Overall response rate: 674/1339 (50.3%) physicians responded from 4/27/10 to 6/1/10.

Note: Not all respondents answered all questions, so totals for individual questions vary.

Responders as percent of overall members in each category:

<table>
<thead>
<tr>
<th>Practice</th>
<th>Adult</th>
<th>Pediatrics</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>490 (49% of 1009 members)</td>
<td>152 (58% of 262 members)</td>
<td>32 (47% of 68 members)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>New England</th>
<th>Mid Atlantic</th>
<th>East North Central</th>
<th>West North Central</th>
<th>South Atlantic</th>
<th>East South Central</th>
<th>West South Central</th>
<th>Mountain</th>
<th>Pacific</th>
<th>Puerto Rico</th>
<th>Canada</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>51 (53% of 97 members)</td>
<td>93 (45% of 209 members)</td>
<td>103 (55% of 187 members)</td>
<td>57 (54% of 106 members)</td>
<td>122 (48% of 255 members)</td>
<td>37 (51% of 73 members)</td>
<td>49 (52% of 94 members)</td>
<td>38 (51% of 74 members)</td>
<td>115 (53% of 219 members)</td>
<td>1 (25% of 4 members)</td>
<td>8 (38% of 21 members)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years experience since ID fellowship:</th>
<th>&lt;5 years</th>
<th>5-14</th>
<th>15-24</th>
<th>≥25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>177 (42% of 421 members)</td>
<td>167 (49% of 344 members)</td>
<td>208 (58% of 357 members)</td>
<td>120 (57% of 212 members)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Hospital/clinic</th>
<th>Private/group practice</th>
<th>University/medical school</th>
<th>VA and military</th>
<th>Other (state gov’t, pharma)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>177 (50% of 356 members)</td>
<td>186 (50% of 371 members)</td>
<td>259 (51% of 509 members)</td>
<td>41 (52% of 79 members)</td>
<td>11 (46% of 24 members)</td>
</tr>
</tbody>
</table>

*Respondents were significantly more likely than non-respondents to have pediatric practices (p=0.02), to have at least 15 years of ID experience (p<0.0001), and to be SHEA members (p<0.0001).

*186 members indicated that they were unfamiliar or not involved in perioperative screening for S. aureus. These 186 individuals are excluded from further data shown.
Perioperative Screening

Question 1. Are any surgical patients screened pre-operatively for *S. aureus* carriage in your institution?

<table>
<thead>
<tr>
<th>Response</th>
<th>Elective Procedures</th>
<th>Urgent Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, for all <em>S. aureus</em> isolates</td>
<td>63 (13%)</td>
<td></td>
</tr>
<tr>
<td>Yes, for MRSA isolates only</td>
<td>231 (47%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>166 (34%)</td>
<td></td>
</tr>
<tr>
<td>Do not know</td>
<td>28 (6%)</td>
<td></td>
</tr>
</tbody>
</table>

Question 2. Surgical populations screened for *S. aureus*/MRSA carriage:

<table>
<thead>
<tr>
<th>Surgical Population</th>
<th>Elective Procedures</th>
<th>Urgent Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>All surgeries, all specialties</td>
<td>43 (16%)</td>
<td>19 (20%)</td>
</tr>
<tr>
<td>All cardiothoracic surgeries</td>
<td>147 (55%)</td>
<td>55 (59%)</td>
</tr>
<tr>
<td>Some cardiothoracic surgeries¹</td>
<td>31 (12%)</td>
<td>11 (12%)</td>
</tr>
<tr>
<td>All orthopedic surgeries</td>
<td>84 (32%)</td>
<td>19 (20%)</td>
</tr>
<tr>
<td>Some orthopedic surgeries²</td>
<td>88 (33%)</td>
<td>19 (20%)</td>
</tr>
<tr>
<td>Plastic surgery</td>
<td>20 (8%)</td>
<td>7 (8%)</td>
</tr>
<tr>
<td>Other ³</td>
<td>*58 (22%)</td>
<td>16 (17%)</td>
</tr>
</tbody>
</table>

¹CABG (N=16), valves (N=7), with sternotomy (N=3), cardiac surgery only (N=3), any foreign body/graft placement (N=2), previous history of MRSA (N=2), 1 each: high risk, inpatient, pacer placement, pediatric, vascular grafts

²Joint replacement / hip and knee replacements (N=49), total hips only (N=1), depends on surgeon/surgeon’s preferences (N=6), implants or hardware (N=16), spinal surgery / implant / fusion (N=18), nursing home patients (N=1), previous history of MRSA (N=2), high risk (N=1)

³Neurosurgical procedures, some specified “with instrumentation” or “with hardware” (N=18); implants or grafts (N=9); implantable cardiac devices (N=2); patients with history of MRSA (N=7); OB/gyn, two specified C section only (N=4); ICU admissions / patients (N=5), 1 each: broviac insertion, urology, deep brain stimulators, ENT, inpatient surgeries only, prior to liver transplant, some cancer patients, shunts, pump placement, some breast cases, tissue expanders (post mastectomy), hernia repair with mesh, wound patients

Question 3. Body sites routinely sampled preoperatively to screen for *S. aureus*/MRSA:

<table>
<thead>
<tr>
<th>Body Site</th>
<th>Elective Procedures</th>
<th>Urgent Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nares</td>
<td>298 (100%)</td>
<td></td>
</tr>
<tr>
<td>Open wounds/ulcers</td>
<td>23 (8%)</td>
<td></td>
</tr>
<tr>
<td>Groin</td>
<td>21 (7%)</td>
<td></td>
</tr>
<tr>
<td>Axilla</td>
<td>18 (6%)</td>
<td></td>
</tr>
<tr>
<td>Rectal/perirectal</td>
<td>14 (5%)</td>
<td></td>
</tr>
<tr>
<td>Throat</td>
<td>6 (2%)</td>
<td></td>
</tr>
<tr>
<td>Umbilicus</td>
<td>1 (0.3%)</td>
<td></td>
</tr>
<tr>
<td>Other intact skin</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td>4 (1%)</td>
<td></td>
</tr>
</tbody>
</table>

*Burns, vaginal for OB, tubes/catheters, varies / as indicated by particular case
**Question 4. Lab method used for perioperative screening:**

34 answered ‘Do not know’

<table>
<thead>
<tr>
<th>Method</th>
<th>Elective Procedures (answered by 277)</th>
<th>Urgent Procedures (answered by 99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard culture alone</td>
<td>83 (30%)</td>
<td>18 (18%)</td>
</tr>
<tr>
<td>Culture on chromogenic agar alone</td>
<td>76 (27%)</td>
<td>17 (17%)</td>
</tr>
<tr>
<td>Broth enrichment in addition to culture</td>
<td>2 (0.7%)</td>
<td>0</td>
</tr>
<tr>
<td>Above method plus PCR</td>
<td>17 (6%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>PCR alone</td>
<td>99 (36%)</td>
<td>59 (59%)</td>
</tr>
</tbody>
</table>

**Perioperative Decolonization and Antibiotic Prophylaxis**

**Question 5. Does your institution routinely decolonize any patient populations prior to surgery?**

Instructions were to check all that apply. Eleven respondents selected both a surgical population and either *S. aureus* or MRSA carriers. 51 answered “Do not know”. Responses for 435 respondents shown below:

- Yes, all *S. aureus* carriers 36 (8%)
- Yes, MRSA carriers 134 (31%)
- Yes, a surgical population\(^1\) regardless of carrier status 67 (15%)
- No 211 (48%) [80/211 still screen for SA/MRSA]

\(^1\)Cardiothoracic (N=35), CABG only (N=8), orthopedics (N=5), total joint replacements/hips/knees (N=11), laminectomy/spinal surgery (N=4), neurosurgery/high-risk neurosurgery (N=3), vascular surgery (N=2), bariatric surgery (N=2), history of MRSA (N=3); One each of: all surgeries; urology; broviacs; VAD/TAH implant; “high risk procedures”; implant recipients who have MRSA; pt history of staph, MRSA or wound infection; all pts undergoing implantation of foreign matter; “this is totally done on a case-by-case basis”.

**Question 6. Does your institution have a written protocol for decolonization procedures?**

- Yes, there is a policy/procedure 155 (49%)
- No 137 (43%)
- Do not know 26 (8%)

**Question 7. If carriers are decolonized perioperatively, which agents are routinely used?**

[answered by 232 respondents]

- Mupirocin ointment + chlorhexidine body wash 161 (69%)
- Mupirocin ointment alone 23 (10%)
- Chlorhexidine body wash alone 14 (6%)
- Mupirocin + chlorhexidine + oral antibiotics 24 (10%)
- Mupirocin + chlorhexidine + parenteral antibiotics 1 (0.4%)
- Mupirocin + chlorhexidine + oral and parenteral antibiotics 1 (0.4%)
- Chlorhexidine + oral antibiotics 1 (0.4%)
- Do not know 7 (3%)
- Other 0
**Oral antibiotics used** for perioperative decolonization [answered by 26 respondents]:
- Bactrim + doxy/tetracycline + rifampin: 9 (35%)
- Bactrim alone: 4 (15%)
- Doxy/tetracycline + rifampin: 4 (15%)
- Doxy/tetracycline: 3 (11%)
- Bactrim + doxy/tetracycline: 2 (8%)
- Bactrim + rifampin: 2 (8%)
- Rifampin alone: 2 (8%)

**Parenteral antibiotics used** for perioperative decolonization [answered by 2 respondents]:
- Vancomycin; vancomycin plus cefazolin

**Question 8a. Is perioperative antibiotic prophylaxis routinely changed for MRSA carriers?**
- Yes, prophylaxis changed: 242 (78%)
  - Vancomycin: 237/242 (98%)
  - Daptomycin: 1/242 (0.4%)
  - Vancomycin or linezolid or daptomycin: 1/242 (0.4%)
  - Other (Vancomycin+standard agent, clindamycin): 2/242 (0.8%)
- No: 45 (15%)
- Do not know: 22 (7%)

**Question 8b. If yes, is a second agent with Gram-negative coverage routinely added?**
- Yes, second agent added: 75 (33%)
  - Cefazolin: 41/74 (55%)
  - Ceftriaxone: 3/74 (4%)
  - Cefuroxime: 8/74 (11%)
  - Other cephalosporin (cefepime, cephalexin): 3/74 (4%)
  - Gentamicin: 5/74 (7%)
  - Ciprofloxacin: 2/74 (3%)
  - Not specified, or “variable” and “depends on surgeon”: 12/74 (16%)
- No: 153 (67%)

**Question 8c. Is a postoperative dose(s) of MRSA prophylaxis routinely given?**
- Yes: 90 (41%)
- No: 130 (59%)

**Question 9. Are screening S. aureus/MRSA isolates ever tested for susceptibility to:**

<table>
<thead>
<tr>
<th></th>
<th>Mupirocin</th>
<th>Chlorhexidine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answered by:</td>
<td>[303]</td>
<td>[300]</td>
</tr>
<tr>
<td>Yes</td>
<td>19 (6%)</td>
<td>1 (0.3%)</td>
</tr>
<tr>
<td>No</td>
<td>180 (59%)</td>
<td>208 (69%)</td>
</tr>
<tr>
<td>No but would like to</td>
<td>91 (30%)</td>
<td>78 (26%)</td>
</tr>
<tr>
<td>Do not know</td>
<td>13 (4%)</td>
<td>13 (4%)</td>
</tr>
</tbody>
</table>
Other Issues

Question 10. Irrespective of *S. aureus* screening practices, does your institution routinely recommend preoperative chlorhexidine bathing or showering for surgical patients?

Yes, ALL surgical patients 141 (29%)
Yes, some procedures only 184 (38%)
No 81 (16%)
Do not know 82 (17%)

Question 10b. If yes, how do patients obtain the chlorhexidine product?

Given the product at the hospital/clinic 108 (56%)
Required to obtain their own product at pharmacy/another source 44 (23%)
Do not know 39 (21%)

Question 11a. Regarding preoperative screening and decolonization for SSI prevention, do you think it is a standard of care in your community?

Yes, for all *S. aureus* 11 (2%)
Yes, for MRSA only 77 (16%)
No 306 (63%)
Do not know / No opinion 94 (19%)

Question 11b. Regarding preoperative screening and decolonization for SSI prevention, do you think it should be a standard of care in your community?

Yes, for all *S. aureus* 144 (30%)
Yes, for MRSA only 108 (22%)
No 133 (27%)
Do not know / No opinion 103 (21%)

Question 12. Does a legislative mandate require active surveillance testing for *S. aureus* / MRSA at the time of or during admission to your facility?

Yes, for all *S. aureus* 12 (2%)
Yes, for MRSA only 114 (23%)
No 304 (62%)
Do not know 58 (12%)

Comments about legislative mandates by state of practice

California

- Legislative mandate for MRSA screening only in ICU
- Legislative approach is terrible: no funds provided, no discussion of what to do with pos screen; irrational approach to screening
- In California, law requires preop screening for MRSA for cardio surgeries and for all pts admitted to an ICU. Postop dose of MRSA prophylaxis given at less than 24 hours. Routine chlorhexidine bathing at one of my hospitals, not at the other but they should. Preop screening is the standard of care in my community but decolonization is not.
- Our pediatric facility does not routinely screen - our associated adult hospital does do pre-op screening. Legislation is for admission screening for ICU’s and high risk patients, not for all admissions.
- We have discussed screening patients for *S. aureus* and MRSA prior to orthopedic and cardiac surgery but have not done so to date. We do screen all intensive care unit patients for MRSA.
• California mandates screening of selected inpatients for MRSA only, but the purpose of the law is to prevent the spread of MRSA in the community. This is based on a flawed understanding of the epidemiology of MRSA, and it has been counterproductive, causing a lot of patient anxiety. I believe that selective preoperative screening may have value, but widespread "decolonization" (a misnomer) will lead to widespread resistance. Same old mistake, all over again.

Veterans' Affairs
• I am VA. We are (nationally) required to do screening for all admissions, discharges and transfers.
• I'm at the VA. Everyone gets MRSA screening if they are going to be admitted. [by 2 respondents]
• Not a legislative mandate but part of VA screening program. We do not modify prophylaxis on the basis of MRSA as we have adopted the routine use of vancomycin + cefazolin (barring any allergies or other confounders) for ALL orthopedic implant.
• As a VA facility, we have been doing routine admission nasal surveillance PCR since October 2007 but there are no guidelines for decolonization.
• I work for the VA-so we test. We are now evaluating our data and considering decolonization for high risk procedures. The other institutions in our area are now considering change in practice.
• VA policy requires active surveillance testing for MRSA for all hospital admits, transfers between wards, and discharges. This is not a legislative mandate, but has the same force.
• In the Veterans Affairs health units, public opinion has overcome science.

Kentucky
• Legislation is proposed but not fully slated (yet) - but many are trying to act in accord with this. Certain populations of patients (congenital heart disease pts) go through decolonization and CHG prep the morning of surgery. It has not yet reached ALL procedures.

Maryland
• Legislative mandate in Maryland only for critical care transfers/arrivals
• Mandated MRSA screening only for ICU admits

Massachusetts
• #12 - yes - for MRSA point prevalence in adult ICU only - twice a year

New Jersey
• Our legislative mandate is not for all patients - we have to identify an area to screen and implement the screening - this makes more sense than screening all
• Legislative mandate for ICU only [by two respondents]

New York
• Legislation only acts to make life difficult and practice of medicine a burden. Good practices come from within. Legislation does not achieve any good in medicine as it individual specific.
• Regarding question 12, I think it may be more complex than across the board "yes" or "no."

Oregon
• In no. 12, I believe the mandate is for ICU admissions only.

Pennsylvania
• MRSA screening is required by law with legislative minimum protocol elements. We are allowed to exceed requirements & required to monitor for multidrug resistant bacteria in ALL categories as well. You need to survey the statutory requirements for this subject since most states have them now & they seem to vary widely state to state. Lots of politics and very little science and no funding!
• Legislative mandate for high risk patients to be determined by institution
• I think a policy of chlorhexidine washes for all pre-op and more directed screening for nasal carriage of any S. aureus prompting further attempts at transient nasal decolonization for the highest risk procedures (eg, median sternotomy for AVR) would be a much better use of resources than our current legislatively mandated universal screening for just MRSA on all admissions to hospital.
• Mandate for active surveillance is for nursing home patients only.