COVID-19 FUTURES

This virtual exhibit asks:

- How will our experiences during the pandemic affect the future?

- When the pandemic is over, will we seek a return to normalcy? Or have circumstances permanently changed?

- Which trends leading up to the pandemic have continued as before? Which have shifted course?

- How will the future be different as a result of the pandemic?

CREDITS

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ACKNOWLEDGMENTS

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Healthcare in a Post-Covid World

How healthcare will change as a result of the pandemic

Current State of US healthcare System and the Effect of Covid-19

- Many Americans do not like the current healthcare system as the costs are high and it is inaccessible to many people.
- Politics play a fundamental role in determining how to fix the current system and to what extent the system requires fixing.
- There are many uninsured and underinsured Americans causing barriers to getting proper healthcare.
  - This includes insurance and physical access to care centers.
- The ACA is in a pending lawsuit in the Supreme Court, which causes uncertainty in the current healthcare system as the law is an integral part of the healthcare system.
- The current healthcare system has a disproportionate impact on minorities, both in terms of the virus and their access to care and PPE
- The pandemic has highlighted the flaws in the current system for many Americans.

Structural Changes to the Healthcare System

- We focused on three main structural changes that could be made to the healthcare system:
  - <u>Single payer healthcare</u> would provider coverage to all Americans, but it would increase taxes for some Americans to fund the program and eliminate the private healthcare apparatus, potentially leading to longer wait times
  - <u>Government funded healthcare with private delivery</u> would keep in the current delivery system, it would also increase taxes for some Americans. Since the distribution of healthcare remains the same, some problems associated with inequitable access will persist.
  - <u>Continuation of private insurance</u> would result in less government regulation and taxes would not have to be raised significantly. However, healthcare would not be guaranteed to everyone and many inequalities would continue.

Changes to the Healthcare Landscape as a Result of Covid-19

- Telehealth
- Increased telehealth usage will allow patients to get medical advice from the comfort of their homes.
  - This will help alleviate some of the rural-urban healthcare access divide.
- Continued use of Telehealth will require an update in medical practice laws.
- Vaccine distribution
  - Using the H1N1 vaccine distribution as a point of comparison, the implementation suffered from government miscommunication.
  - The Covid-19 vaccine distribution plan is more advanced state because the pandemic is significantly more severe.

Predictions

- We anticipate that there will be an increased push for more inclusive healthcare, in the form of Medicare and Medicaid expansion rather than universal health care.
- Increased use of telehealth will encourage more regular care with primary physician able to identify problems early, which will reduce medical costs overall.
- Since there has been more government planning and coordination on the Covid-19 vaccine distribution that in the past, we expect that vaccine distribution will be significantly improved.
- **Healthcare reform is likely to remain controversial, although questions about long-term transformations of the healthcare system will be shaped by how these smaller reforms are received by both the public and healthcare providers.**

Education in the Time of Covid-19

Remote Learning

- There are varying opinions on the future of online learning.
- While it may have its benefits, fully remote classrooms are not thought to be a viable solution going forward.
  - It might be used on a limited basis, so it might be time to say goodbye to snow days.
- Previous studies about online education have shown that in-person learning leads to better test results and grades.
- Some parents have been searching for more secure in-person learning options given concerns about the quality of online education.
  - This leads some parents to opt for private school if it is affordable and available.

How Kids Handle COVID Year

- Kids last year had the benefit of having been in school most of the year before switch to online, so it was not as jarring.
- Speaking with various teachers, we've learned that kids have been ok this year, but there are some noticeable issues such as fatigue from using the computer so long.
- When kids go in for their hybrid learning, the classroom looks very different:
  - kids sit in their desks all day, masks on always, and spread out during recess.
- Some special ed programs started in the summer before school opened to get the kids ready for the new procedures.
  - Kids have been "very resilient" and became "more flexible."
- It seems parents are struggling more than kids, especially in circumstances where the child is young and both parents work.

Funding

- Schools do not have the funding they need and were largely unprepared going into the year.
- Additional stimulus is needed to get schools to where they should be in terms of PPE, internet access, and proper ventilation.
- Studies conducted from Great Recession show how lack of funding harms students learning capabilities, and how minority students and those of lower socioeconomic conditions fare worse.
- Some of the more affluent districts and private schools have been able to provide students access to computers, but in the less wealthy districts across the country there are many who can't access class or complete homework.

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Special Education

*interviews with kindergarten and high school special education teachers

- There has been difficulty in establishing a routine, but it is easier for the younger students.
- Students with sensory issues have problems with over-stimulation when wearing their masks.
- A high priority in many countries is to bring these students back to school first to give them time to understand and adapt to the new health and safety procedures.
- It is challenging for teachers to work on life skills over zoom.
- A great deal of extra help is needed from their parents.

University Education

Students

- Family issues have a significant impact on education, whether students' ability to attend classes or continue to attend college.
- Studies have found that 74% of students are dissatisfied with their online courses.
- Student are having a harder time building relationships with their professors.
- The quality of education is no longer the same , extracurricular activities such as sports, study abroad programs, and music performances have been cancelled or aren't open to students,, and commencement and graduation are now virtual.

Professors

- Professors prefer the face to face interactions they're used to.
- Many are having difficulties conducting online classes as they struggle to manage the new technology required to teach online.

University Education- Prediction

- Families have to decide whether the high tuition costs are worth the level of education provided by online courses..
- Universities are seeing a small to significant drop in revenue due to lower enrollments.
- It is possible that only the top universities will survive and many smaller ones will fail economicality
- This may increased the education inequality gap between rich and poor students

International Students

- International students have begun to question whether education in the US is still the "golden standard."
- International students face challenges associated with health insurance, xenophobia, and racial discrimination.
- There is also great uncertainty regarding access to student visas.
    - New foriegn students regulated by ICE.
    - International students are obligated to leave if their schools only provide online classes.
    - International students may be forced to leave the US if their schools do not offer in-person classes.

Renegotiating America's Socioeconomic Contract

The Current State of America's Socioeconomic Contract

Society depends upon adherence to unspoken social contracts. The Declaration of Independence and the Constitution spell out rights and obligations for people living in the United States including the government's obligation to "promote general Welfare" and the guarantee to "life, liberty and the pursuit of happiness."

Covid-19 exposed how inadequately the government has been upholding its end of the socioeconomic contract. America's neoliberal economic turn has curtailed welfare support and shortchanged other programs intended to help people living in poverty.

Wage and Income Security

Issue

The pandemic is causing Americans to rethink what constitutes a living wage. Stimulus packages of $1200 to US citizens making less than $75000-150000 left out the self-employed, gig workers, and part-time workers.

Potential Solution

Universal Basic Income (UBI) is a potential long-term solution that will provide income security to all Americans. UBI would replace the current dysfunctional welfare system with a more efficient model of support. Critics worry that it will decrease workforce participation, but pilots of UBI have shown little to no decrease in work participation.

Poverty Measurements and Their Implications

Issue

International human rights law recognizes that every person has a right to adequate housing and an adequate standard of living. Covid-19 has exacerbated an already prevalent issues of food and home insecurity in the US, with 1 in 3 Americans struggling to cover household expenses as of November 11, 2020.

Potential Solution

The Centers for Disease Control (CDC) implemented an order to prevent evictions in order to prevent further spreading of Covid-19, as well as provide aid to those facing economic hardships. However this order runs out on December 31, 2020. The Recognizing Poverty Act is a bill that if implemented would force the Department of Health and Human Services to develop a new formula to calculate the federal poverty line. This act would raise the individual poverty threshold and nearly triple federal interventions.

Unemployment

Issue

The "Great Pause" temporarily shutdown all businesses and social interactions, resulting in the loss of 21.4 million jobs, a number comparable to the Great Depression. As of November the unemployment rate dropped to 6.7%. However, this does not include those who are not seeking employment, gig workers, independent contractors, the self-employed, and more.

Potential Solution

The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided $2 trillion in aid to American households. The CARES Act also temporarily expanded the parameters for unemployment to include gig workers and independent contractors. If our society continues to recognize gig workers and independent contractors a new system will need to be put in place to prevent fraud. This is an alternative to the previously mentioned UBI.

Food Systems and Waste

Health

- The American diet includes excess calories, sodium, refined grains, and trans/saturated fats.
  - Eating this way leads to an array of health problems such as increased risk for heart attacks, strokes, cardiovascular disease, obesity, type two diabetes, and more.
  - Pre-existing health conditions increase vulnerability to Covid-19, so Americans have seen heavy impacts.
- Eating disorders and stress eating have been on the rise during the pandemic, further reducing the nutritional value of American meals.
- Many children who used to receive food at school no longer do, and these meals were often more nutrient-dense than diets at home.
- Food insecurity has also increased during the pandemic, leading to additional nutritional problems.

Economics of Restaurants Closing

- More than 100,000 restaurants have closed since the pandemic began. This corresponds to about one in every six restaurants.
  - Capacity has been reduced in restaurants due to CDC and government recommendations, making it more difficult to make a profit at restaurants. This contributes to restaurant closure.
  - Personal protective equipment is expensive as well.
  - This has led to over three million lost jobs.
- People still order take-out food, and apps such as Doordash and Uber Eats have done really well, in part because they offer contact-free delivery.
  - However, these apps charge restaurants, and many restaurants cannot afford this.
- Many people are cooking at home a lot more, and grocery stores are also doing really well.

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Food Waste and Build Ups

- Ready to be shipped produce has been halted due to the lockdown, causing massive food buildups in some areas,
    - Hundreds of tons of potatoes piled in Idaho and Montana
    - Millions of pounds of tomatoes, cabbage, and green beans being destroyed in Georgia.
    - Millions of gallons of milk being dumped daily across the US
- Why is all this food going to waste?
    - Certain crop varieties only sell to restaurants and not to consumers in grocery stores.
    - Seeds were planted prior to the pandemic and are being harvested, so the next crop can be seeded and ready for when businesses reopen.
    - Charities, churches, and food banks don't have the capacity or the economic means to deliver or store surplus food.

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Government Policies/Possible Solutions

- Greater education about nutrition can help people make wiser food choices.
  - This can encourage people to plan out their meals for better nutrition and less food waste.
- The government can also help by providing subsidies.
  - They can subsidize farms for fresh food and restaurants as well as purchasing currently unsellable foods.
- ReFed sponsors programs that reduce food waste and help with hunger.
  - They have partnered with other nonprofits to help link farmers to hotels and other institutions, strengthening our supply chains.

ReFED

Pandemic Relationships

Incitement of Cultural Change

Importance of Social Relationships

We construct our identities, social institutions, and roles within society through our interaction with each other. Social relationships increase an individual's quality of life, which impacts their physical and mental health.

- Socially isolated individuals have a death rate 2-5 times higher than those who maintain close ties to friends and family.

Romantic Relationships

- Covid-19 has increased digital interactions. There is less pressure on digital relationships although the conversation often lacks substance.
- Meeting in-person has increased in significance since the start of Covid-19. Romantic partners need to assess the health risks of meeting their partner in person. Dates are often outdoors as an attempt to mitigate the risk of contracting Covid-19.
- Defining relationships has become more difficult. The lack of physical connection affect a relationship's stability. There is also the concern that a given relationship will not be sustainable when the pandemic ends.
- Partners who live together have also experienced a change in dynamic while navigating social distancing measures and working from home.

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Familial Relationships

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- An increase in free time accompanied by access to technology has increased family communication during quarantine. More people spoke with their families daily during quarantine than they did pre-Covid.
- However, the quality of familial relationships has been negatively impacted during Covid-19 and has yet to bounce back to pre-Covid conditions.
- Despite this, many people want to see their families more in a post-covid world than they currently do now. Different family members following different social-distancing protocols has made it difficult to maintain in-person relations.
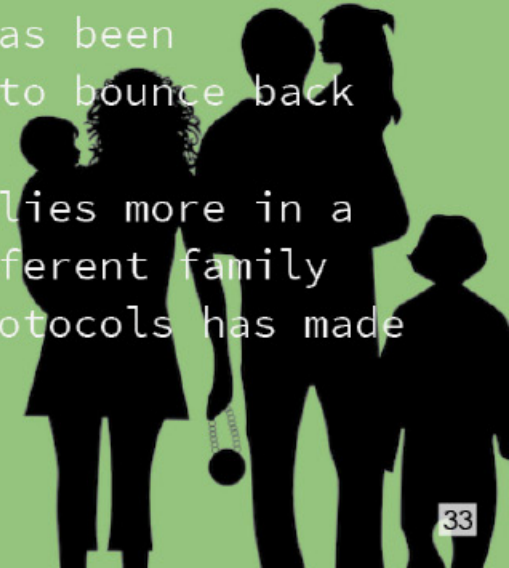
Friendships

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- People have started to use virtual spaces to maintain and start friendships. 45-50% of people reported an increase in social media use since the start of the pandemic.
- Small in-person gatherings still occur. However, assessing if health safety is a shared value has been a new criterion for starting and maintaining friendships.
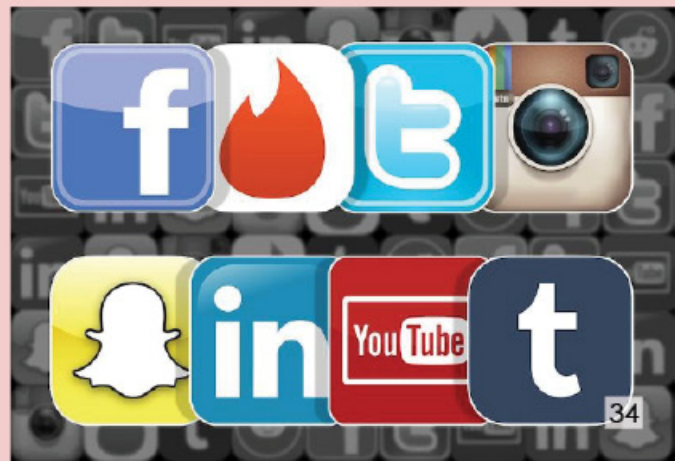
The Future of Relationships

Implications of Changes

Isolation leads to higher rates of loneliness which increases risk for depression. The loneliness and depression of one individual can spread through their social networks.

Suggestions for the Future

To help flatten the curve, some individuals have limited interaction to a few others, creating a sort of social bubble or pod. Emphasizing spatial distancing over social distancing may promote social closeness.

Likely Outcomes

There will likely be a continued rise in the rates of depression due to loneliness. Parents are likely be hesitant to let their young children start socializing freely. Social media will most likely continue to be utilized as a means to maintain relationships.

Health Literacy and its Implications during and after Covid-19

As defined by the World Health Organization (WHO) health literacy is constituted as the personal characteristics and social resources needed for individuals and communities to access, understand, appraise, and use information and services to make decisions about health.

Why is Health Literacy Important?

Health Literacy Key For
Better Health, Better Care

- Health literacy empowers people to participate in their healthcare by giving them the tools and resources to advocate for their personal health.
- Health literacy helps bridge racial inequalities in the healthcare system.
- Health literacy builds individual and community resistance.

Health literacy and Information Overload

- The outbreak of Covid-19 led to an influx of inaccurate information that made it difficult for people to differentiate between fact and fiction.
- *Misinformation* is inaccurate information that is communicated regardless of an intention to deceive.
- *Disinformation* is a subset of misinformation and is information communicated with the intent to deceive.

Sources of Information

Hot peppers in your food, though very tasty, cannot prevent or cure COVID-19. The best way to protect yourself against the new coronavirus is to keep at least 1 metre away from others and to wash your hands frequently and thoroughly. It is also beneficial for your general health to maintain a balanced diet, stay well hydrated, exercise regularly and sleep well.

FACT: Adding pepper to your soup or other meals DOES NOT prevent or cure COVID-19.

World Health Organization   #Coronavirus   #COVID19   27 April 2020

- There are two main sources of misinformation top-down and bottom-up.
- Top-down misinformation is information that is spread from prominent figures such as public figures, politicians, and health officials, to the general public.
- Bottom-up misinformation is information that is spread from people in the general public that do not usually have the same power as public officials. This is usually done through social media platforms.
- Myths such as peppers preventing the spread of Covid-19 became so prevalent that WHO created a Mythbusters page in an attempt to stop the spread of misinformation.

Health Literacy and Vaccine Hesitancy

Roughly Six in 10 Americans Would Agree to Be Vaccinated Against COVID-19

If an FDA-approved vaccine to prevent coronavirus/COVID-19 was available right now at no cost, would you agree to be vaccinated?

% Yes % No

66 64 62 62 61 58

34 36 38 38 39 50 50 42

JUL 20-26   AUG 3-9   AUG 17-30   SEP 14-27   OCT 19-NOV 1
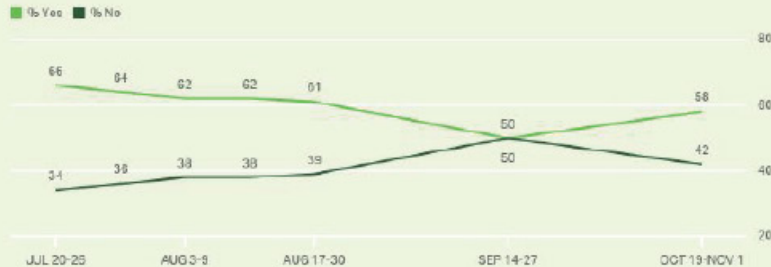
GALLUP PANEL, 2020

- Americans have a complicated history with vaccines, leading 4 in 10 Americans to reject a Covid-19 vaccine.
- Health-related decisions are not based solely on scientific fact, they are influenced by cultural, social, political, and spiritual backgrounds.
- Recent studies show that the main reason 42% of Americans are reluctant to get the Covid-19 vaccine is due to a lack of knowledge and understanding.
- It is important to practice empathetic scientific communication when educating people about the benefits of the Covid-19 vaccine.

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Health Literacy and Community Health Workers

- Community health workers (CHWs) are underutilized in first-world countries.
- CHWs are medical professionals who operate in a non-clinical capacity.
- CHWs assist in providing PPE and education in a culturally-appropriate fashion.
- CHWs are already being utilized in countries such as South Africa, where CHWs were able to screen 7 million people in the first month of the outbreak.

Hopes for the Future

- We hope that there will be more government efforts to counter the spread of misinformation through creative awareness campaigns.
- Even though we believe that the Covid-19 vaccine may be met with hesitancy, we hope that the amount of people willing to receive the vaccine will continue to increase.
- We hope that the value of CHWs will be recognized and their services will become prevalent in communities across America, during and after the pandemic.

Social Movements:

The New Progressive Movement

President Obama's election
- American's believed we had reach a new peak of progressivism

President Trump's election
- American's realized many still have deep-seeded bigotries and racism is not a deal-breaker for America
- Rise in protests from people in all walks of life

Covid-19
- Woke up many Americans to the structural inequalities in the US that were previously hidden by their own lived experiences

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Case Studies

How Covid has Affected Activism

Black Lives Matter
- More people were home because of quarantine and spending more time alone/on social media
- Pandemic created a space where people are more vulnerable than usual, thereby making them more receptive to hearing the struggles of others

Environmental Justice
- Exposed NIMBY-ism, 'Not In My Backyard,'
  - White, higher-income communities are able to use their economic power to create political power
  - Low-income communities of color don't have that economic capital, and are unable to prevent polluting factories, power plants, and oil refineries in their community

Universal Healthcare
- The pandemic is costing the global economy $375 billion a month.
- Universal Health Coverage comes at a cost. But the price is cheap, when we consider the alternative.

Predictions

How will Activist Efforts Favor in the Future

1. **Structural racism is now part of our lexicon**
2. **Environmental discrimination is now visible to society**
3. **More Americans than ever are looking towards the government to provide healthcare**

Biden's presidency will highlight these progressive ideals. Historically in the US, big wins, like a Biden presidency, sent many Americans back to complacency. It is likely we will see, yet again, incremental victories for activists. Sweeping victories would have required democrats to win the Senate as well, which looks unlikely.

Ultimately, covid-19 exposed these issues to Americans, but now it is up to us what we choose to do with it.

Accessibility and Accommodations for Disabled and High-Risk Groups during Covid-19 and Afterwards

→ The Americans with Disabilities Act (ADA), protects individuals with disabilities, which the ADA defines as a "physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment."

◆ The inclusion of new medical conditions under the ADA demonstrates the flexibility of the act.

→ The Covid-19 pandemic has introduced new perspectives on people whose rights are protected under the ADA, especially since the pandemic has heavily impacted these high-risk populations while bringing others into the spotlight.

◆ These groups include people who are considered to be at a greater risk of infection or serious life-threatening complications if they were to contract the disease due to either pre-existing conditions or confounding health-related factors such as having a suppressed immune system, pacemaker, or breathing tube.

Why these populations?

→ Many populations have been impacted by the pandemic, but four populations in particular -- people with autoimmune diseases, substance use disorders, pregnancy, and the elderly -- have experiences that are shaped by a combination of medical, social, and political factors.

➔ Autoimmune diseases and substance use disorders have become increasingly prevalent in American society, have strong connections to mental health, and have acted as double-edged swords in relation to Covid-19 as an illness -- having one may cause more severe symptoms of the other and vice versa.

➔ The pregnant and elderly populations are not usually considered to be disabled, but rather are prone to experience symptoms or vulnerabilities that parallel those of individuals with conditions that are listed under ADA guidelines.

   ◆ When these vulnerabilities are coupled with Covid-19, many new complications arise, some of which are still not well-known or understood.

Are the current definitions contextually acceptable?

➔ Additions and revisions to information about Covid-19 are constantly being made, which makes it difficult to create a definitive list of underlying medical conditions that are high-risk because of the virus.

➔ Many prominent forces in public health, including the CDC, have created Covid-19 dashboards that list conditions that put someone at a high risk. This information is presented in the form of recommendations, because existing data is limited and updates are issued on a regular basis.

➔ Variation in the public acceptance of these populations as high-risk has caused turmoil, making it harder for them to receive the accommodations or treatments they desperately need.

*** The most critical element of these definitions moving forward is their *plasticity*, which is to say, how they are continually shaped and molded by the pandemic and our response to it.

Reformatting Social Landscapes

➔ Charles Rosenberg's concept of "dramaturgy" suggests that the stories or narratives that societies tell about pandemics may exacerbate the impact of the disease in society.

◆ For example, narratives about the Covid-19 pandemic assume that it will come to an abrupt end, even though much about the future of the pandemic remains uncertain.

➔ One aspect of current pandemic society that is becoming increasingly relevant as businesses start to reopen to in-person work is the process people need to go through to receive approved accommodations.

◆ People currently have to jump through numerous hoops to access their rights, so a more streamlined process would benefit these individuals.

➔ The relationship between Covid-19 and society, as well as the constantly changing nature of social landscapes, particularly those pertaining to high-risk populations, will continue to morph and be modified.

◆ Only time will reveal what exactly needs to be changed and the associated level of urgency in doing so.

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Future of Women

Effects from Previous Pandemics

- Women have historically been responsible for taking care of their family members when they were sick.
- Previous pandemics have affected women in different ways:
  - Black Death had higher mortality rates for women.
  - Tuberculosis resulted in a negative stigma for women because its association with cleanliness.
  - Spanish Flu increased support for suffrage after women entered the workforce in larger numbers.
  - Zika and Ebola epidemics resulted in fewer women returning to the workforce.

White Collar workers

Context

- Women's unemployment rate has increased.
- Women are more likely to quit their jobs to take care of children and family.
- There are positive cultural shifts in the workplace.

Future

- The policy Paid Family Medical Leave is needed.
- There will likely be more flexibility for women in the workforce.
- Unpaid labor for women in the home will hopefully be more equitably shared.

Blue Collar/Front Line workers

Context

- They are largely still employed.
- They are working longer hours.
- This can result in negative effects on family and home.

Future

- Universal/affordable child care public policies are needed.

Other Consequences

- There are increasing rates of domestic violence.
  - Women are quarantined with their abuser.
  - Survivors are isolated from their support network.
  - Domestic violence shelters are at capacity.
  - There are more conscious efforts to help.
- Single Mothers
  - They face a double bind whether to leave their jobs and take care of children or support their family financially.
  - There is a lack of attention from media and public policy makers.
- Women of Color
  - They face the highest unemployment rates.
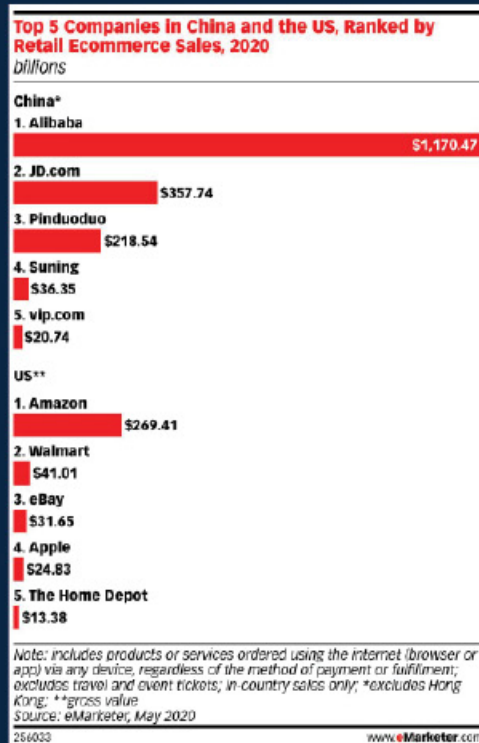 - They experience disproportionate health impacts.

Global E-Commerce

Global E-Commerce: Background & Trends in 2020

E-Commerce refers to any kind of commercial transaction conducted on the internet. Many people engage with e-commerce regularly without even realizing it. For example, ride-sharing services like Uber and Lyft are examples of e-commerce companies, as these transactions occur online.

Prior to the pandemic, the global e-commerce market was already rapidly growing. This trend has only continued through 2020, as outlined in the graphs to the right. China and the United States continue to dominate the industry.

Top 5 Companies in China and the US, Ranked by Retail Ecommerce Sales, 2020
billions

China*
1. Alibaba — $1,170.47
2. JD.com — $357.74
3. Pinduoduo — $218.54
4. Suning — $36.35
5. vip.com — $20.74

US**
1. Amazon — $269.41
2. Walmart — $41.01
3. eBay — $31.65
4. Apple — $24.83
5. The Home Depot — $13.38

Note: includes products or services ordered using the internet (browser or app) via any device, regardless of the method of payment or fulfilment; excludes travel and event tickets; in-country sales only; *excludes Hong Kong; **gross value
Source: eMarketer, May 2020
256033   www.eMarketer.com

Digital Buyer Growth Worldwide, by Region, 2020
% change

Region	% change
Asia-Pacific	8.6%
Latin America	6.0%
Middle East & Africa	5.9%
Central & Eastern Europe	5.1%
North America	3.7%
Western Europe	3.5%
Worldwide	6.9%

Note: ages 14+, internet users who have made at least one purchase via any digital channel during the calendar year, including desktop/laptop, mobile and tablet purchases
Source: eMarketer, May 2020
T11097   www.eMarketer.com

Retail Ecommerce Sales Worldwide, by Region, 2020
billions

Region	billions
Asia-Pacific	$2,448.33
North America	$749.00
Western Europe	$498.32
Central & Eastern Europe	$92.91
Latin America	$83.63
Middle East & Africa	$41.56

Note: includes products or services ordered using the internet via any device, regardless of the method of payment or fulfilment; excludes travel and event tickets; payments such as bill pay, taxes or money transfers, food services and drinking place sales, gambling and other vice goods sales; total retail ecommerce spending worldwide=$3.914 trillion
Source: eMarketer, May 2020
T11092   www.eMarketer.com

E-Commerce as Pandemic Infrastructure in the United States

A significant driver of demand was "panic buying." As a result, items deemed "essential," such as face masks, paper towels, toilet paper, and food products, were regularly sold out or unavailable in traditional storefronts who were unable to keep up with consumer demand.

More people go online to try e-commerce platforms, like Amazon, to scour for options. Surely, many found success simply due to the sheer number of sellers and options available on e-commerce platforms. E-commerce became a distributor for essential items like PPE (masks, face shields, etc.)

Impacts on Small & Medium Sized Businesses

As the pandemic continued, small businesses were effectively forced into establishing themselves on online and on e-commerce platforms to remain competitive.

Pros

Small businesses joining e-commerce platforms now had the opportunity to expand their customer base by being able to reach the millions of people engaging with e-commerce platforms

Cons

Small businesses have little flexibility on e-commerce platforms. Many e-commerce platforms are not transparent with their sellers about new policies and policy changes.

Furthermore, with many competitors/options online and cost of advertising to reach customers, it is difficult to build brand loyalty.

After the pandemic, we are likely to see more small businesses trying to establish an online presence of their own, whether on e-commerce platforms or their own website. But we also predict a resurgence of in-person and experiential shopping at traditional storefronts.

Environmental Impact

Additional research on the environmental impact of e-commerce is needed. Some argue that e-commerce is more environmentally-friendly compared to traditional retail due to more efficient logistics. However, with rising demand for e-commerce during the pandemic, there are areas for improvement.

Recommendations:

1) *There is a need for more efficient packaging.*
   a) The pandemic caused an increase in the amount of packaging due to hygiene concerns. E-commerce companies used additional packaging to foster the illusion of safety.

   b) Currently, it is more efficient to dispose of packaging than to reclaim and reuse, which creates significant waste.

2) *Delivery vehicles can be made more enivronmentally-friendly.*
   a) In the future, we should work towards more electric delivery vehicles to decrease greenhouse gas emissions.

   b) Amazon has already announced its plans to have 10,000 electric delivery trucks by 2022 and 100,000 by 2030.

Predictions

As we consider the possibilities of future pandemics and crises, we expect that e-commerce platforms will be more quickly leveraged by consumers worldwide as a disaster response measure to coordinate resources.

While we believe more consumers will likely crave in-person shopping experiences and flock towards traditional storefronts, e-commerce will still remain a dominant and growing presence

After the pandemic, more SMBs will have recognized the value in a digital presence. Therefore, we may see a trend of SMBs trying to establish an online presence of their own, whether it be on e-commerce platforms or their own personal website, post-pandemic

Sports & Entertainment

During the Covid-19 Pandemic and its Legacies

Impacts

- The sports and entertainment industries earn a combined revenue of more than $155 billion per year.
    - They have a huge economic impact through the creation of jobs and also contribute to community solidarity.
- The sports industry attracts 160 million fans and viewers per month and 52% of Americans attend various forms of live entertainment each year, making them a significant component of everyday life for American consumers.
- The pandemic has resulted in massive revenue losses for professional sports teams and leagues, in addition to other forms of entertainment, from theater and other live performances to movie theaters.

Sports

- One response to the pandemic was the introduction of bubbles for sports leagues.
  - Instead of live audiences, the bubbles had artificial crowd noises played in the stadium and virtual fans in attendance via zoom.
- As the pandemic continues and the situation changes so does the sports industry.
  - Protocols and policies are constantly being adjusted to the new knowledge we've gained about Covid-19

- For example, the NBA recently announced new protocols for fans attending games.
  - This includes testing prior to games, social distancing in the stands, and no fans within a certain distance of the court.

- Their public profile gave athletes a platform to express their political views on BLM and the election.
  - Some games were boycotted due to shootings.
  - Players were able to work with owners in the NBA to convert arenas into polling stations.

Entertainment

- Almost every component of the industry has been affected by the pandemic.
  - A notable exception has been the tv show Saturday Night Live.
  - Broadway hopes to reopen during the summer of 2021.
- Efforts have been made to convert to virtual performances.
  - New technologies are being developed that enable performers to simultaneously livestream from different locations.
- Younger adults in the industry are returning to school because of the lack of employment opportunities.
- Ticketmaster has new requirements for access to events.
  - Fans attending a concert must verify a negative test result or confirmation of having received the vaccine.

Forecast and Future Challenges

- Fan experiences are likely to be limited for the foreseeable future.
  - There will be changes to traditional venues and organizations will need to develop new revenue streams.
  - Bubbles and restricted access will be commonplace as public venues gradually reopen.
- Recent research suggests low to very low transmission in indoor concerts, but more trials must be conducted before policy recommendations are possible.
- The distribution of vaccines across Europe and the US suggest the possibility of a return to normalcy.
- But patience remains key! It will be some time before the vaccine has been widely distributed, allowing live sports and entertainment resume at full capacity.

Urban Planning and Policy

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Housing: Exclusionary Zoning and High-Pollution Areas

- **Exclusionary zoning laws have sustained redlining** by restricting access of low income people of color from prosperous urban areas.

- These laws force minority populations to take up residence near high-pollution areas (factories, incinerators), making them much more vulnerable to diseases such as Covid-19.

- Solutions:
  - Urban planners and policymakers must **relocate waste infrastructure sites away from densely populated urban areas** to improve air quality in low-income, minority communities.
    - Relocating waste infrastructure to non-residential areas would disrupt a major component of the negative feedback loop between housing policy and pernicious health outcomes for persons of color.

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Housing: How Should We Define a Standard Of Living?

- As a result of physical inactivity and a lack of socialization, people in quarantine often experience depression, stress, irritability, insomnia, poor concentration, and indecisiveness, all of which may persist in the long term.
- Solutions:
  - Novel and innovative approaches in **utilizing public spaces** would serve as essential mechanisms to limit or prevent many of the psychological and physical effects resulting from the Covid-19 pandemic.
    - Example: Converting neighborhood streets into recreational sites (gyms, basketball courts, theatres, lounge areas).

Reforming The Transportation System

- The downsizing of transportation agencies has indirectly contributed to Covid-19's disproportionate impact on people of color.
  - Covid-19 has exacerbated the **inaccessibility and immobility** of minority groups.
  - Those who continue to ride on buses and trains experience **disproportionate negative impacts of Covid-19** as individuals and families
  - Solutions:
  - Transportation agencies should **cut routes based on need, rather than ridership level.**
  - Urban planners should improve accessibility and sustainability via support for alternative modes of transportation.
    - **Making cities more friendly to bikers and walkers** would improve air quality within urban areas and reduce pollution-induced respiratory conditions experienced by urban residents.

Touchless Technology

- Since the emergence of **Covid-19**, there has **been a 2000%** increase in purchases of contactless products on Amazon
- **Touchless technology helps to protect public spaces, businesses, retail stores,** and even homes from the **spread Covid-19 and** other germs and viruses, including:
    - Smartphone control of homes
    - Motion-activated lighting
    - Bluetooth access instead of keys
    - Contactless thermometers
    - Touch-free soap dispensers
    - Hands-free faucets

Utilizing Office Space

- Many tech companies plan to allow employees to continue working from home. Some will set up satellite offices around the country for workers to meet in person after the pandemic.
  - Examples include Twitter, Dropbox, and Square.
- There is a generational divide with respect to returning to our offices or continuing to work from home.
  - Older workers appear to prefer a continuation of the work from home policy, whereas younger workers typically prefer to return to office spaces.
- Predictions
  - A **hybrid model** (some in-person work coupled with working from home) may become more prevalent.