

influenza and compared the relationship between the training to performance assessment of admitting a suspected avian influenza patient.

**Methods:** The quality of different components of the training programs of all general hospitals to manage pandemic influenza outbreak was evaluated, utilizing a standardized evaluation tool. The results of the evaluations were compared to performance assessments of admitting and treating a suspected avian influenza patient.

**Results:** Significant correlations were found between all components of the training programs to the performance assessment. High correlations were found between the comprehensiveness of the training with the achievements in the performance assessment. Medium correlations were found between the contents of the training and designating personnel for the training with the achievements in the performance assessment. A low correlation was found between the training materials to the performance assessment.

**Conclusions:** Training medical personnel is an important component in maintaining preparedness for pandemic influenza. The comprehensiveness of training programs appears the most important element. Benchmarks of training programs were identified and can be utilized to promote preparedness for pandemic influenza.

**Keywords:** avian influenza; health professionals; pandemic influenza; pandemics; training

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### Do Standard Operating Procedures for Pandemic Influenza Relate to Performance Assessment?

*Bruria B. Adini,<sup>1</sup> Avishay Goldberg,<sup>2</sup> Robert Cohen,<sup>3</sup> Yaron Bar Dayan<sup>2</sup>*

1. Ministry of Health, Bitan Aharon, Israel
2. Ben-Gurion University of the Negev, Beer Sheva, Israel
3. Hebrew University, Jerusalem, Israel

**Introduction:** The first step toward achieving hospital preparedness for pandemic influenza is the development of standard operating procedures (SOPs), as they enable the planning of the response, prepare the infrastructure, and train the medical teams.

**Methods:** The SOPs developed by hospitals for pandemic flu were evaluated using a standardized evaluation tool. The quality of the SOPs was compared to the performance assessment of admitting a suspected avian influenza patient.

**Results:** Moderate correlations were found between the evaluation scores of the SOPs and the scores achieved in the performance assessment. The components of the SOPs that significantly correlated with the performance assessment were protection of staff and patients, staff coordination and control, and expansion of surge capacity. Various hospital characteristics that were evaluated did not correlate to the hospitals' SOPs scores or to the performance assessment.

**Conclusions:** The correlations found between hospitals' SOPs to manage pandemic flu and the performance assessments of dealing with an avian influenza patient show the importance of effective SOPs as part of the emergency preparedness process. Standard operating procedures are required especially for supplying guidelines that instruct hospital staff on how to function in unfamiliar situations or

in areas that are perceived by the staff as risking their well-being. The study strengthens the need to develop SOPs that are comprehensive and cover relatively new risks.

**Keywords:** pandemic influenza; pandemics; preparedness; standard operating procedures; training

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### Pandemic Influenza Triage System

*Charles Little,<sup>1</sup> Joseph Wathen,<sup>2</sup> Diana Herrero,<sup>3</sup> Stephen Cantrill<sup>4</sup>*

1. University of Colorado Denver, Aurora, Colorado USA
2. The Children's Hospital, Aurora, Colorado USA
3. Colorado Department of Health and Environment, Denver, Colorado USA
4. Denver Health Medical Center, Denver, Colorado USA

**Introduction:** During a pandemic influenza outbreak, the current healthcare infrastructure would be overwhelmed with patients. A standardized method of appropriately triaging patients to hospitals, clinics, alternate care facilities, and other sites of care is needed. Current scoring systems for triaging patients are complicated and require laboratory data. A new triage system is proposed.

**Methods:** An expert panel developed an algorithm for triaging patients from the ambulance, clinic, and emergency department settings to different levels of care during a pandemic. Potential community facilities for patient care were categorized into four levels based on the complexity of care that could be provided. The new algorithm assigns patients to these different locations.

**Results:** The patient is assessed and one point assigned for each abnormality: respiratory rate <30/minute; shock index <1 (heart rate/systolic blood pressure); O<sub>2</sub> saturation <90%; altered mental status; age ≥65 years.

A detailed disposition scheme based on the point score was developed and will be described. To summarize a patient with a score of 1 is triaged home or to a low-level care facility, patients with scores of 2 are triaged to a broad range of facilities depending on the abnormalities, and those with scores of 3 are triaged to a hospital.

**Conclusions:** This novel triage algorithm can be used to rapidly estimate the severity of illness during a pandemic. This will facilitate more appropriate and standardized allocation of patients to different levels of care during an influenza pandemic. This will help to avoid overwhelming hospitals with non-critical patients.

**Keywords:** algorithm; influenza; pandemic; severity; triage

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### Attitudes of Japanese Healthcare Professionals toward an Avian Influenza Pandemic

*Satoko Mitani; Etsuko Ozaki; Naobisa Fujita; Yoshiyuki Watanabe*

Kyoto Prefectural University of Medicine, Kyoto, Japan

**Introduction:** According to an estimate, the absence rate of Japanese businessmen may increase 40% during an avian influenza pandemic. Medical needs will increase, and simultaneously, the risk of infection of the medical staff and the absence rate of the medical staff also will increase. This situation will impact on psychosocial aspect of status of the

medical staff. The purpose of this study was to define how to keep staff members at a hospital during the avian influenza pandemic phase.

**Methods:** Employees at six hospitals in Kyoto, Osaka, Hyogo Prefecture were surveyed using a self-administered questionnaire regarding ethical issues, working conditions, and their attitude for avian influenza.

**Results:** Of the 1,626 respondents of all staff in hospitals (response rate: 63.4%) including doctors, nurses, pharmacists, radiological technicians, medical technologists, nutritionists, occupational therapists, physiotherapists, clerical workers, and others, 25.0% of them answered that they would carry out their duties without any conditions, 40.4% with some conditions. They thought the personal protective equipments (PPE) had to be prepared, and workers' compensation was essential. The others answered that they will not perform their duties.

**Conclusions:** In order to cope with an avian influenza pandemic, it is not enough to prepare pre-pandemic vaccine and antivirals of the neuraminidase inhibitors (Tamiflu). It is essential to provide medical staff with PPE, workers' compensation, and the safety of the working environment. Additionally, it is essential to protect not only medical staff, but also their family members.

**Keywords:** healthcare; medical staff; pandemic; professionals; safety; working environment

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### Designing Alternate Care Sites for Pandemics and Public Health Emergencies

Michael J. Reilly,<sup>1</sup> David S. Markenson,<sup>1</sup> Sherlita Amler<sup>2</sup>

1. New York Medical College, Center for Disaster Medicine, Valhalla, New York, USA
2. Putnam County Department of Health, Brewster, New York USA

**Introduction:** Developing alternative systems to deliver emergency health services during a pandemic or public health emergency is essential to preserving the operation of acute care hospitals and the overall healthcare infrastructure. Alternate care sites that can serve as areas for primary screening and triage or short-term medical treatment can assist in diverting non-acute patients from hospital emergency departments and manage non-life threatening illnesses in a systematic and efficient manner.

**Methods:** In New York State, we developed a model concept of an operational plan for alternate care sites to be used during pandemics and large-scale public health emergencies. Subject matter experts were convened and best-practice methods used to design operational plans, clinical protocols, altered standards of care, and progressive medical care designed to allow the mild to moderately ill patient to be managed, and then, return to their homes for convalescence.

**Results:** More than one year of interagency, comprehensive planning, training, and review was conducted to create a model alternate care site plan. Accomplishments and milestones included: (1) creating stakeholders; (2) engaging community partners; (3) site selection; (4) staffing issues; (5) designing medical protocols and clinical pathways; (6) functional role development; (7) equipment and supplies; (8) site security; (9) communication with the public; (10)

drafting the plan; (11) designing training programs; and (12) exercising the ACS plan.

**Conclusions:** Learning how to create stakeholders at local and regional levels and starting a process of collaborative planning and interagency cooperation is essential in preparing for and operating an alternate care site. Lessons learned and best practices developed in our program will be presented to assist attendees in beginning or continuing the process of planning to operate alternate care sites in their home areas.

**Keywords:** alternate care site; model; New York; pandemic; public health emergencies

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### Planning for Uptake of Vaccine among Healthcare Workers during the Next Influenza Pandemic

Thomas F. Appleyard

Preparedness, Toronto, Ontario Canada

**Introduction:** Healthcare workers in Canada will be the first priority to receive vaccinations during the next influenza pandemic. This can only be an effective infection control strategy if workers actually receive the vaccine. Little is known about how healthcare workers will respond during an influenza pandemic. Despite considerable evidence of efficacy and organizational and legal pressure to adhere to this recommendation, seasonal influenza vaccinations among healthcare workers are drastically below target. This study considers whether current planning for an influenza pandemic affecting Toronto's healthcare workers adequately considers the potential for low numbers of vaccinations.

**Methods:** Pandemic plans of public and non-profit organizations relevant to Toronto's healthcare workers were reviewed for content regarding the need for active promotion of vaccines or strategies to increase vaccinations.

**Results:** The majority of pandemic plans relevant to Toronto contain no references to the promotion of vaccinations among healthcare workers. Some plans are explicit in their assumptions that more healthcare workers will accept vaccines during a pandemic situation than in outbreaks of seasonal influenza. Evidence supporting this assumption is lacking.

**Conclusions:** Pandemic planners should consider and document a range of strategies to increase vaccinations.

**Keywords:** influenza; healthcare workers; pandemic; public health; vaccinations

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### Vaccine Purchasing for an Influenza Pandemic: A Comparative Cost-Benefit Model

Itamar Grotto,<sup>1,2,3</sup> Ran Balicer<sup>1</sup>

1. Ben Gurion University of the Negev, Beer Sheva, Israel
2. Public Health Services, Israeli Ministry of Health, Jerusalem, Israel
3. Center for the Research of Preparedness and Response to Emergency and Disaster Situations, Beer-Sheva, Israel

**Introduction:** The next influenza pandemic is expected to spread rapidly, causing worldwide morbidity, mortality, and economic disruption. Effective vaccines are pivotal to thwart the spread of a pandemic virus and to prevent illness and death. However, the global potential vaccine supply is