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Portable Isolation Units for New Hampshire's Hospitals

Fact Sheet

- The New Hampshire Hospital Association (NHHA), the New Hampshire Department of Health and Human Services (NH DHHS) and the NH Department of Safety have been working together on hospital emergency preparedness since September of 2001. NHHA has a contract with NH DHHS to work on statewide planning through a \$2 million dollar bioterrorism grant from the Federal government. Building isolation capacity is one aspect of the greater effort set forth by the grant to increase hospital preparedness.
- The \$2 million bioterrorism grant is from the Health Resources and Services Administration of the U.S. Department of Health and Human Services specifically for hospital preparedness for bioterrorism.
- NHHA surveyed all the hospitals to determine existing isolation capacity. Several categories of isolation were considered, such as private rooms, rooms with only negative pressure, with just HEPA filters, with both, and the number of portable isolation units.
- The survey revealed that, while all the hospitals in New Hampshire had different types of isolation rooms available to manage a variety of contagious patients, New Hampshire hospitals had a low number of rooms available with both the capability of creating a negative pressure environment with 12 air exchanges per hour and the capability of cleansing the air through HEPA filters. In addition, the availability of these rooms was mostly concentrated in the southern tier of the state.
- The Centers for Disease Control and Prevention (CDC) recommends that SARS patients in a hospital should be cared for in negative pressure and HEPA filtered rooms. Negative pressure and HEPA filtered rooms can also be used on a daily basis for other types of infectious diseases, such as tuberculosis.
- A committee of hospital representatives was formed, including infection control, facilities operations, safety operations, industrial hygiene and HVAC professionals. The committee was charged with analyzing current isolation capacity, determining how to increase isolation capacity and choosing the units to be purchased.
- Three goals were met:
 - ✓ Ensure that every hospital has isolation capacity
 - ✓ Increase the hospital isolation capacity overall
 - ✓ Develop a community/state isolation capacity for emergency situations

- Portable Isolation Units were chosen for the following reasons:
 - ✓ Portability – hospitals can easily choose which rooms in their facilities to convert to a negative pressure and HEPA filtered environment. Hospitals can also share portable units in the event of a regional or statewide response effort.
 - ✓ Effectiveness – portable units can create an isolation room as effectively as a fixed unit in a fully renovated room.
 - ✓ Cost – a portable unit is inexpensive compared to purchasing a fixed unit and renovating a single room.
 - ✓ Timing – NHHA ordered the portable units two weeks ago, and the units have already been shipped to the hospitals. Hospitals can begin using them almost immediately.

- Portable Isolation Units Specifications:
 - ✓ Air filtration systems
 - ✓ HEPA - High Efficiency Particulate Air filters - 99.99% efficiency
 - ✓ Creates negative pressure that prevents contaminated air from escaping the room.
 - ✓ 12 air exchanges per hour – the number of times the air is refreshed
 - ✓ Quickly and economically convert a standard patient room into an isolation room
 - ✓ Vents clean air out of the room or re-circulates the air in the room

- Portable Isolation Unit Deployment Strategy:
 - ✓ Every acute care hospital, New Hampshire Hospital and the VA Medical Center will receive at least one unit to increase overall capacity
 - ✓ Those hospitals that had no rooms with negative pressure (with greater than 12 air exchanges per hour) and HEPA filter will receive an additional unit.
 - ✓ Some hospitals will receive more units depending on special circumstances, such as proximity to the Canadian border or high tourist population.
 - ✓ The State of New Hampshire will have nine units on hand to enhance the capacity now created at the hospitals. These units could be deployed to community healthcare providers or wherever they are needed in an emergency.

- A total of 62 portable isolation units (53 units for the hospitals and nine units for the State of NH) were purchased for a total cost of \$140,000.

- Prior to the purchase of these units, the total number of isolation rooms with negative pressure and HEPA filters was 36. Now, the total number of rooms with this type of isolation capacity has more than doubled, to 89.

- NHHA hosted training by the equipment manufacturers for hospital personnel earlier this week. Infection control professionals, facilities operations and emergency preparedness representatives, learned how to install the units, properly operate them and how to conduct preventive maintenance.

- Based on NHHA’s informal survey of state hospital associations across the country, NHHA believes New Hampshire is the first state to have created and enhanced hospital isolation capacity statewide.