The percentages **do not have to add up to 100%**, as they **do NOT represent share of deaths by sex.**

Pre-existing medical conditions (comorbidities)

Patients who reported no pre-existing ("comorbid") medical conditions had a case fatality rate of 0.9%. Pre-existing illnesses that put patients at higher risk of dying from a COVID-19 infection are:

COVID-19 Fatality Rate by COMORBIDITY:

*Death Rate = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). This probability differs depending on pre-existing condition. The percentage shown below does **NOT represent in any way the share of deaths by pre-existing condition**. Rather, it represents, for a patient with a given pre-existing condition, the **risk of dying** if infected by COVID-19.

PRE-EXISTING CONDITION	DEATH RATE confirmed cases	DEATH RATE all cases
Cardiovascular disease	13.2%	10.5%
Diabetes	9.2%	7.3%
Chronic respiratory disease	8.0%	6.3%
Hypertension	8.4%	6.0%
Cancer	7.6%	5.6%
no pre-existing conditions		0.9%

*Death Rate = (number of deaths / number of cases) = **probability of dying if infected by the virus** (%). The percentages **do not have to add up to 100%**, as they **do NOT represent share of deaths by condition.**

Sources

1. The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) - China CCDC, February 17 2020
2. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19) [Pdf] - World Health Organization, Feb. 28, 2020

Coronavirus Disease 2019 (COVID-19)
Daily Data Summary

NYC Health

The data in this report reflect events and activities as of **April 14, 2020 at 6:00 PM.**

All data in this report are preliminary and subject to change as cases continue to be investigated.

These data include cases in NYC residents and foreign residents treated in NYC facilities.

This table shows only confirmed deaths. A death is considered confirmed when the person had a positive COVID-19 laboratory test.

NYC COVID-19 Deaths

	Underlying Conditions[1]	No Underlying Conditions	Underlying Conditions Unknown	Total
Age Group				
- 0 to 17	3	0	0	3
- 18 to 44	244	25	40	309
- 45 to 64	1343	59	179	1581
- 65 to 74	1272	26	385	1683
- 75 and over	2289	27	947	3263
- Unknown	0	0	1	1
Sex				
- Female	1873	37	620	2530
- Male	3087	96	912	4095
- Unknown	191	4	20	215
Borough				
- Bronx	1431	18	135	1584
- Brooklyn	1342	50	562	1954
- Manhattan	533	18	220	771
- Queens	1592	46	541	2179
- Staten Island	250	5	94	349
- Unknown	3	0	0	3
Total	5151	137	1552	6840

[1]Underlying illnesses include Diabetes, Lung Disease, Cancer, Immunodeficiency, Heart Disease, Hypertension, Asthma, Kidney Disease, and GI/Liver Disease.

99% of Those Who Died From Virus Had Other Illness, Italy Says

By
Tommaso Ebhardt
,

After deaths from the virus reached more than 2,500, with a 150% increase in the past week, health authorities have been combing through data to provide clues to help combat the spread of the disease.

Prime Minister Giuseppe Conte's government is evaluating whether to extend a nationwide lockdown beyond the beginning of April, daily La Stampa reported Wednesday. Italy has more than 31,500 confirmed cases of the illness.

Italy Coronavirus Deaths
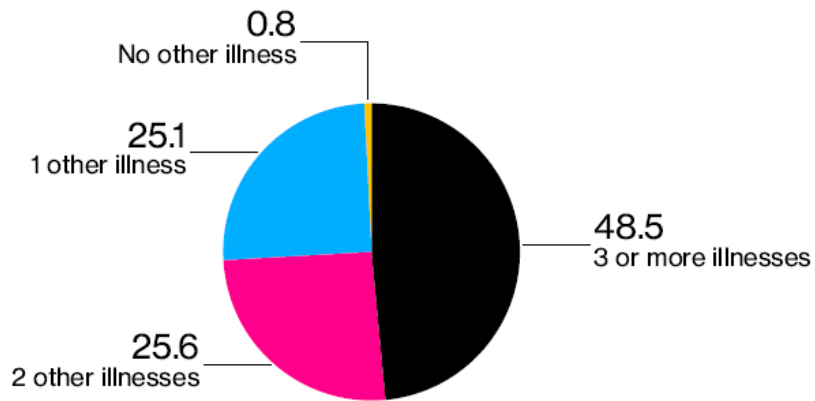By prior illnesses (%)
Source: ISS Italy National Health Institute, March 17 sample

The new study could provide insight into why Italy's death rate, at about 8% of total infected people, is higher than in other countries.

The Rome-based institute has examined medical records of about 18% of the country's coronavirus fatalities, finding that just three victims, or 0.8% of the total, had no previous pathology. Almost half of the victims suffered from at least three prior illnesses and about a fourth had either one or two previous conditions.

Italy Coronavirus Deaths
By prior illnesses (%)

0.8
No other illness

25.1
1 other illness

48.5
3 or more illnesses

25.6
2 other illnesses

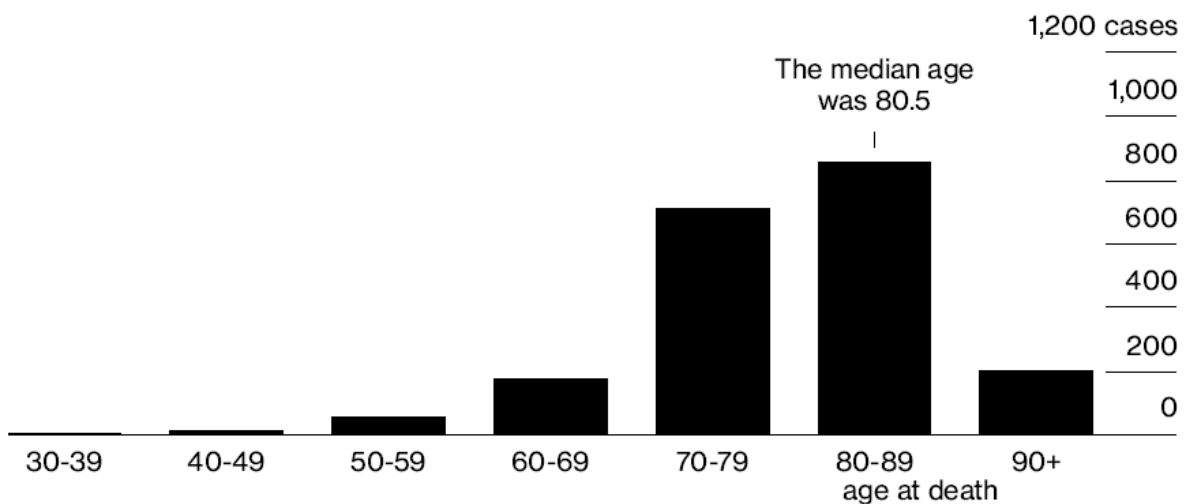Source: ISS Italy National Health Institute, March 17 sample

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victims, or 0.8% of the total, had no previous pathology. Almost half of the victims suffer
about a fourth had either one or two previous conditions.

More than 75% had high blood pressure, about 35% had diabetes and a third suffered fron

Threat to the Elderly
The median age of the infected is 63 but most of those who die are older

1,200 cases

The median age
was 80.5

1,000

800

600

400

200

0

30-39   40-49   50-59   60-69   70-79   80-89   90+

age at death

Source: ISS Italy National Health institute, March 17 sample

==**More than 75% had high blood pressure, about 35% had diabetes and a third suffered from heart disease.**==

Threat to the Elderly
The median age of the infected is 63 but most of those who die are older
Source: ISS Italy National Health institute, March 17 sample

The average age of those who've died from the virus in Italy is 79.5. As of March 17, 17 people under 50 had died from the disease. All of Italy's victims under 40 have been males with serious existing medical conditions.

While data released Tuesday point to a slowdown in the increase of cases, with a 12.6% rise, a separate study shows Italy could be underestimating the real number of cases by testing only patients presenting symptoms.

According to the GIMBE Foundation, about 100,000 Italians have contracted the virus, daily Il Sole 24 Ore reported. That would bring back the country's death rate closer to the global average of about 2%.

Impact likely to have an effect on public health and wellbeing 2x increase in individuals with depression after 2008 recession in Greece; similar results in individuals who lost jobs during Hurricanes Katrina, Rita, and Ike2 20% increase in depression after three years following the 2008 recession in Greece2 58% increase in homelessness in certain cities in 2008 U.S. recession3 83% more likely for laid-off workers to develop a stress-related condition such as heart disease following the 2008 recession1 54% more likely for laid-off workers to have fair or poor health following the 2008 recession1 10% increases in diabetes and hypertension following SARS outbreak in Taiwan relative to the prior year4 1. Job Loss and Health in the U.S. Labor Market 2009, Journal of Demography 2. Frasquilho, D., Matos, M., Salonna, F. et al. Mental health outcomes in times of economic recession: a systematic literature review. BMC Public Health 16, 115 (2015). https://doi.org/10.1186/s12889-016-2720-y 3. The United States Conference of Mayors. Hunger and Homelessness Survey. December 2008, e.g., Louisville had 58% 4. Huang, Lee, and Hsaio. Hospitalization for ambulatory care sensitive conditions in Taiwan following the SARs outbreak: A population based uninterrupted time series

Think we need stipped badge for ID:

The OHIO population can be divided into:

Top half of badge color is risk to self: <mark style="background:red">Has comorbidity</mark>
<mark style="background:red">or is over age 60and neg or no quant IgG test</mark>

<mark style="background:yellow">Not PCR or Quant tested & over age 60 without comorbidity
Under 60 but all comorbidities normalized</mark>

<mark style="background:lime">No Comorbidity and Under age 60</mark>

Bottom half of badge color is risk to others; <mark style="background:red">PCR+ shedding risk</mark>
<mark style="background:red">No PCR but Quantitative IgM or IgA</mark>
<mark style="background:red">Quantitative IgG large and positive PCR or IgM or IgA</mark>

<mark style="background:yellow">Not PCR or Quant tested but no fever or symptoms</mark>

<mark style="background:yellow">Has had clinical disease but recovered over 14 days
ago &no fever , no symptoms nor quant antibody test</mark>

<mark style="background:lime">PCR negative and /or quantitativeIGg + and no prior
Exposures Since PCR test and neg fever/symptom
check</mark>

<mark style="background:silver">Tested but no result yet but no fever or symptoms</mark>

The OHIO population can be divided into:
with any of following

1. Ig-G antibodies that make them less prone to infection;

2. people with partial immunity

3. People without antibodies that are in good physical condition;

4. People under 60 without antibodies who are at risk for other reasons;

5. People over 60 without antibodies who are at substantial risk for other reasons.

People in category 5 should stay home unless they need to go out to see a doctor or get groceries until they can be vaccinated (create antibodies). They need to stay close to home and should have restrictions from their doctor. They do not need to be tracked.

People in category 4 should have restrictions on their movements until they can be vaccinated and immunity validate (33-80% immunized with get immunity). They should be told not to attend mass gatherings and to social distance in public. Tracking may be appropriate until they can be vaccinated.

People in categories 2 and 3 should be tested regularly until they can be vaccinated and immunity verified. They should be tracked.

People in category 1 (Green) can do anything and take care of those infected., and have need to be retested to see if immunity is lasting

If want to use comorbidities for letting lockdown people know risk of being in economy:

Roughly have a doubling of death rate by every 10 years. If your RealAge is 10 years younger, that means your risk of dying is cut by 50%.

Can use RealAge calculations (even short form with BMI, BP, DM, COPD, smoking/vaping, Exercise capacity, thus to give each person a risk of death if they catch disease.

PS Key research question for disease risk and opening the economy: Almost all in NYC and Italy and Ohio and USA data have one of 6 comorbid conditions   Can we find out if these conditions are treated to 6 normals if they go to low risk groups for dying from COVID-19?