Table 4.
Pre-Disaster Critical Infrastructure Self-Assessment

Evacuation-Relevant Resources	Implication
City Water	
• Is water used for heating the hospital?	Y= more vulnerable
• Is water used for cooling?	Y=more vulnerable
• Does the hospital have a well?	N=more vulnerable
• Is there one water line going into the hospital, or also a backup line?	Only 1=more vulnerable
• Is there a water storage tower/tank on the roof?	Y=more vulnerable to earthquakes (but good backup water source)
• If the water tower/tank collapsed, would the hospital then be without water (or sufficient pressure)?	Y=more vulnerable
• How long can the hospital maintain a safe temperature without city water in summer heat?	Hours = time until evacuation
• How long can the hospital maintain a safe temperature without city water in winter cold?	Hours = time until evacuation
Steam	
• Does the hospital receive steam for heat from a separate steam-generation plant?	Y=more vulnerable
• Is that steam plant on the hospital premises?	N=more vulnerable
• Is there one steam line into the hospital, or also a backup conduit?	Only 1=more vulnerable
• How long can the hospital maintain a safe temperature if the steam-generation plant is off line?	Hours = time until evacuation
• Is steam also used to generate electricity?	Y=more vulnerable
• If so, what % of electricity would be lost if the steam-generation plant went offline?	>50%=vulnerable
Electricity	
• Does the hospital have a central backup generator?	N= more vulnerable
• More than 1?	N= more vulnerable
• Is there a fuel storage tank on site with a direct line to the backup generator?	N= more vulnerable
• Is the fuel storage tank underground?	N= more vulnerable
• In a flood, would the intake be underwater?	Y= more vulnerable
• How long can essential power be maintained using the current fuel supply?	Hours = time until evacuation
• Does the hospital have smaller or portable generators for floors/sections of the hospital?	N=more vulnerable

Table 4.
Pre-Disaster Critical Infrastructure Self-Assessment

Evacuation-Relevant Resources	Implication
• Can all essential areas of the hospital be powered with these smaller generators?	N= more vulnerable
• Is fuel stored on site for these smaller generators?	N= more vulnerable
• How long can essential power be maintained using the current fuel supply and these smaller generators?	Hours = time until evacuation
Natural Gas	
• Is the boiler or other heating equipment fired by natural gas?	
• Is there one gas line into the hospital, or also a backup pipe?	Only 1= more vulnerable
• How long can the hospital maintain a safe temperature if the gas stops?	Hours = time until evacuation
Boilers/Chillers	
• Does the hospital have backup/redundant boilers?	N= more vulnerable
• Does the hospital have backup/redundant chillers?	N= more vulnerable
• How long can the hospital maintain a safe temperature without the chiller in summer heat?	Hours = time until evacuation
• How long can the hospital maintain a safe temperature without the boiler in winter cold?	Hours = time until evacuation
Powered Life Support Equipment	
• On a typical weekday, how many patients are on ventilators or other powered life-support equipment (including neonatal incubators and ventilators)?	<10 _____ 11-25 _____ 26-50 _____ 51-100 _____ 100+ _____
• Does each of these ventilators or other pieces of equipment have a battery pack?	N= more vulnerable
• What is the average battery life per ventilator/equip?	Hours = time until evacuation

Table 4.
Pre-Disaster Critical Infrastructure Self-Assessment

Evacuation-Relevant Resources	Implication
• How many patients are otherwise oxygen dependent?	<10 _____ 11-25 _____ 26-50 _____ 51-100 _____ 100+ _____
• Does the medical gas system rely on electricity?	Y= more vulnerable
• If the medical gas system fails, how long can these patients be maintained using the current stock of portable/backup oxygen?	Hours = time until evacuation
Information Technology and Telecommunication	
• Are servers and other telecommunication systems on the hospital premises or offsite?	On premises = more vulnerable
• Are redundant hardware and software systems deployed offsite?	N = more vulnerable
• Are critical databases (e.g. EMRs) managed or backed up offsite?	N = more vulnerable
• Can the EMR quickly generate patient discharge summaries to accompany each evacuated patient?	N = more vulnerable
• Can manual, paper-based backup systems and procedures be rapidly reconstituted (e.g. manual order entry, manual medication dispensing), and have staff been trained to safely use these systems?	N = more vulnerable
• Does the hospital have VOIP capabilities or two-way radios that interoperate with local emergency responders?	N = more vulnerable
Security	
• Does the hospital employ its own security staff or contract with an outside security firm?	Own staff_____ Contracted_____
• Are sufficient security staff on site during every shift (including nights and weekends) so that two can be stationed at every entrance/exit?	N= more vulnerable
• Can sufficient additional security staff be brought in to escort/guard transport vehicles?	N= more vulnerable
• Does the hospital evacuation plan assume that municipal or State police will be available to assist?	Y= more vulnerable