

# ADEQUACY OF HEALTH CARE MEDICAL SURGE CAPACITY FOR PANDEMIC INFLUENZA

## Executive Summary:

Issue: A pandemic will severely stress and overwhelm the capacity of our current health care system to provide and sustain care for those who need it. This includes those inside the health care system, such as: hospital and health clinic employees, home health agencies, private physician groups and other medical facilities. Fire, EMS and other responding agencies, local and state health department personnel will also be affected.

## Recommendations for the Taskforce:

1. Establish mechanisms to establish altered standards of care for use during a pandemic and to provide liability protection to providers following those altered standards of care
  - a. Build upon the pandemic decision-making process recommended by the Taskforce previously, to develop altered standards of care based on a “sufficiency of care”<sup>1</sup> model for implementation during a pandemic when usual care was not possible.
  - b. Endorse the development of legislation that would protect health care facilities and emergency response personnel from legal action for using the “sufficiency of care” model when the recommendation is made to do so and develop ready-to-use emergency declarations to facilitate needed actions and decisions.<sup>1</sup>
2. Support the development of unified messages from hospitals, the Utah Department of Health and local health departments, informing the public that care given at hospitals during a pandemic event will be different than the care they receive today; including clear messages about who should and should not report to health care facilities during a pandemic.
3. Encourage community support for our health care providers so they can continue to care for their families while still coming to work. Support may include priority for prophylactic medication and or vaccination for themselves as well as their families and assistance with procurement of essential supplies. Develop an educational process for the public on how the flu is spread and what they can do to protect themselves; explaining the importance of hand and respiratory hygiene and social distancing.
4. Recommend healthcare systems purchase and stockpile essential supplies. This may include preparedness items such as: personal protective equipment (PPE), automatic resuscitators, N-95 respirators, cots and body bags. Additionally, recommend that hospitals are supported financially to ensure planning and preparation is completed.
5. Support the use of willing medical and non-medical volunteers to provide care outside of their expertise by providing unified training for those who agree to do so.

## **Background:**

### **Utah's current healthcare situation:**

The Utah Hospital Association (UHA) performed a hospital survey in the spring of 2006 focusing on current available resources. The results of the survey revealed the state has 4,915 licensed beds. However, only 3,949 of those beds are currently staffed. This is due to a chronic shortage of qualified physicians, nurses, pharmacists and respiratory therapists available to staff those beds. Many of the hospitals in our state run at 90% capacity or higher on a daily basis. Emergency Departments are particularly stressed; not just in Utah but all over the United States. The Institute of Medicine's Committee on the Future of Emergency Care in the United States Health System was convened in 2003 to examine the state of emergency care in the U.S., to create a vision for the future of emergency care, including trauma care, and to make recommendations to help the nation achieve that vision. Their findings were published in June 2006 and revealed that demand for emergency care has been growing fast; emergency department visits grew by 26 percent between 1993 and 2003 but over the same period, the number of emergency departments declined by 425 and the number of staffed hospital beds declined by 198,000. Please see the supporting document for projected numbers of persons per county that would be affected during a pandemic event.

### **Pandemic Planning assumptions:**

- The clinical disease attack rate will likely be 30% or higher in the overall population during the pandemic.
- Of those who become ill with influenza, 50% will seek outpatient medical care.
- In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40% in health care workers during the peak weeks of a community outbreak.
- In an affected community, a pandemic outbreak will last about 6 to 8 weeks.
- Multiple waves of illness could occur.
- There is no vaccine and it will take approximately 6 months to develop one after the pandemic has started.

### **Objectives:**

- 1) Develop a realistic understanding of the capacity of the health care system to respond to a pandemic and identify measures and options that can be taken to improve that capacity.
- 2) Identify measures that can be taken to improve public awareness and adherence to health messages in order to use the system optimally.
- 3) Identify measures that can be taken to protect health care workers and to preserve the ability of the health care system to function during and after a pandemic.
- 4) Identify measures to protect hospitals and health care providers from the consequences of a pandemic, including liability from providing care when it is not possible to meet usual standards of care.
- 5) Identify decisions that should be referred to the pandemic decision-making process recommended previously by the Taskforce.

## Concerns and Critical Issues:

The following is a list of critical issues that will impact the medical health care system during a pandemic influenza. Any subsequent disasters, whether natural or man made will also have the same effect.

### (1) Primary Critical Issue:

**There are not enough hospital beds, hospital staff, medical equipment or medical supplies to deliver the same level of care we are able to provide today to our patients to the numbers of persons who would seek care during a pandemic.**

The number one rule of providing medical care during a disaster is to do the greatest good for the greatest number. *However, currently there is no legal protection for hospitals or health care providers who may be forced to make decisions about rationing care.* Many health care providers in the state of Utah are willing to put their patients and the community first by trying to do the best they can for the most they can but are worried about potential legal retribution after the pandemic is over. Health care providers are concerned that if the severity of the pandemic is like that of the 1918, they would not be able to meet the “standard of care” which is expected but would then be penalized.

Pre-planning is the most effective way to avoid “last minute decisions” that could have lasting consequences and impact response effectiveness. Developing a key group of practicing primary care and specialty physicians, including ethicists, in our community to develop a “sufficiency of care model” that would be recommend to the Governor for use when circumstances prevented meeting usual standards of care would standardize care throughout the state and give healthcare systems the ability to focus on patient care. The sufficiency of care model would include: cessation of all non-essential services during the peak weeks of a pandemic, placement of patients in non traditional areas within the hospital or alternate care facilities outside the hospital, pre-established screening tools and triage criteria including guidelines for ventilator triage that would be used by all healthcare systems in an effort to standardize care throughout the state.

Currently the State government does not have the power or emergency declaration statutes to be effective during a disaster. *There is not a committee or group of specialized healthcare providers that advise the state on patient care guidelines or recommendations during a disaster.* Healthcare providers in separate hospitals do not currently coordinate patient care. In a pandemic event, this could cause distrust and anger within the community or cause one hospital to become completely overwhelmed if different levels of care are being given at different hospitals.

### (2) Supporting Critical Issues:

In addition to the primary critical issue there are additional concerns that impede hospitals from moving forward with effective planning.

- A. Public Perception of Health Care Capabilities
- B. Community Support for Health Care Systems
- C. Lack of funding
- D. Use of volunteers

### **A. Public Perception of Health Care Capabilities:**

Advances in modern medicine have saved countless lives. In hospitals today, everything possible is being done for every patient. The public has accepted this as the standard of care and expects this type of care every time they come to the hospital. *In the event of an influenza pandemic, patient care will be different especially during the peak weeks.* Additionally, there is a large concern that people will rush to hospitals, urgent care facilities and primary care physicians just to make sure they are “okay”. If this occurs it will paralyze our health care delivery system and essentially expose all of those who are not sick to those who are.

To help alleviate the stress on the health care system, the development of unified messages for the public from the hospitals and endorsed by the Utah Department of Health would significantly decrease the surge of patients into the health care system. This information can be communicated to the public at the onset of a pandemic. These messages would include the following information:

- I. Care given at hospitals during a pandemic event will be different than the care they receive today.
- II. Who should and should not report to health care facilities during a pandemic
- III. Continued education for the public on how the flu is spread and what they can do to protect themselves; explain the importance of hand and respiratory hygiene and the process of social distancing.

### **B. Community Support for Health Care Systems:**

Community support for our health care providers would enable them to care for their families while still coming to work to provide patient care. Support may include priority for prophylactic medication and or vaccination for themselves as well as their families and assistance with procurement of essential supplies.

### **C. Lack of Funding:**

Hospitals that have increased their medical equipment and supplies have done so at their own cost. Most hospitals in Utah do not have a full time person devoted to disaster planning due to lack of funding for this position. Currently, the UHA has identified three critical areas where lack of funding has a direct affect on the **inability to meet patient demand with current resources:**

- I. **Beds** – The State of Utah regulations allow for an automatic 20% increase in licensed bed capacity in an emergency situation such as pandemic influenza, the critical issue remains finding staff to care for the patients placed in those beds. An additional consideration is the physical location for those beds. Placement of patients in non-traditional areas within the hospital or in alternate care facilities not attached to the hospitals, utilizing volunteers to provide staffing for these additional beds, would require legislative protection and funding for training. The use of screening areas and readily available screening tools used to quickly evaluate patients seeking care; sending the least sick home and those with the highest probability of survival to any facility with an open bed would require funding for training, equipment and supplies.
- II. **Staffing** – Most hospitals and health clinics are working at or near staffing capacity on a daily basis, some turning away patients because they don't have the

staff to take care of them. *The lack of qualified health care professionals has made it difficult to find additional staffing for day to day operations, let alone during a pandemic event.* Additionally, health care providers will have the highest risk for contracting the flu. Many are fearful that they will take the flu home to their family, for this reason there is the potential for decrease in available workforce to be even higher than in the non-healthcare workplace. Retaining support staff such as house keeping is also a major concern. Some support services may be even more unlikely to report to work than physicians, nurses, pharmacists, and respiratory therapists.

**III. Medical Equipment and Supplies** – Currently, most facilities use a “just-in-time” inventory and have no protocols in place to stockpile supplies such as: large numbers of N-95 respirators, masks, gowns and gloves that would be needed during a pandemic. Utah hospitals who are trying to stockpile supplies are having a difficult time purchasing these supplies (N-95 respirators and masks) due to high volume orders being placed all over the country. Purchase of larger equipment such as ventilators is questionable because of cost (\$27,000 per ventilator) and lack of highly trained staff required to care for a patient on a ventilator.

#### **D. Use of Volunteers:**

The importance of developing a systematic approach in the healthcare system to obtaining an identified and credentialed list of medical volunteers willing to offer their services in the event of a large-scale disaster is critical to provide for the increase in patient care. This would include all categories of clinical personnel and could be based on existing models. It would provide unified training for those willing to volunteer in order to increase their comfort level when providing care outside their area of expertise (ie. podiatrist, dermatologists, retired physicians, nurses and other skilled medical staff).

#### **Closing:**

During large-scale events, it has been shown that hospital and health clinic staff is more likely to become victims themselves, stay home with their families or leave the area to a location that they perceive as safe. Protecting the infrastructure of each particular health care facility plays an important role on the sustainability of the health care system.

Day to day operations of a hospital require that they plan for more than just the influenza pandemic. Other disease of concern that have the potential to overwhelm the health care system include but aren't limited to: chemical contamination, measles, pneumonic plague, SARS, smallpox, tuberculosis, viral hemorrhagic fevers and other as yet unknown newly emerging infectious diseases. This is in addition to the trauma care already being given on a daily basis.

The importance of pre-planning for any event cannot be overstated. Many diseases and maladies threaten human life. Our preparations therefore should not be aimed at the avian flu alone. We should prepare for pandemics in ways that are politically sustainable and remain useful even if a pandemic does not occur.

**Supporting Documents:**

The following are the supporting documents referenced in this paper:

- (1) Sufficiency of care definition: doing the greatest good for the greatest number with the available resources at that time. For example in two of the larger hospitals in the state nurse to patient ratios in acute patient care areas is 1:3 or 4, 1:5 at the most. In Intensive Care Units it is 1:1 or 2. During a Pandemic nurses may need to be asked to care for 5 times more than that). Please see the supporting document for the journal article from the Society for Academic Emergency Medicine titled “Concept of Operations for Triage of Mechanical Ventilation in an Epidemic” for complete explanation of the process recommended for establishing altered standards of care and providing protection to providers following those altered standards of care. Important aspects of that process include: 1) Establishing an advisory group that is technically competent to produce altered standards of care, including for example triage criteria for ventilator respiratory support when the demand exceeds the supply. Such an advisory group should include experts in clinical medicine as well as experts in ethical decisionmaking. 2) Establishing a second, policy advisory group is recommended that would include medical expertise, but also be broadly representative of the community and which would evaluate the technical recommendations to assure they are equitable and compatible with community values.

**STATE OF UTAH POPULATION: 2,528,928**

Illness	758,678	
Outpatient Medical Care	379,339	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	7,283	83,455
<i>ICU</i>	1,092	12,518
<i>Ventilator</i>	546	6,259
<i>Deaths</i>	1,745	15,932

**BREAKDOWN BY HEALTH DISTRICTS (INCLUDING COUNTIES)**

**Salt Lake County population: 970,748**

Illness	291,224	
Outpatient Medical Care	145,612	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	2,796	32,035
<i>ICU</i>	419	4,805
<i>Ventilator</i>	210	2,403
<i>Deaths</i>	670	6,116

**Davis County population: 276,374**

Illness	82,912	
Outpatient Medical Care	41,456	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	796	9,120
<i>ICU</i>	119	1,368
<i>Ventilator</i>	62	684
<i>Deaths</i>	191	1,741

**Utah County population: 453,977**

Illness	136,193	
Outpatient Medical Care	68,097	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	1,307	14,981
<i>ICU</i>	196	2,247
<i>Ventilator</i>	98	1,124
<i>Deaths</i>	313	2,860

**Tooele County population: 51,835**

Illness	15,551	
Outpatient Medical Care	7,775	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	149	1,711
<i>ICU</i>	22	257
<i>Ventilator</i>	11	128
<i>Deaths</i>	36	327

**Bear River (Box Elder, Cache, Rich Counties) population: 149,705**

Illness	44,912	
Outpatient Medical Care	22,456	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	431	4,940
<i>ICU</i>	65	741
<i>Ventilator</i>	32	371
<i>Deaths</i>	103	943

**Summit County population: 36,417**

Illness	10,925	
Outpatient Medical Care	5,463	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	105	1,202
<i>ICU</i>	16	180
<i>Ventilator</i>	8	90
<i>Deaths</i>	25	229

**Weber-Morgan Counties population: 221,232**

Illness	66,370	
Outpatient Medical Care	33,185	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	637	7,301
<i>ICU</i>	96	1,095
<i>Ventilator</i>	48	548
<i>Deaths</i>	153	1,394

**Wasatch County population: 20,138**

Illness	6,041	
Outpatient Medical Care	3,021	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	58	665
<i>ICU</i>	9	100
<i>Ventilator</i>	4	50
<i>Deaths</i>	14	127

**Central (Juab, Millard, Piute, Sanpete, Sevier, Wayne Counties) population: 71,046**

Illness	21,314	
Outpatient Medical Care	10,657	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	205	2,345
<i>ICU</i>	31	352
<i>Ventilator</i>	15	176
<i>Deaths</i>	49	448



**Southeast (Carbon, Emery, Grand, San Juan Counties) population: 52,832**

Illness	15,850	
Outpatient Medical Care	7,9255	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	431	4,940
<i>ICU</i>	65	741
<i>Ventilator</i>	32	371
<i>Deaths</i>	103	943

**Southwest (Garfield, Iron, Kane, Washington, Beaver Counties) population: 182,295**

Illness	54,689	
Outpatient Medical Care	27,344	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	525	6,016
<i>ICU</i>	79	902
<i>Ventilator</i>	39	451
<i>Deaths</i>	126	1,148

**Tri-County (Daggett, Duchesne, Uintah Counties) population: 42,327**

Illness	12,698	
Outpatient Medical Care	6,349	
	<b>Moderate</b>	<b>Severe</b>
<i>Hospitalization</i>	122	1,397
<i>ICU</i>	18	210
<i>Ventilator</i>	9	105
<i>Deaths</i>	29	267