
Mental Health Considerations During a Pandemic Influenza Outbreak

K Ayers, P Yellowlees

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Abstract

The 1918 influenza pandemic was one of history's most devastating outbreaks of an infectious disease. In the past several years, we have seen SARS, avian influenza, and now recently, H1N1 influenza causing much concern. As there has been no widespread influenza pandemic in recent times, we do not know how the affected population would respond. To address those concerns, we have developed a just-in-time (JIT) continuing medical education program with a grant from the California Department of Public Health. This article provides an overview of those training modules. We were fortunate to find survivors of the 1918 pandemic and interview them. Excerpts of those interviews are included in the modules. The modules are available online at no charge. CME/CE credits are available for a variety of health professionals. An instructor's manual is available at no charge. This curriculum provides ready, available training at no cost for those interested in potential mental health response to pandemic influenza.

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INTRODUCTION

The 1918-19 pandemic of influenza was one of history's most devastating outbreaks of an infectious disease (1). More recently, SARS and avian influenza have caused much concern. What is the extent of the morbidity and mortality associated with a possible pandemic? What would the affected population do and how would they respond? What psychological effects would a pandemic have on individuals and the population?

To answer these questions and others, we developed a just-in-time continuing medical education program (CME) with a grant from the California Department of Public Health. In this publication, we will discuss some of those concerns. We will also list other issues covered in the CME, along with the website for the course. We were also fortunate to find a few survivors of the 1918-19 pandemic, and interview them. Excerpts of those interviews are included in the modules.

With a pandemic similar to that of 1918-19, we could expect to see a high number of casualties, especially among the young and healthy. Treatments would be of limited

availability, and those treatments will not always be effective. Hospital and medical systems would be overwhelmed. In California, the projected gross domestic product (GDP) loss from a severe influenza pandemic is estimated to be \$86.9 billion, with 10,713,000 people ill and 253,000 deaths (2). During the worst part of the outbreak, businesses may experience absenteeism of over 50%. In California, projected losses due to absenteeism and deaths could reach almost \$40 billion, with loss to state industries an additional \$31 billion. There may be enforced quarantine, isolation and possible forced closure of most public gatherings. The psychological impact may be immediate or delayed. Continuing fear, worry, and anxiety could occur as individuals wait for the pandemic to reach their community. These outcomes could occur despite planning. Nationally, the WHO has predicted 1,800,000 deaths in the US if the next influenza pandemic has the same illness rate and case fatality ratio as the 1918-19 pandemic.

The 1918-19 pandemic was deadly due to a new strain of virus, so there was no natural immunity in the population. The virus prompted an immune response that seemed to derail the body's typical immune response, attacking the lungs. Many individuals also developed secondary bacterial infections (3). Communities may be facing a similar set of circumstances with the H5N1 virus or the recurrent H1N1.

Past pandemics and other disasters indicate that panic rarely occurs. Instead, it is more typical to see adaptive, prosocial behaviors (4). However, it is also likely that people will experience a loss of confidence in government and other institutions, express anger at authority figures, and feel demoralized (5). Survivors may feel disappointed and resentful if hopes for aid and restoration are not met, and the sense of community may weaken if individuals focus on personal needs (6). Some people will experience posttraumatic symptoms, as well as extended grief and mourning, especially after multiple losses. Survivors' lives may have changed immeasurably and "returning to normal" may not be possible.

The time course and impact of a pandemic depend on many factors, including the type of germ, recognition of an outbreak, and community response. There will be disruptions to daily living, much personal loss, economic devastation and ripple effects. In a pandemic, there may be a clearly defined beginning (first case), but no clearly defined end point. The impact period may be prolonged, which impedes the recovery process. A severely affected community will take longer to recover. In some cases, a community may never recover or may take decades to do so (7).

It seems very likely that community and individual responses to a major pandemic may progress in phases, such as those seen in other types of disasters (8). There may also be a vulnerable point at the anniversary of the pandemic. In 1919, a second wave of the same influenza virus circled the world, and some individuals became ill the second time. The threat of the returning pandemic may have also led to retraumatization for survivors.

Increased levels of anxiety and mood disorders could also be expected, along with acute stress disorder and posttraumatic stress disorder. These are associated with increased substance abuse, violence in interpersonal relationships, and risk of suicide (9). Members of various professions are more likely to be affected by a high death toll. A massive surge on the medical system is likely, and adherence to public health recommendations may be low. People will expect equity in treatment and respect for civil liberties. Institutions must be open and honest in answering questions.

A massive surge on the medical system is likely. However, vaccines may not be quickly available and antiviral medications may be in short supply. A pandemic influenza virus would be transmitted world-wide very quickly. Other

interventions will have to be implemented, such as social distancing, closing places of mass gatherings, isolation and quarantine. These interventions were useful during the 1918-19 pandemic. Despite these interventions, adherence to public health recommendations will be low—some people will simply not cooperate with public health measures. Some people will reject vaccinations, and some people will violate isolation and quarantine restrictions. Containment measures may also affect religious or cultural rituals surrounding burial and grieving practices.

Key health personnel may be worried about transmitting the virus to their loved ones and so avoid working with influenza patients. Those who do work with influenza patients will be over-worked for several weeks. Alternative care sites will need to be utilized and many people will want to remain at home. Research has shown that many people would be willing to go into voluntary quarantine or isolation to care for a family member at home (10), and that they would prefer to receive information and support from medical personnel they know and trust.

People will need information that is quickly available and easily accessible. Institutions must also be open and honest in answering the public's questions. There will be economic impact at all levels, and people will need economic assistance.

It is important to remember that disaster mental health is not psychotherapy. They have different methods and goals. Most people will need practical information, immediate crisis counseling, and support or monitoring. In the midst of a pandemic, people will still need human contact, but this will have to be balanced with isolation and quarantine practices. People will need basic information to assist in problem solving and everyday tasks. Multiple brief contacts are best and help to build trust. It is important to normalize reactions, and help people understand what they are experiencing. Survivors will want to return to their pre-pandemic level of functioning as quickly as possible; at the same time, they will want to address their crises in manageable doses.

It's important to maximize adaptive behavior change, using existing systems for disseminating information through schools or the workplace, using multiple communication channels, and provide support for key personnel in critical infrastructure functions. Risk management, in the form of ongoing, frank communication, proactive strategies, and consistent, accurate information, will be useful. The public wants to be involved and is capable of learning and helping

during a pandemic.

Infectious disease specialists could provide correct information quickly and credibly; health authorities will also need to be candid about available information and resources. Credibility gaps can open quickly, which send individuals to alternative and potentially inaccurate sources of information. People may be more accepting of quarantine and isolation if they see it being applied fairly. (11)

The federal program, the National Incident Management System (NIMS) and in California, the Standardized Emergency Management System (SEMS) are available to provide assistance. Local county agencies also have a role in disaster response, along with Volunteer Organizations Active in Disasters (VOADs), which supplement the lead government agencies. FEMA offers the Crisis Counseling Program (CCP) for mental health response, which provides services through the first anniversary of a disaster. The National Disaster Medical System offers the Disaster Mortuary Operational Response Team in the event of mass casualties.

The modules provided in this CME examine these issues and more. Module I, Basic Clinical Principles, discusses recognizing typical reactions to pandemic disasters, learning intervention styles, and understanding assessment procedures. Module II, Viruses, discusses differences among types of influenza viruses and covers influenza virus facts. Module III, Adaptive Responses, examines psychological and behavioral responses in a pandemic and methods to maximize adaptive behavior changes. In the fourth Module, Risk Management, Quarantine and Isolation, behavioral health issues related to quarantine and isolation are examined, along with risk communication and public health education. Module V, Mental Health Response Systems, discusses the California disaster response system and how

mental health services are provided in that system and covers funding that may be available for disaster mental health services. Module VI, Other Mental Health Considerations, looks at short and long term presentations of anxiety disorders after a pandemic, examines coping styles, and provides information on assisting with death notifications. These modules may be accessed at <http://cme.ucdavis.edu> at no cost. CMEs are available for physicians, nurses, psychologists, social workers, and marriage and family therapists.

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Author Information

Kathleen Ayers, PsyD

Staff Research Associate, Academic Information Systems, UC Davis Health System

Peter Yellowlees