Faculty of Design

2021

COVID-19 Response in Pennsylvania

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COVID-19 Response in Pennsylvania

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SYSTEMS SPRING 2021

As of 2021, the COVID-19 pandemic has caused hundreds of thousands of deaths across the United States and a high amount of economic fallout in its wake. This pandemic has exacerbated, revealed, and uprooted issues of racial equality, healthcare effectiveness, and government responses. However, this has also created an opportunity to reshape systems and processes at play through a multitude of interventions and leverage points.

With all nonessential businesses forced to close, unemployment rates skyrocketed and an economic crisis ensued; hospitals and healthcare organizations were forced to adapt to fit more patients at lower capacities; racial inequalities across all aspects of society were brought to the forefront; and misinformation about scientific evidence became rampant, among many other issues that reached into all corners of society. As of May 2021, over a million people have been infected with COVID-19 and over 25,000 have died in Pennsylvania. While the state has faced many challenges, it also has the opportunity to address the systemic problems at the heart of the difficulties endured during this pandemic.

About our mapping

We researched with a heavy emphasis on time and the concepts of three horizons, and thus divided our map of issues into three concentric sections. These sections range from the Past, or pre-COVID; Transition, or the Pandemic itself, from 2020-2021; and Future, anywhere from the end of the pandemic to a variable time frame denoted individually. Elements in the Future category depict changes or effects—both positive and negative—that professionals are already implementing or suspect to see soon in a post-COVID world.

We also suggested a multitude of interventions, depicted by syringes injecting liquid into the COVID-19 model. As such interventions are far-reaching, the flow of the liquid encapsulates elements that are impacted.

Institutional Interventions

International coordination
Co-planning between governments can help transfer needed resources like PPEs, ventilators, and medicine across the world with careful planning and coordination.
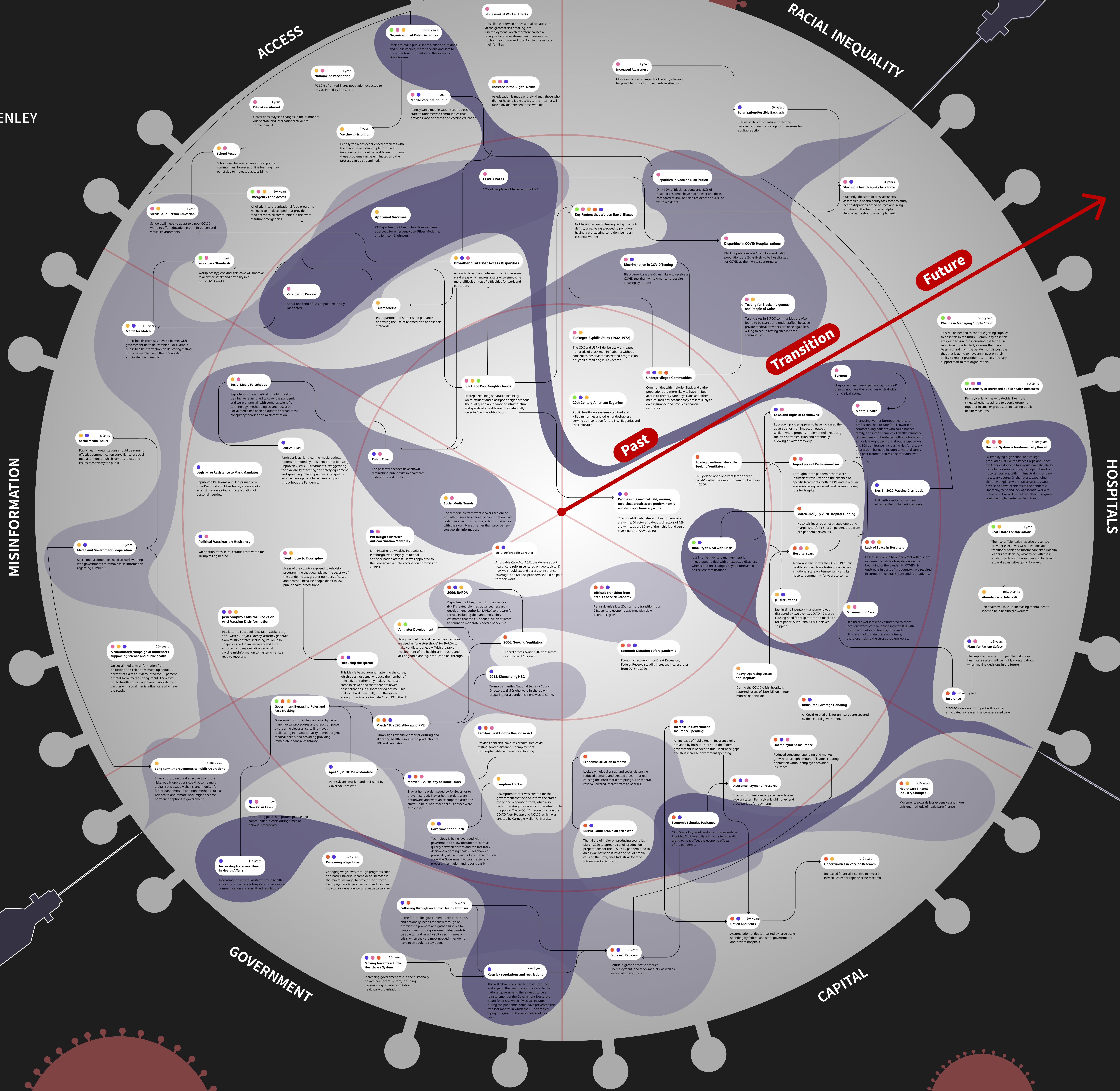
Dedicated high-level planning
Governmental planning can possibly respond to public health crises by stockpiling and distributing PPE and other resources.

Combating Misinformation
Health experts and governments can work with media outlets to spread medical information about current future pandemic situations.

Sustainable Economic Stimulus
Combining Keynesian Economics and other stimulating measures may be able to help increase economic demand and activity to previous levels. This could take the shape of Universal Basic Income or a Green New Deal. Additionally, a paradigmatic shift from an economy of constant growth to a circular economy may redefine employment and poverty.

ACCESS

RACIAL INEQUALITY

MISINFORMATION

HOSPITALS

GOVERNMENT

CAPITAL
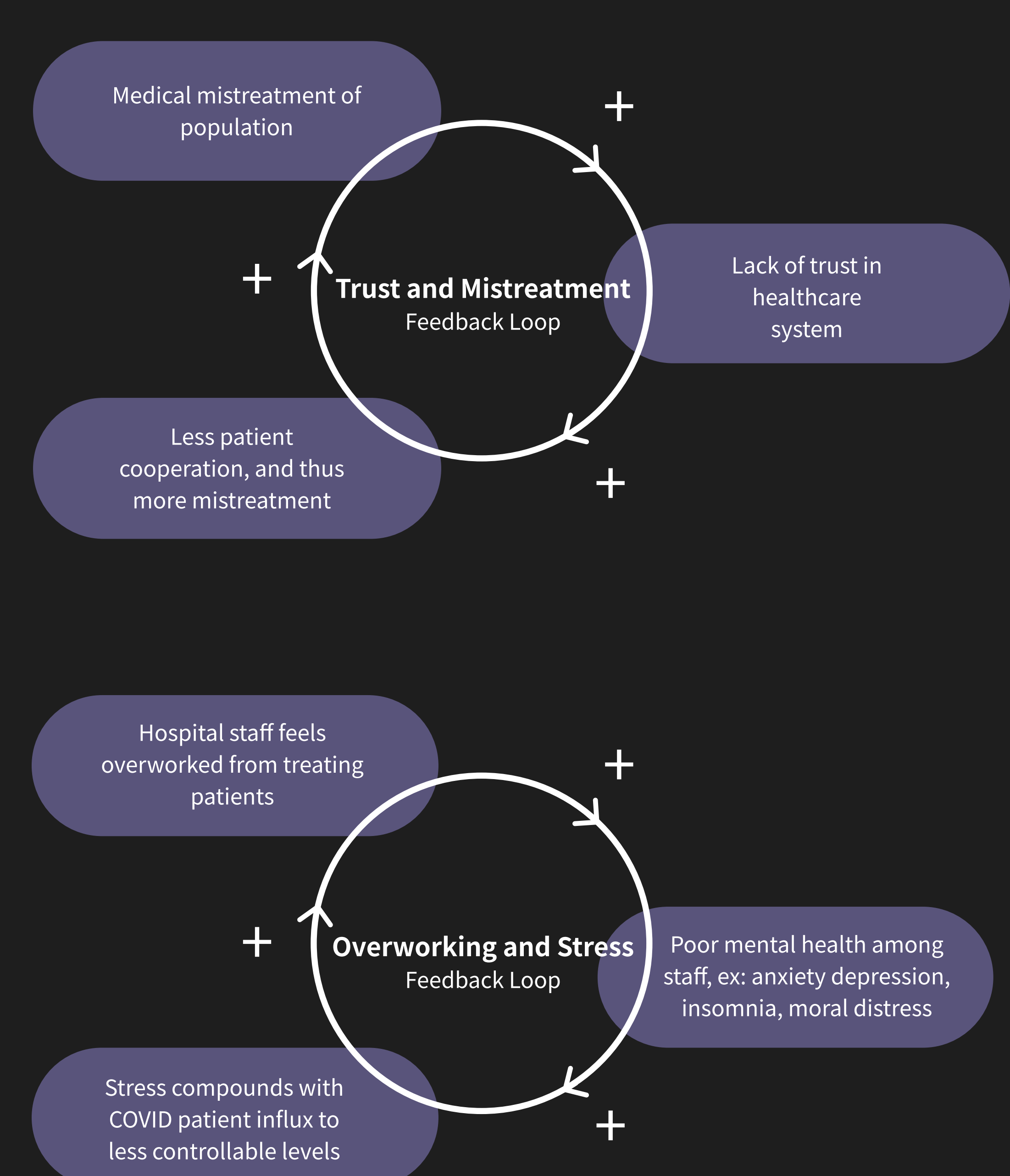
Past

Transition

Future

Racial Inequality Interventions

Diverse representation in medical leadership and experts
Minority leaders and doctors may be able to design and implement systems that are more equitable to all population

Equitable distribution of hospitals and insurance/methods of payment
Financial inequality and unequal geographic distribution of healthcare infrastructure exacerbates racial inequality.

Rigorous analysis and change of implicit biases in infrastructure
All aspects of healthcare should be thoroughly examined by their respective experts for possible systematic biases through statistical and ethnographical means.

Resources that can work beyond cultural or linguistic differences
Providing information and resources to minorities must be accessible to all people, regardless of language or culture.

Medical mistreatment of population

Trust and Mistreatment
Feedback Loop

Lack of trust in healthcare system

Less patient cooperation, and thus more mistreatment

Hospital staff feels overworked from treating patients

Overworking and Stress
Feedback Loop

Poor mental health among staff, ex: anxiety depression, insomnia, moral distress

Stress compounds with COVID patient influx to less controllable levels

Healthcare System Interventions

Systems that allow for equipment, resources, and manufacturing to be easily accessible between hospitals and producers on a national scale
Public health issues with variable loads/stresses across the nation can call for resources to be shifted according to localized needs.

Readily available healthcare force that can adapt to times of crisis
A rapidly deployable healthcare force can respond to crises effectively.

Training and preparedness for public health response
We may be able to prepare with systems of simulations and drills; "germ games" in a similar way to "war games" can help us test for flaws and weaknesses in infrastructure and coordinated response.

Categories

- Social
- Technological
- Environmental
- Economic
- Political