Contact: Jon Prince
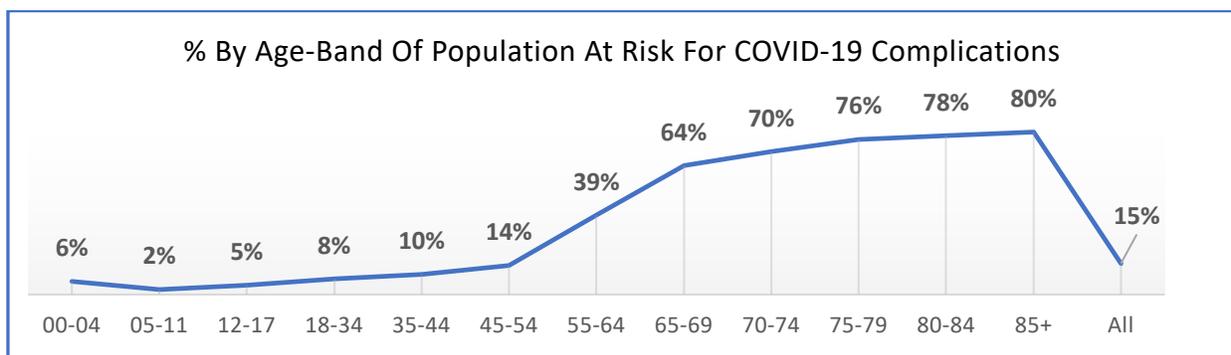(435) 865-4110 Office, (435) 668-6624 Cell – Mon-Fri, 8am-5pm MDT

Healthcare Analytics and COVID-19

(2 April 2020) – Healthcare delivery during the COVID 19 pandemic is indeed a complex issue at both individual and general population levels. The collection and analysis of good quality data makes the task less fragmented and more productive. The unknowns in health care often drive up expenditures and utilization of scarce health care resources. DataSmart Solutions (DSS) and sister company, DataSmart HEALTH Solutions (DSHS), through highly-powered predictive analytics (driven by the Johns Hopkins ACG® system), help close the gap by identifying, at an early stage, patients at risk for disease development such that global healthcare outcomes can be improved.
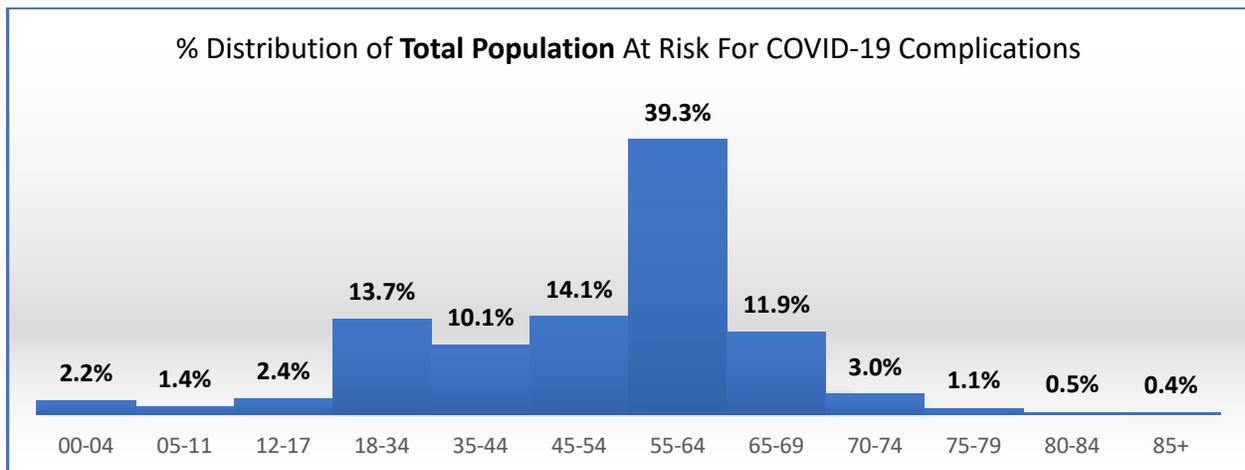
Who is at greatest risk of complications from COVID-19?

In an in-depth study just completed using medical and prescription claims data, DataSmart applied the World Health Organization (**WHO**) criteria[1] to a large, nationally diverse database of U.S. workers and family members enrolled in employer sponsored health plans.[2] The purpose of the study was to determine the numbers of people who, by age group, carry higher risk of complications, or of *getting very sick*, from COVID-19. The findings of the study have important, actionable implications for US citizens as well as for businesses, the economy, and for society in general.

1. **What percentage of the U.S. population is particularly vulnerable to COVID-19?** Examining data for over 200,000 U.S. workers and family members, fifteen percent (15%) met conditions that **WHO** has identified as 'high risk' for complications relating to COVID-19 infection. **WHO** defines High Risk as people who are *at higher risk of "getting **very** sick" from COVID-19* (that is, of having complications) Eighty-five (85%) percent of the public are at less risk than the 15% meeting those conditions.

2. **Who comprises the most vulnerable 15%?** (1) With respect to age, those who are below age 55 are at measurably *less risk for complications*, as shown on the graph below. Those above age 70 are *particularly vulnerable*, and their risk increases even further at higher ages. Those between 55 and 70 are in an intermediate area where risk increases rapidly with age. (2) Regardless of age, individuals with *pre-existing chronic medical conditions* (such as heart disease, diabetes, lung disease, high blood pressure, cancers, and frailty or weakness) are also at increased risk of 'getting very sick' from COVID-19.

% By Age-Band Of Population At Risk For COVID-19 Complications

00-04	05-11	12-17	18-34	35-44	45-54	55-64	65-69	70-74	75-79	80-84	85+	All
6%	2%	5%	8%	10%	14%	39%	64%	70%	76%	78%	80%	15%

3. **Who will fill hospital beds?**

While those over age 70 are significantly more vulnerable to COVID-19, there are not nearly so many members of that age group in the sample population as there are of middle age. Our sample population suggests that the <u>absolute number</u> of those who are ***most vulnerable*** to COVID-19 complications is greater in middle-age groups. To the extent that the sample population is representative of the U.S. population at large, the data suggest that hospitals and other providers should gear-up to accommodate primarily *adults between the ages of 18 and 64* (as they will account for over 77%, or more than 3/4ths, of all complication cases). We expect that those under age 18 will account for only 6%, and those 65 and over will comprise 17%.

% Distribution of Total Population At Risk For COVID-19 Complications

Age Group	Percentage
00-04	2.2%
05-11	1.4%
12-17	2.4%
18-34	13.7%
35-44	10.1%
45-54	14.1%
55-64	39.3%
65-69	11.9%
70-74	3.0%
75-79	1.1%
80-84	0.5%
85+	0.4%

4. **What can we do with this data?**

- Certain conditions impose significantly amplified risk. These conditions are **age** (over 70) and ***pre-existing chronic medical conditions*** (such as heart disease, diabetes, lung disease, high blood pressure, cancers, and basic frailty or weakness.). Anyone in these categories should take extra pre-cautions to prevent COVID-19 infection.

- In many cases, individuals who meet one or more of the above criteria (including age) may nonetheless *feel healthy* and thus be tempted to set aside CDC guidelines such as social distancing. We warn such individuals that they are at increased risk of '…getting very sick…' from COVID-19, and they should be encouraged to adhere strictly to current guidelines.

- Employers, the media and others who regularly communicate with the U.S. workforce should continue to publish and reinforce CDC Guidelines and the WHO criteria for those at high risk.

- Employer health plans and others with access to medical and Rx claims data (and appropriate privacy protections in place) should contact data vendors for assistance in identifying at-risk plan participants to share this information. DataSmart Solutions and sister company DataSmart HEALTH Solutions are prepared to support this type of data query.

- Users of the DataSmart Solutions Client Solutions Tool (CST®) can use the tool to help identify plan participants at risk of complications from COVID-19.

DataSmart Solutions, LLC, is a leading provider of data warehousing and high-powered predictive analytics for the US healthcare and insurance industries. DataSmart Solutions (aka "DSS") is based in Montana and operates autonomously from its parent corporation, Leavitt Group, a national insurance broker with headquarters in Cedar City, Utah. For more information, contact Karleen Hanson at (406) 447-3304 or karleen@thinkdatasmart.com

DataSmart *HEALTH* Solutions, Inc. (aka "DSHS"), a Montana-based subsidiary of Leavitt Group, uses predictive analytics from Johns Hopkins ACG® software to identify plan members at greatest risk of imminent health deterioration and high resource utilization. In alliance with Magellan Health, DSHS instigates direct outreach, closes clinical gaps, and delivers superlative cost containment to self-insured employer health plans. For more information, contact Alex Epping at (406) 532-3204 or alex-epping@datasmarthealthsolutions.com

NOTES:

[1] https://www.who.int/news-room/q-a-detail/q-a-coronaviruses

[2] The DataSmart health database consists primarily of plan participants and other dependents of self-insured employer health plans whose medical and prescription claims are being regularly aggregated, processed, and risk-indexed by DataSmart Solutions, LLC, using the Johns Hopkins ACG® software. See www.thinkdatasmart.com and www.datasmarthealthsolutions.com for further information.

[3] https://www.hhs.gov/sites/default/files/hipaa-and-covid-19-limited-hipaa-waiver-bulletin-508.pdf
https://www.natlawreview.com/article/relaxing-hipaa-laws-during-covid-19-pandemic