

PUBLIC HEALTH IGNITE!

SOCIAL DETERMINANTS AND HEALTH DISPARITIES

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June 8, 2020



SOCIETY OF ACTUARIES

Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

Presentation Disclaimer

Presentations are intended for educational purposes only and do not replace independent professional judgment. Statements of fact and opinions expressed are those of the participants individually and, unless expressly stated to the contrary, are not the opinion or position of the Society of Actuaries, its cosponsors or its committees. The Society of Actuaries does not endorse or approve, and assumes no responsibility for, the content, accuracy or completeness of the information presented. Attendees should note that the sessions are audio-recorded and may be published in various media, including print, audio and video formats without further notice.

2020 **HEALTH**
VIRTUAL MEETING





No magic needed:
The predictive powers of SDOH data

Jim Dolstad, ASA, MAAA, FCA

Vice President, Payer Actuarial
Optum Advisory Services



























CANON LENS EF 50mm 1:1.4

CANON LENS MADE IN JAPAN

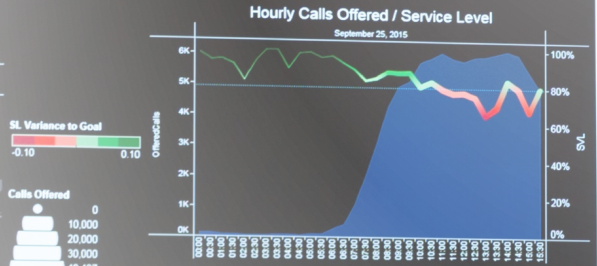
Community outreach

people helping people





SVL Goal
 79.7%



| Segment | Operation | Business Unit | skill_name | Count | SL % |
|----------------------------|-----------------------------|--------------------|----------------------|-------|--------|
| Admin Call Shared Services | Behavioral Intake & Service | Behavioral Intake | 5315 ATLBHS Dr Int | 55 | 75.4% |
| | | | 5316 ATLBHST of GA | 61 | 100.0% |
| | | | 5317 MANHSH PS MR | 85 | 78.9% |
| 5325 HOURS HPINTDR | 5327 HOURS MHENT | 5328 HOURS EBINTDR | 5330 VRBHS IHP INT | 4 | 0.0% |
| | | | 5333 VRBHS PSINTETX | 181 | 87.4% |
| | | | 5336 GDVBHS SNBC | 218 | 89.9% |
| | | | 5339 HOURS MHCLAIMS | 143 | 81.8% |
| | | | 5348 ATLBHS Rail In | 161 | 86.5% |
| | | | 5353 VRBHS AMIT4 | 34 | 100.0% |
| | | | 5355 STLBHS STL DED | 89 | 46.9% |
| | | | 5357 VRBHS Covms EB | 0 | |
| | | | 5360 CHVBHS HP GL | 25 | 76.0% |
| | | | 5362 PHVBHS Cms In | 2 | 89.2% |
| | | | 5363 ATLBHS Pkg In | 21 | 95.2% |
| | | | 5364 PHVBHS PERFT In | 57 | 89.5% |
| | | | 5366 HOURS NOCC OXP | 3 | 100.0% |
| | | | 5371 VRBHS EB MR | 3 | 100.0% |

Today's Health Care Decision Support Tickets

Total Volume: 218

Today's Tickets: 218

Today's Volume by Hour: [Bar chart showing volume distribution]

Active Divisions: [List of active divisions]

Today's Callers: [List of callers]

Today's Sites: [List of sites]

Today's Products: [List of products]

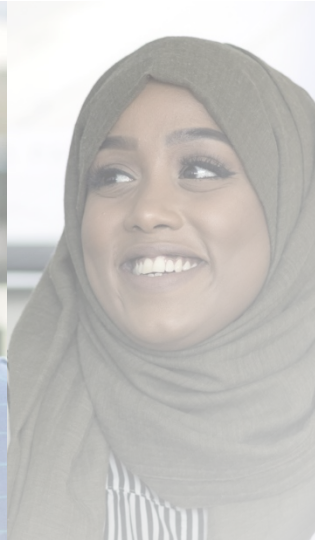
Viewing open issues for Technology Support Center

| Incident # | Priority | Product | Details |
|------------|----------|---|--|
| RD1024763 | 4 | ANIBA | The Client phone system at 070 is scheduled to be upgraded on September 25. This upgrade involves during the upgrade... (2/2/2015) |
| RD1024911 | 3 | SERVERS | Jump Server FREEMPROSST unavailable 11/21/2014 |
| RD1014441 | 2 | NETWORK | atmcom credit card machines are not connecting to the network on various extensions... (11/20/2014) |
| RD1028201 | 3 | JABBER | Client Jabber is not connected to the external server... (11/20/2014) |
| RD1040620 | 3 | NET INTEGRATED SERVICE EXPERIENCE (FOC) | Users can also click "Call Us Now" button at the bottom of Jabbar and sign with their PIN... (11/20/2014) |
| RD1041830 | 3 | TELEPHONE (PHYSICAL PHONE) | Client OT - specific city phones display "COM" (11/20/2014) |

PHM

| Bill Number | Level 1 | Bill Name | Service Level | Calls Offered | Calls Answered | AM % | ASA | AHT | Holding | Oldest Call Waiting | Agents Available | Agents ACW | Agents ACD | Agents AOS | Agents O'SB | Agents Satisf | Bill Number | Level 2 | Bill Name | Service Level | Calls Offered | Calls Answered | AM % | ASA | AHT |
|-------------|-----------|----------------------|---------------|---------------|----------------|------|-----|-----|---------|---------------------|------------------|------------|------------|------------|-------------|---------------|-------------|-----------------------------|----------------------|---------------|---------------|----------------|------|-----|-----|
| 100-01 | Wellness | STRL_UL_Agnt | 93.0 | 88 | 89 | 9 | 133 | 257 | 1 | 45 | 0 | 3 | 2 | 41 | 23 | 89 | 1302-11 | Enterprise Health Portal | 1103_CCS_4HP_PUP | 98.8 | 139 | 139 | 0 | 0 | 0 |
| 104-01 | Wellness | S234_BLMHL_Coach | 93.0 | 107 | 89 | 20 | 187 | 28 | 1462 | 0 | 0 | 0 | 2 | 7 | 42 | 81 | 026-05 | Behavioral Intake & Service | 8028_HOURS EBMHMT | 99.7 | 87 | 86 | 1 | 1 | 0 |
| 105-01 | HCD | S182CHRPALAD | 81.1 | 71 | 46 | 9 | 7 | 86 | 742 | 1 | 34 | 0 | 2 | 0 | 4 | 0 | 361-04 | Behavioral Intake & Service | 8051_LOVBHS APPRO GL | 98.4 | 790 | 771 | 0 | 1 | 0 |
| 109-01 | Wellness | STB_VRBHS_Methadone | 97.2 | 332 | 304 | 34 | 72 | 80 | 890 | 1 | 5 | 0 | 6 | 9 | 17 | 25 | 333-05 | Behavioral Intake & Service | 5333_HOURS PHINTETX | 98.8 | 250 | 218 | 2 | 1 | 0 |
| 104-01 | Admin-EEI | BMC_UL_MH_TL_Coach | 83.0 | 128 | 114 | 6 | 5 | 187 | 716 | 0 | 0 | 4 | 1 | 1 | 10 | 14 | 364-06 | Behavioral Intake & Service | 8054_PHBHS PERFT In | 98.9 | 86 | 85 | 1 | 1 | 0 |
| 107-01 | HCD | S182CHRPALAD | 84.7 | 81 | 63 | 9 | 187 | 28 | 889 | 1 | 44 | 0 | 0 | 4 | 13 | 17 | 1280-11 | Physical Services | 51280_PIS HCS Oxdy | 98.8 | 288 | 256 | 2 | 0 | 0 |
| 104-01 | Admin-EEI | ATC_UL_MH_TL_Coach | 86.4 | 82 | 51 | 1 | 138 | 254 | 0 | 0 | 1 | 0 | 0 | 4 | 5 | 10 | 0178-01 | Behavioral Intake & Service | 8178_VRBHS PkVidm | 98.8 | 78 | 77 | 2 | 2 | 0 |
| 104-01 | HCD | S281_BLMHS_BLM_POD | 89.8 | 82 | 77 | 5 | 61 | 42 | 732 | 1 | 143 | 0 | 0 | 7 | 25 | 22 | 0134-01 | Behavioral Intake & Service | 8134_VROPS SPS | 98.1 | 219 | 215 | 4 | 1 | 0 |
| 1011-01 | HCD | S1011_ATLBHS_HCL_POD | 97 | 89 | 89 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 1 | 34 | 19 | 048-01 | HOURS PHINT | 97.8 | 82 | 80 | 2 | 2 | 0 | |
| 101-01 | HCD | STB1_VRBHS_VHC_Spc | 99.1 | 162 | 162 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 11 | 25 | 19 | 5348-01 | ATLBHS Rail In | 98.8 | 142 | 141 | 1 | 0 | 0 | |
| 106-01 | Wellness | S1818_VRBHS_IHP_Pk | 88.1 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8883-01 | VRBHS Pk INT | 98.8 | 87 | 86 | 0 | 0 | 0 | |
| 1035-01 | HCD | S182CHRPALAD | 85.8 | 197 | 178 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 8078-01 | PHBHS HCPH CS | 88.4 | 178 | 178 | 0 | 0 | 0 | |
| 104-01 | Wellness | S234_BLMHL_Coach | 79 | 79 | 79 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 108-01 | Admin-EEI | PHC_UL_MH_TL | 79 | 79 | 79 | 0 | 0 | 0 | 0 | 0 | 4 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 143-01 | Admin-EEI | PHC_UL_MH_TLStandard | 79 | 79 | 79 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |











The Impact of Loneliness on Longevity

Jim Toole, FSA, CERA, MAAA

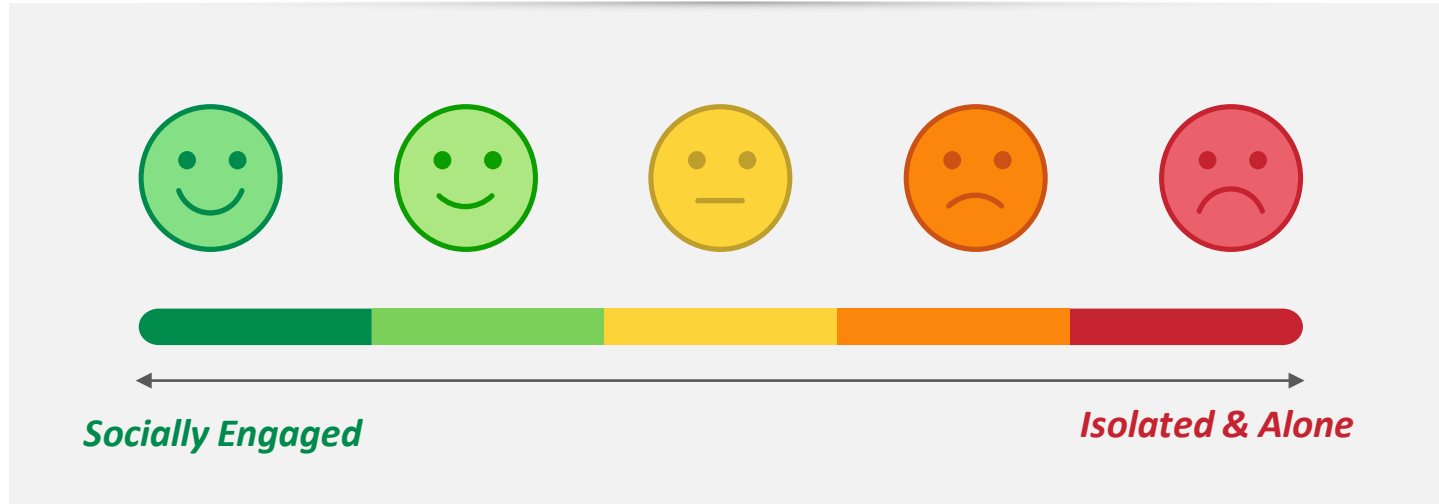




Introduction

Introduction

What is “loneliness”?



Introduction

How does loneliness differ from depression?



Loneliness



Depression

Introduction

How does loneliness differ from being alone?



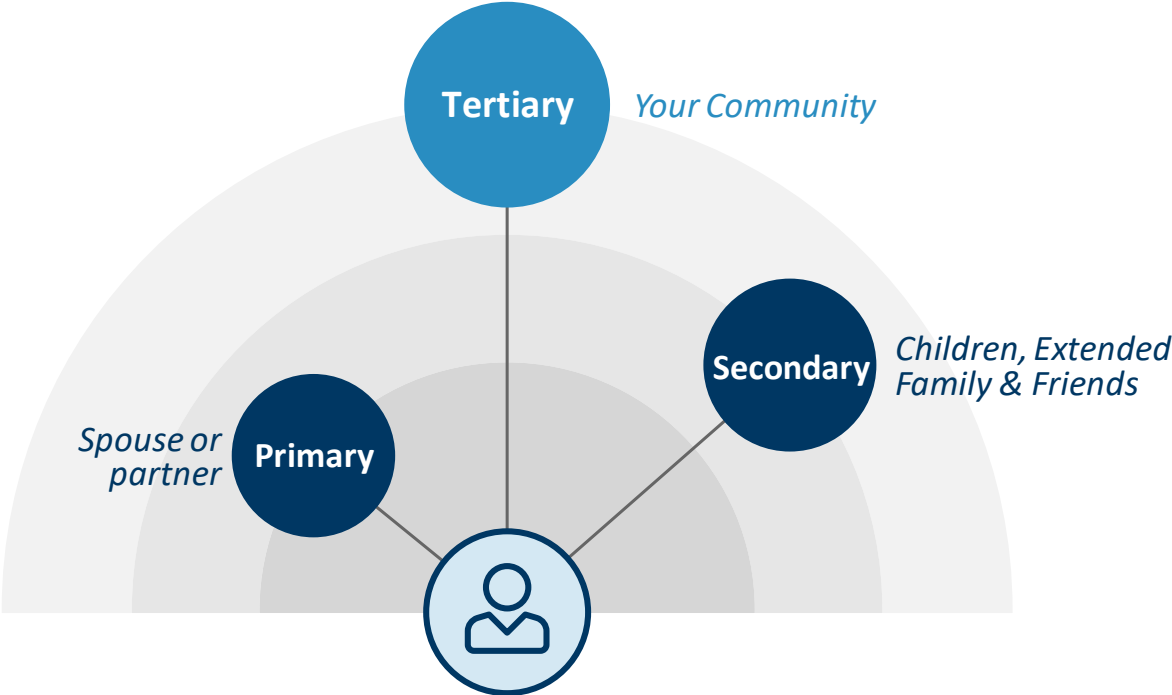
Alone



Lonely

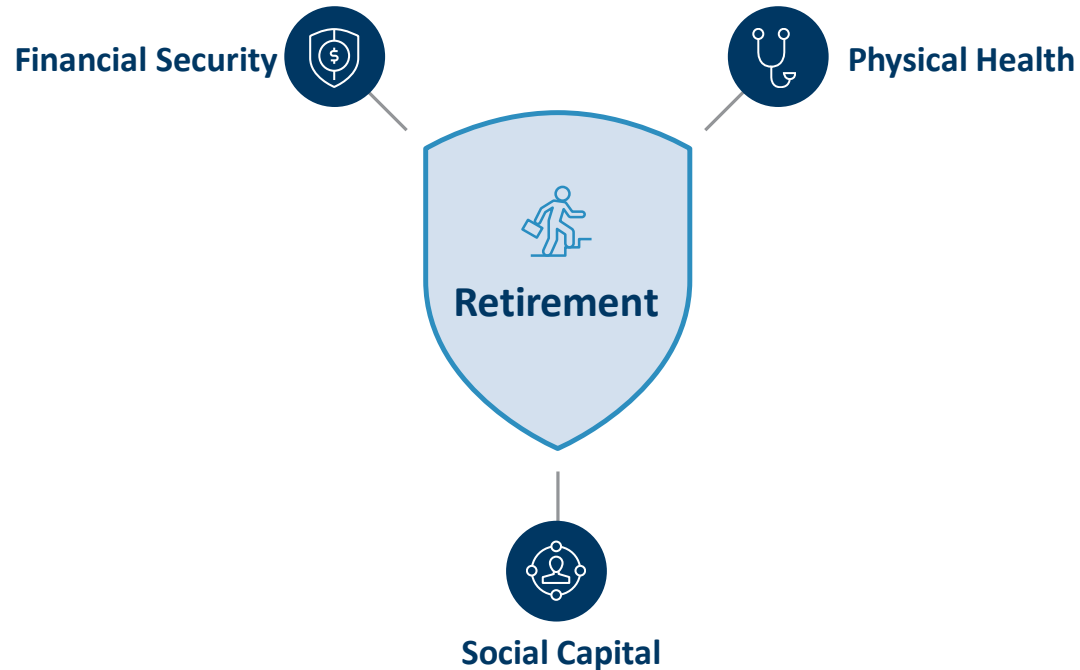
Introduction

What are “social networks”?



Introduction

Social networks and retirement planning





Who is
Impacted?

Who is Impacted?



HONG KONG,
CHINA

**Older women living
alone are being
forgotten.**



Who is Impacted?



FRANCE

France Heat Wave of August 2003

Eight consecutive days of temperatures more than 40C, or 104F

14,802

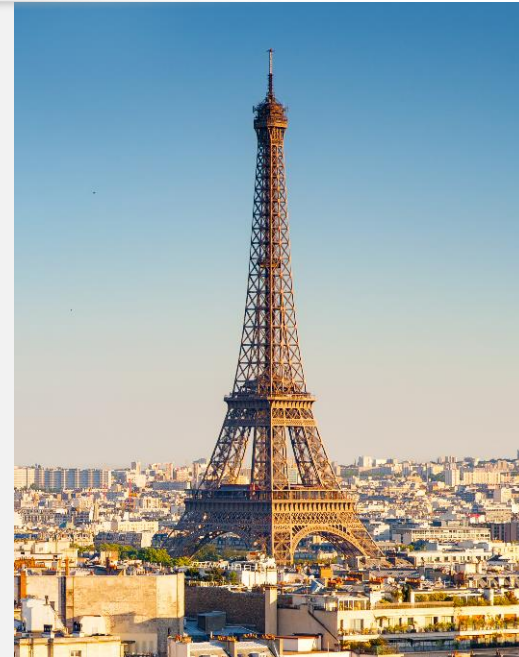
heat-related deaths

80%

of Deaths > 75 Years Old



Infrastructure & public health not accustomed to heat



Who is Impacted?

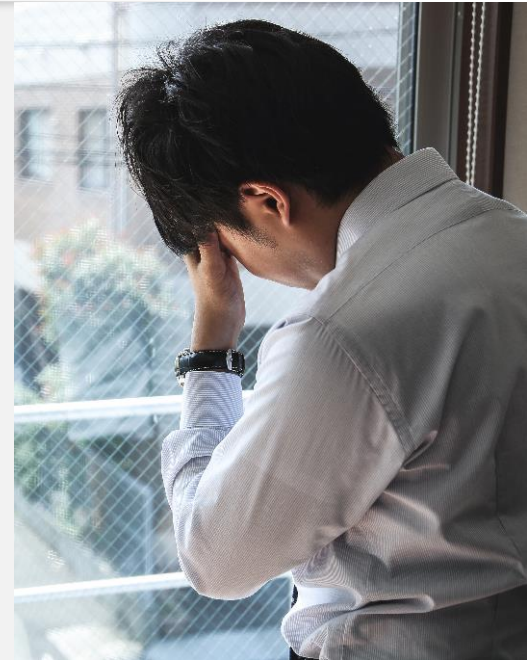


Kodokushi

“lonely deaths” among the elderly

Hikikomori

“pulling inward, being confined”



Who is Impacted?

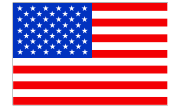


UK

U.K. – Ministry of Loneliness



Who is Impacted?



UNITED STATES

Elder Orphans





Why Should Actuaries Care?



Why Should Actuaries Care?

The Impact

Lack of self-care – compounding disease that grows

Inability to react in emergency situations (i.e. slip & fall, heatwave, etc.)

Legal & care issues as the demand for LTC is increasing, but facing supply shortage and increasing costs.

Availability of transportation & mobility services

Why Should Actuaries Care?

Health Insurers Name Social Determinants of Health Critical to Address Among Seniors

Q: Which area of senior care do you feel requires the most immediate attention?



Leaders say social isolation and mental health need immediate attention.

Survey respondents say **social isolation** and **mental health** are the areas of senior care that require the most immediate attention from health insurance plans. This response surpassed home care and hospice, diet and nutrition, and mobility responses combined.

- Home care/hospice
- Social isolation and mental health
- Memory and cognition
- Meals and nutrition
- Mobility
- Dependency on prescription drugs

Why Should Actuaries Care?

More so than just actuaries – why should anyone care?

**It will impact
insurance
products**





Programs & Policy

Programs & Policy

Real life solutions – Hen Power!!



Programs & Policy

Combining Child Daycare and Nursing Homes



Programs & Policy

Intergenerational Housing

Fosters interaction of social programs that engage and support all age groups to improve the lives of children, youth and senior adults.





Summary



2020 **HEALTH**
VIRTUAL MEETING



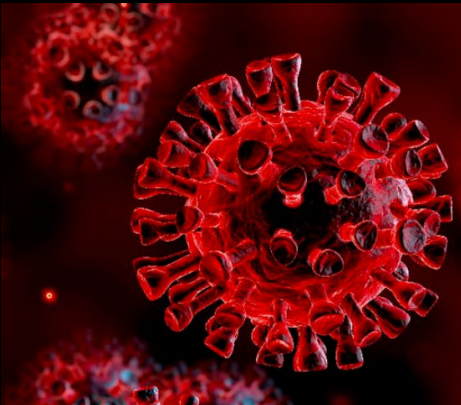


THE COVID-19 MAGNIFIER

Highlighting the larger pandemic of
racial and income health disparities

Leanne N. Metcalfe, PhD





Packed With Migrant Workers, Dormitories Fuel Coronavirus in Singapore

By Weivi Cai and K.K. Rebecca Lai April 28, 2020

Coronavirus: Black Britons face 'twice the risk' of death, says ONS

7 May 2020

f WhatsApp Twitter Email Share

Coronavirus pandemic

Africans in China: We face coronavirus discrimination

By Danny Vincent
BBC News, Hong Kong

17 April 2020

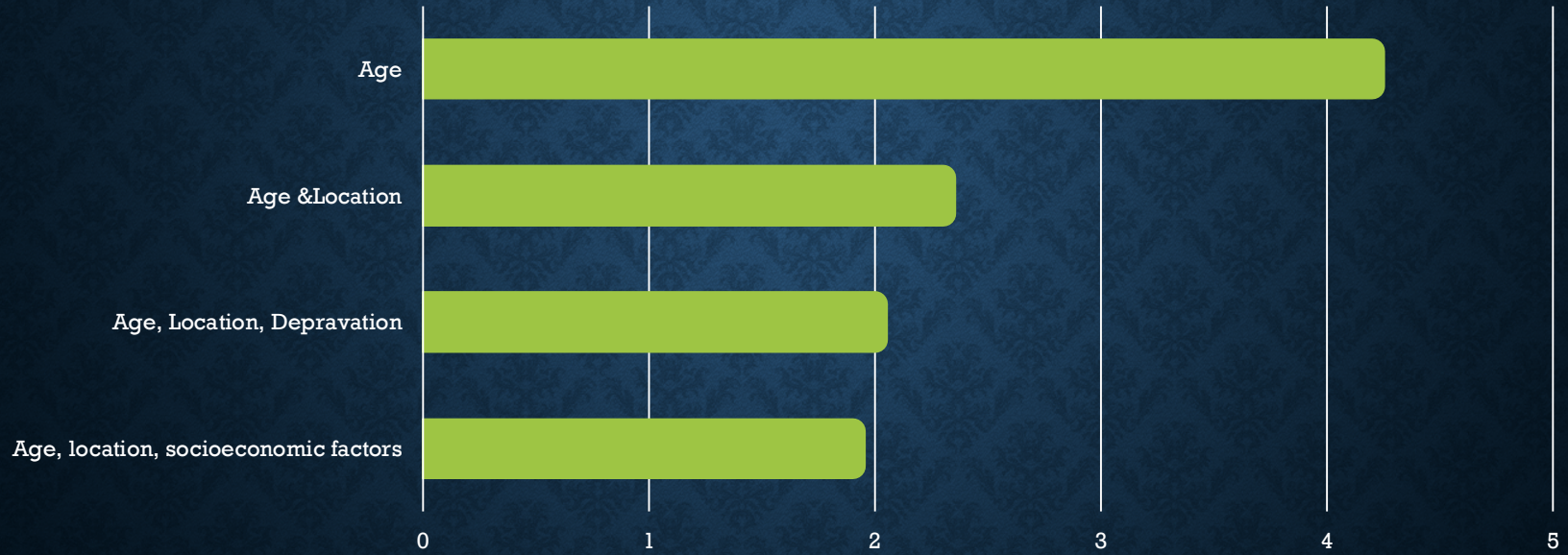
f WhatsApp Twitter Email Share



African Americans struggle with disproportionate COVID death toll

Creating a toxic storm of death and illness, the pandemic is devastating black communities across the United States and revealing the deadly legacy of inequality.

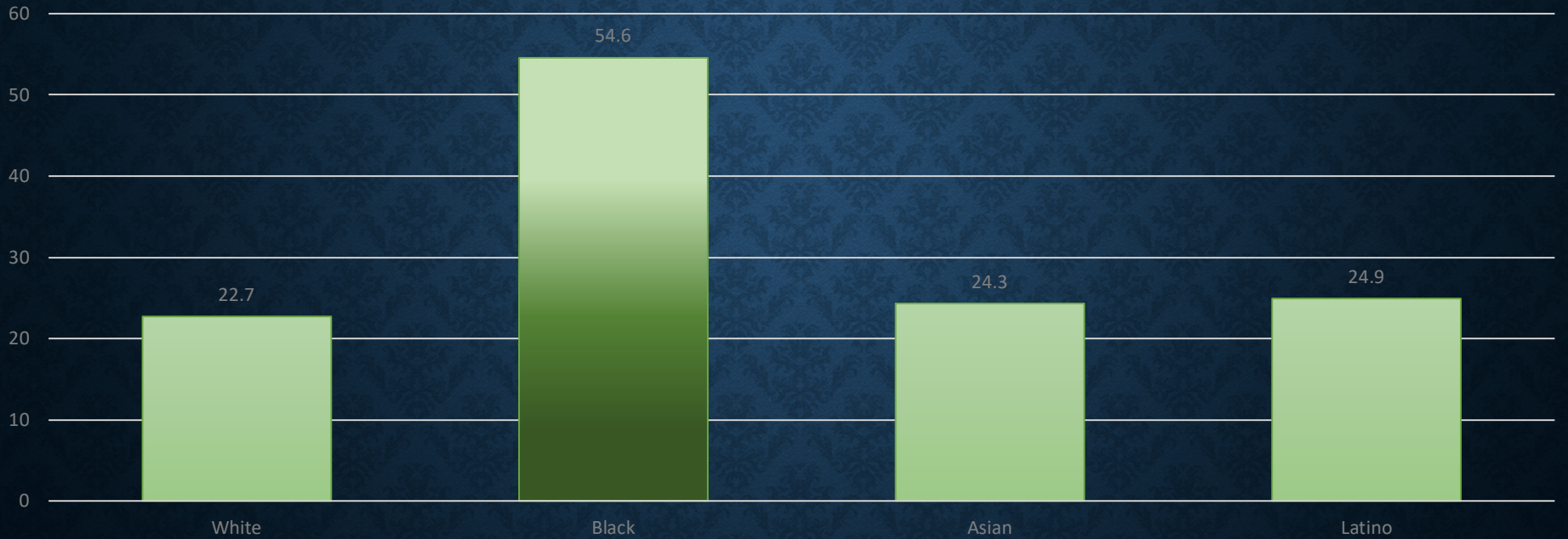
Some Factors Change Things

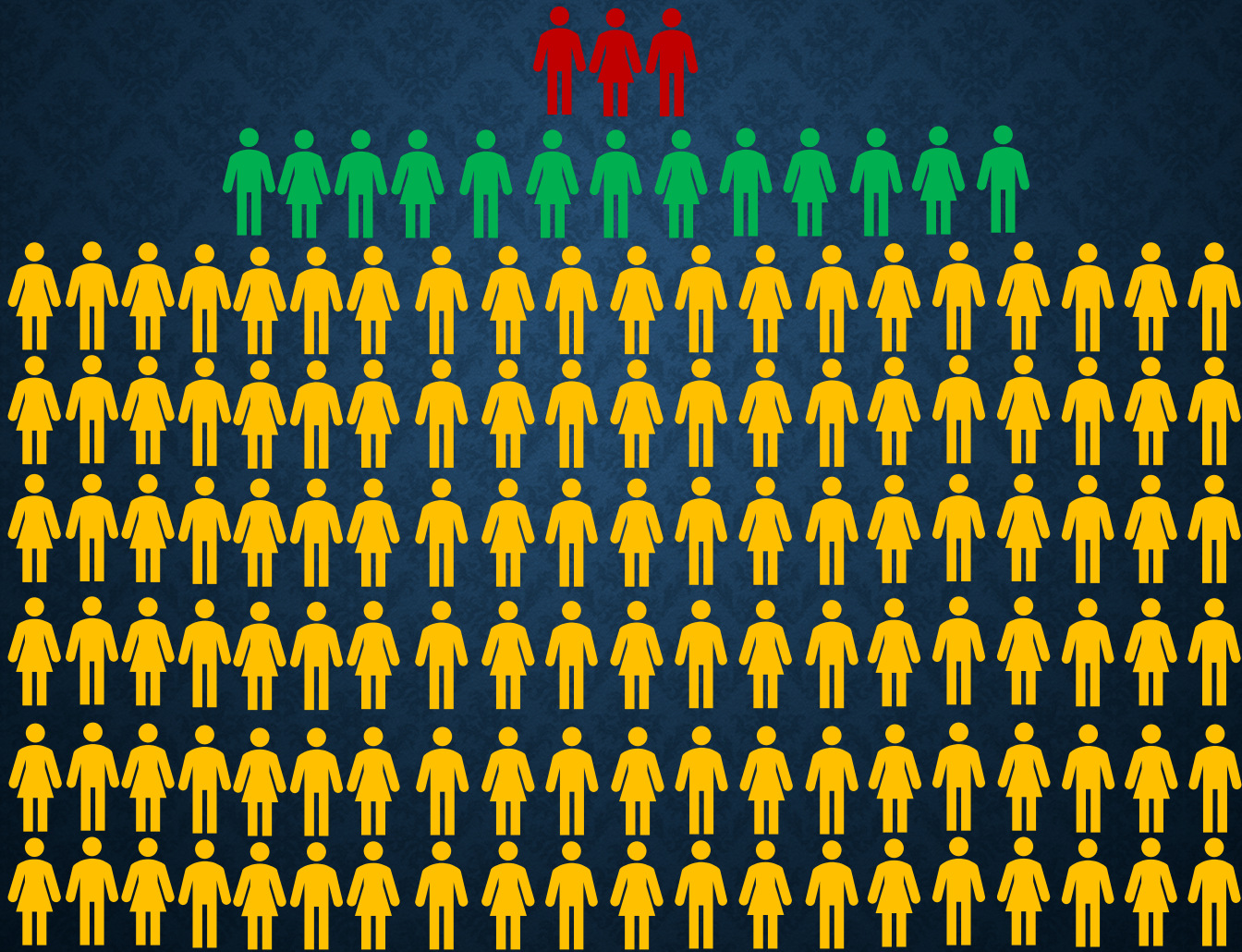




THE COLOUR OF CORONAVIRUS

COVID-19 DEATHS PER 100,000 PEOPLE OF EACH GROUP













“Twenty some hospitals have closed in New York City alone over the last two decades, most located in low-income communities. Statewide the number of hospital beds per-capita has fallen by 13% since 2010”

Wall Street Journal 03/25/2020

French doctors' proposal to test Covid-19 treatment in Africa slammed as 'colonial mentality'

By Stephanie Busari and Barbara Wojazer, CNN

🕒 Updated 10:37 AM ET, Tue April 7, 2020

Daily Mail
.com

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'It's a go': Elon Musk blasts two



The Molotov sisters: One sibling



Breonna Taylor was 'mutilated with



Tropical system near Bermuda looks

French doctors are accused of racism and 'treating Africans like human guinea pigs' after saying Covid-19 vaccines should be trialled there

- Dr Jean-Paul Mira and Dr Camille Locht proposed testing vaccines in Africa
- They said Africa has 'no masks, treatments and no ICU' for coronavirus patients
- Former footballer Didier Drogba tweeted that the comments were 'deeply racist'

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NEWS / AFRICA

Racism row as French doctors suggest virus vaccine test in Africa

Two doctors spark criticism for discussing in a TV show the idea of testing a vaccine for the coronavirus in Africa.

by Rebecca Rosman



4 Apr 2020



Freedom From Mental Slavery

14 February at 14:14 · 🌐

Chinese Doctors Confirmed African Blood Genetic Composition Resist Coronavirus After Student Cured 14/02/2020

World Health Organization – Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). A novel coronavirus (nCoV) is a new strain that has not been previously identified in humans.

Senou is a young Cameroonian student in China recently infected with Coronavirus he was released from hospital this morning cured of the virus.

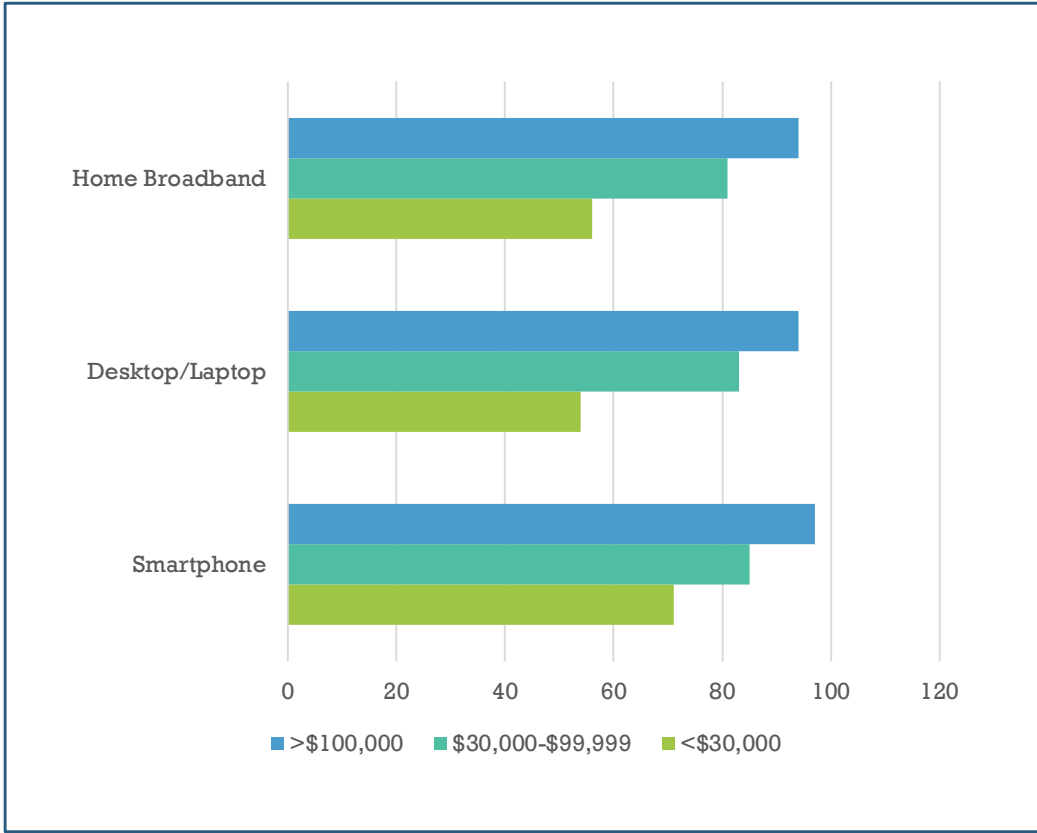
Doctors seeking for a cure to treat the dreadful virus were amazed to see Senou still alive and fit even after contracting the virus which has claimed 1,112 lives since it broke out in Wuhan couple of weeks ago.





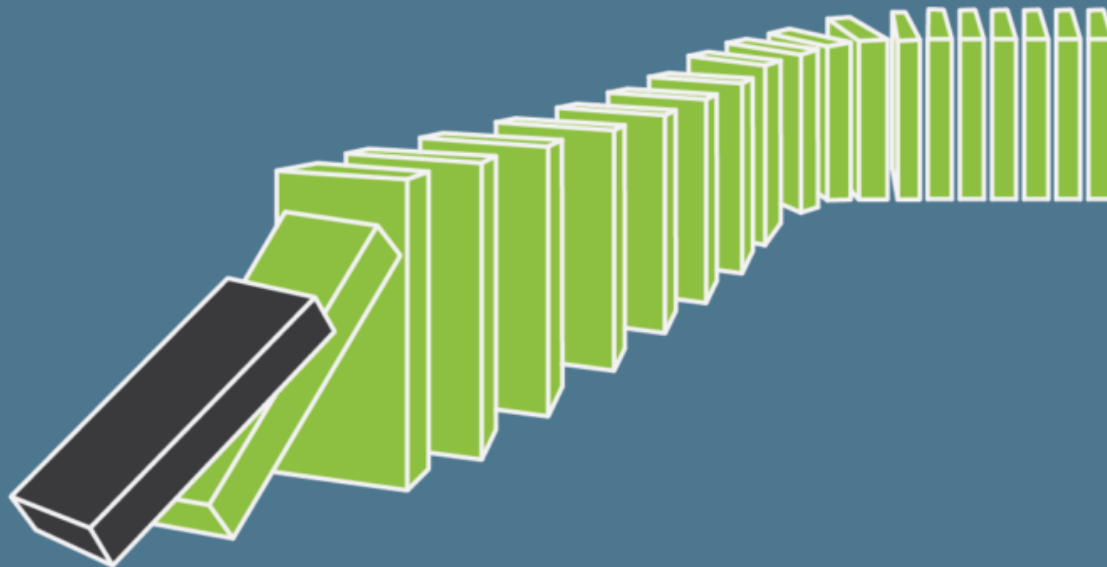


LOWER INCOME AMERICANS HAVE LOWER TECH ADOPTION





BAD DATA = BAD EVERYTHING







$$\begin{pmatrix} M & Y \\ Z & X \end{pmatrix} \rightarrow \begin{pmatrix} M & Y \\ Z & X \end{pmatrix} + \begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$$

$$X + 0Y; \quad Y + 0X;$$

$$\begin{pmatrix} M & Y \\ Z & X \end{pmatrix} \rightarrow \begin{pmatrix} M & Y \\ Z & X \end{pmatrix} + \begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$$

$$\begin{pmatrix} M & Y \\ Z & X \end{pmatrix} \rightarrow \begin{pmatrix} M & Y \\ Z & X \end{pmatrix} + \begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$$

$$p = \frac{1}{3} m_0 n \bar{v}^2$$

$$= \frac{2}{3} n \bar{E}_k = \frac{1}{3} \rho v^2 = nkT$$

$$pV = \frac{n}{N} RT$$

$$\Gamma \left(\frac{x}{2} \right)$$

$$U = \frac{U_{rms}}{\sqrt{2}} = \frac{v_{rms}}{\sqrt{2}}$$

THANK YOU!

Leanne Metcalfe, PhD

<https://www.linkedin.com/in/leannenmphd>



2020 HEALTH VIRTUAL MEETING

MAUREEN PIKE, BSN MPH MBA (CAND.) RN

Creative Destruction

June 8, 2020





































SOCIETY OF
ACTUARIES®