By the end of January 2020, Norway’s Ministry of Health had authorized the Directorate of Health to coordinate Covid-19 work for all of the Norwegian Health Services. The Directorate alerted municipalities and hospitals across the country about the potential of the pandemic that had yet to even peak in China. Early and aggressive testing also has contributed to Norway’s ability to suppress the curve of hospitalizations and fatalities.

As the Covid-19 pandemic spreads from country to country, different nations with their unique health systems seem to be taking more or less drastic measures to stop the spread of the virus and handle the logistics within the health care sector. Norway was one of the countries with an early rise in positive cases in Europe but, on April 6, 2020, the Minister of Health announced that the situation seemed to be well under control, with a little less than 5,800 confirmed current cases, 314 hospitalized patients, and a death toll of 77. Those numbers have continued to increase since then, but daily cases have been declining since a peak of almost 400 new cases per day at the end of March. As of April 11, the fatality rate was about 2.24 deaths per 100,000 population, which is considerably lower than the United States’ 6.25 per 100,000 population or Spain’s 35.54 per 100,000 population. What measures were taken to meet the outbreak in Norway, and what advantages of the country could be relevant elsewhere?

Facts about Norway

Norway is a Northern European country with a population of only 5.3 million. It has a long coastline and is famous for its narrow fjords and high cliffs. People live more decentralized than in most areas in Europe, with 356 municipalities varying in population size from 200 to 670,000. According to the Organization for Economic Co-operation and Development (OECD), Norwegians are among the healthiest people on the planet, although they spend only about 10% of their GDP on health care, with about 85% of that as public spending.
The Norwegian Health Services are a single-payer system with one taxation-based health insurance covering all citizens. Specialized care is handled by four regional health trusts that own local hospitals and buy services from a few nonprofit or for-profit providers. Primary care is run by the municipalities, which hire independent primary care physicians (PCPs), and every citizen is placed on a patient list to a PCP of their own choice. About 9% of the population carries supplementary private health insurance through for-profit insurers; the coverage is mainly employer-based and enables quicker access to some elective services and greater choice of private providers but not acute care. Because the single-payer plan covers every type of advanced treatment apart from adult dental care, it is debated whether this insurance is necessary. For every Norwegian, there is a cap on the annual co-payments tied to medical treatment and subscription drugs, approximately $240 (USD, based on the April 12, 2020, exchange rate), no insurance premiums, and no surprise bills, meaning health care in Norway is regarded as a right, not something you buy.

Patient Zero

The first Norwegian Covid-19 patient was diagnosed on February 26, 2020. At that point, the health authorities had alerted municipalities to test patients coming from known disease-prevalent areas, such as Wuhan in China; Norway’s patient zero was diagnosed after a routine medical check-up and immediately quarantined. Many more would be diagnosed in the following days. The national winter break had just ended, and many Norwegians had spent their holiday week in Northern Italy going skiing.

However, the work at the Norwegian Directorate of Health—a specialist governmental body in the area of public health, living conditions, and health services underlying the Ministry of Health—had already begun. After getting the first message about what was then only the potential Covid-19 threat from the World Health Organization on January 7, 2020, the Directorate of Health had, by January 22, alerted municipalities and hospitals across the country, as well as the public, about a possible pandemic. Finally, on January 31, 2020, the Directorate was given the authority by the Ministry of Health to coordinate the Covid-19 work for all of the Norwegian Health Services.

An emergency unit of leading health care officials was formed, and a clear strategy was developed to flatten the curve of newly infected individuals to prevent overwhelming the health care services and to reduce mortality rates. Based on reports from the Norwegian Institute of Public Health, an early and important measure turned out to be the early and aggressive testing regime. It included testing of all people in confirmed contact with confirmed Covid-19 cases, people who recently had been traveling in outbreak areas, such as Italy and China, and screening of people with current airway infections.
The information gathered from the test data directly led to the decision on March 12, 2020, to close schools and quarantine everyone entering the country for 14 days, as it was becoming obvious that the virus was spreading freely in communities. As of April 12, Norway had tested 23.21 people per 1,000 population for Covid-19. By comparison, Italy had tested 16.29 people per 1,000 population and the United States had tested just 8.04 people per 1,000.

Early Involvement of Laboratories

One of the success factors of the testing regime was the early involvement of all 21 microbiological laboratories in the country. Since January, these laboratories were repeatedly updated on recent developments of the virus outbreak and had therefore adopted the Covid-19 RT-PCR test into their routine workflow by the beginning of February. After the first patients were diagnosed, temporary drive-through tents for testing patients were quickly put up outside hospitals, and a national effort was done by PCPs to implement video consultations across the country (the rate of PCPs offering video consultations went from 15% to almost 100% in a month) to segment care and to identify those who should be tested. On March 6, 2020, the National Institute of Public Health announced that the national laboratory testing capacity was still high; at that time, Norway had the seventh-highest infection rate in the world, after countries like China and Iran, but no hospitalized patients and no deaths.

National Guidelines

As the number of infected people continued to rise in March, national treatment guidelines were sent out to hospitals on March 19. Patients were advised to be treated at their local hospitals as long as there were available ICU beds; also, all planned procedures were asked to be postponed, with exceptions for patient safety. As practically all Norwegian physicians in specialized care are salaried, the work contract with the Norwegian Medical Association representing physicians working in both public and nonprofit hospitals was renegotiated to give increased flexibility to providers during the pandemic.

Also, the national guideline for prioritization of Covid-19 patients developed in mid-March after a week-long hearing among providers and medical experts made it clear that the health authorities did not want an age limit for ICU admission that was being practiced in Italy at that time (no seriously ill Covid-19 patients over age 60), but rather individual evaluations based on existing condition-specific guidelines.

Critical Equipment

Another important measure was the early development of a strategy to ensure that all levels of the health care services had necessary critical equipment. In January, a regime was set up to make all the municipalities report their needs to the Directorate of Health, which then could prioritize where to send shipments of equipment while being in continuous discussion with local leaders. Such items included personal protective equipment as well treatment, diagnostic, lab, life support, and durable medical equipment.
The strength of the Norwegian Covid-19 response seems to be the early decision to pursue a national strategy, to coordinate efforts across regions as well as primary and specialized care, and the general willingness to listen to and trust the health authorities in a time of crisis.

The hospitals were asked to report to their own Regional Health Trust, and the South-Eastern Norway Regional Health Authority was designated to create a national storage supply to serve all levels of Covid-related care for all regions. After involving the Ministry of Foreign Affairs and the state-owned company operating most of the civil Norwegian airports, transport airplanes were chartered in mid-March to bring in equipment from abroad. As new shipments keep on entering the country by air or land, small samples of goods are routinely tested by the research laboratory of the Norwegian Armed Forces to ensure that the quality of the face masks, goggles, gowns, etc. is sufficient.\textsuperscript{25,26}

The Strength of the Response

Not all of the measures mentioned in this paper have been celebrated by the Norwegian public or medical community. The health authorities have been criticized for being too slow to impose quarantines, entry bans, and other restrictions for citizens, and for having lacked supplies of critical equipment necessary to meet a pandemic the size of the current one, which in mid-March for a short while led to testing restrictions.\textsuperscript{27-29}

Still, the strength of the Norwegian Covid-19 response seems to be the early decision to pursue a national strategy, to coordinate efforts across regions as well as primary and specialized care, and the general willingness to listen to and trust the health authorities in a time of crisis.\textsuperscript{30} This trust has, by many, been pointed out to be deeply rooted in Norwegian mentality,\textsuperscript{31} although it is also a feature that is easily facilitated by the nature of a single-payer system with universal health care. When the government sent out word that people returning from abroad should be tested, people showed up to do so knowing that it would mean little or no expense to them. This made it easy for the authorities to locate the infected early and to trace everyone who had been interacting for more than 15 minutes with infected individuals.\textsuperscript{15}

In summary, strong governmental involvement, universal health coverage, well-planned regional health care integration, and a persistent national strategy seem to be decisive factors when taking on an epidemic of the magnitude of the 2020 Covid-19 outbreak. In this way, the Norwegian response to the current pandemic could provide lessons for other systems, including U.S. health care services.

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