OPERATING ROOMS CLOSED AT "CRUMBLING" VA HOSPITAL

Patients are being sent to other facilities for sterile surgeries

On February 17, 2016, the 5 operating rooms at a New York Veterans Affairs (VA) hospital were closed due to particulates falling from the air ducts. An environmental analysis determined that the particulates were rust, crumbling concrete, fiberglass fibers, and cladosporium (a common mold). These types of contaminants typically result from aged equipment exposed to moisture. Aging equipment is part of the $10-12 billion maintenance backlog at the VA department.

“The dust is depositing on HVAC registers, ceilings, walls, and on medical equipment. Maintenance continues to clean the surfaces but, as the staff has observed, the dust reappears within a short time. At least three staff members have indicated their concern that this environment has affected them. They have been sent to employee health and to their individual physicians.”

- Email from engineer & safety officer to administrators at the hospital

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**Cause Map**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air quality failure, operating rooms closed</td>
<td>Potential for illness</td>
<td>Patient Safety</td>
</tr>
<tr>
<td>Ducts part of HVAC system</td>
<td>Ducts open within air ducts</td>
<td>Patient Safety</td>
</tr>
<tr>
<td>Patients sent to other facilities</td>
<td>Patients sent to other facilities</td>
<td>Employee Safety</td>
</tr>
<tr>
<td>Sterile procedures not being</td>
<td>Sterile procedures not being</td>
<td>Environmental Safety</td>
</tr>
<tr>
<td>Inspection</td>
<td>Inspection</td>
<td>Patient Safety</td>
</tr>
<tr>
<td>VA Inspector General's 2014 report says there is $10-12 billion backlog in maintenance (common mold) in air ducts</td>
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</tbody>
</table>

**Solutions**

Once the causes of the problems (or impacted goals) have been determined, the last step is to implement action items to reduce the risk of the problem recurring. There are two parts to this step: brainstorming possible solutions, and determining which will be most effective to meet the organization's needs. The hospital considered bringing mobile surgical units and installing high efficiency particulate air filters in the vents in the operating rooms. The cost of the mobile surgical units (over $70,000 per month) led the hospital to select only the solution of the air filters. At least one operating room is expected to be ready to return to service June 1st.

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**Cause Mapping**

Problem Solving • Incident Investigation • Root Cause Analysis

**Problem**

What is the Problem?

Why did it happen?

What will be done?

**Analysis**

Add detail as information becomes available.

**Solutions**

Investigate Problems. Prevent Problems.