## Beating Coronavirus: Flatten the Curve, Raise the Line

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COVID-19, caused by a coronavirus, has led to a pandemic that threatens everyone. The overriding strategy to limit the damage and to beat this pandemic is to “flatten the curve and raise the line.”

**FLATTEN THE CURVE**

During a pandemic, health care resources like hospitals and ICU beds can be overwhelmed by the sheer number of patients - above and beyond the baseline number of patients who are already being cared for by the healthcare system, like those with heart attacks, strokes, or other infections.

To visualize the progress of a disease outbreak over time, we can plot an epidemic curve. This is a graphic depiction of the number of new outbreak cases by date of onset of the disease. The overall shape of the curve can reveal the type of outbreak we’re dealing with and the horizontal line represents the capacity of the community health care system. Hospital capacity is defined as the number of beds, staffing, and other measures available for patient care.

Now, most hospitals in the US and many other countries are already operating close to the capacity line, so when a pandemic occurs, the infectious agent spreads very rapidly, and the curve can rise and cross the line.  When this happens, the healthcare system can no longer meet the needs COVID 19 patients as well as all of the other types of patients! At that point, people are not getting the best care and outcomes like the mortality rate start to rise quickly.

For these reasons, a large number of lives can be saved by simply ensuring people get sick at a slower rate, and this is called “flattening” of the epidemic curve.  A flatter curve assumes the same number of people ultimately get infected, but over a longer period of time, which leads to a less overwhelmed health care system.

Now, a key factor to flatten the curve is social distancing, which refers to measures aimed at reducing close contact between people. This is why governments are closing schools, non-critical businesses, and other places where people gather like sporting and social events.

By limiting interactions between individuals, we can limit the spread of the disease.  This is why it’s so important to educate as many people in the community as possible through online education, news articles, and even social media posts.

Apart from social distancing, there are a number of key behaviors that you can do, like practicing good hygiene by washing your hands frequently and cleaning frequently touched objects and surfaces, and isolation in confirmed and suspected cases.

**RAISE THE LINE**

While health care systems are doing their part to help flatten the curve, they also need to meet the increasing demand. This is “raising the line” of our healthcare capacity. In times of increased demand, hospitals need to increase the number of available beds and staffing by canceling elective procedures, as well as figuring out ways to offer patients online health education opportunities, and to see patients outside the hospital with home care and telemedicine whenever possible. In addition, within hospitals, every effort is made to keep patients with COVID-19 separate from patients who are hospitalized for other reasons in order to avoid intra-hospital spread. To keep clinicians safe, they need personal protective equipment like N95 masks, and since they’re in short supply it’s important that they’re only being used by healthcare providers.

By discharging healthy patients from hospitals as quickly as possible, cancelling elective procedures, and ramping up staffing, health care providers are doing everything possible to ensure acute facilities can deal with the waves of patients with COVID-19, along with those who are sick for other reasons. This ensures there are enough clinicians to care for the sick, and also ensures that critical medications and supplies of protective equipment remain adequate throughout the pandemic.

Ultimately, the most important factor to avoid overwhelming the healthcare system is to keep the curve below the capacity threshold, ensuring the increased demand doesn’t exceed the available resources.

**WHAT CAN YOU DO**

As the magnitude of COVID-19 rises, it’s clear that our best option is to flatten the curve and raise the line!

Remember to wash your hands as frequently as you can, practice social distancing, stay out of hospitals unless absolutely necessary, ensure that medical supplies like N95 masks are being used only by healthcare providers, and promote understanding of the pandemic by sharing reliable information from reputable online health educators and other sources.  Most importantly - don’t panic! Let’s all unite against this pandemic!

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