Use of Color-Coded Wristbands Creates Unnecessary Risk
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Background
Over 450 Pennsylvania hospitals, ambulatory surgery centers and birthing centers are required to report to the Patient Safety Authority (PSA) any patient-related adverse events and near misses. The PSA developed the Pennsylvania Patient Safety Reporting System (PA-PSRS) to collect such reports, aggregate the data, and facilitate analysis. Since its inception in June 2004, over 300,000 reports have been reported to PA-PSRS.

Problem
PA-PSRS received a report in which clinicians nearly failed to resuscitate a patient who was incorrectly designated as DNR (do not resuscitate). A nurse incorrectly placed a yellow wristband on the patient. In that hospital, the color signified DNR. The nurse also worked at another hospital in which yellow signified “restricted extremity” (not to be used for phlebotomy or IV access).

Method and Results
PA-PSRS surveyed the Patient Safety Officers of all Pennsylvania hospitals and ambulatory facilities. One-third of these facilities (139) responded.
- 78% of the facilities used color-coded patient wristbands.
- There were no standard meanings among healthcare facilities for different colors.

Risk Reduction Strategies
- Limit the number of wristbands in use.
- Use only primary and secondary colors.
- Standardize the meanings of specific colors among healthcare facilities.
- Use brief, pre-printed descriptive text on wristbands.
- Educate patients/families of the purpose of all wristbands applied.
- Remove colored wristbands supporting community campaigns when patients present to the facility.
- Integrate wristband verification into change-of-shift nursing assessment.
- Develop policies/procedures defining wristband responsibility and authority to place wristbands on patients.
- Consider potential confusion between Broselow color-coding system for pediatric resuscitation and colored wristbands used in the facility.

Medical Information Commonly Communicated with Wristbands

<table>
<thead>
<tr>
<th>Clinical Topic</th>
<th>Number (%) of Facilities Using</th>
<th>Dominant Color (% of Facilities Using)</th>
<th>Number (%) of Facilities Using Text/Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergies</td>
<td>82 (76%)</td>
<td>Red (78%)</td>
<td>48 (56%)</td>
</tr>
<tr>
<td>Fall Risk</td>
<td>45 (42%)</td>
<td>Green (31%)</td>
<td>8 (23%)</td>
</tr>
<tr>
<td>Restricted Extremity</td>
<td>34 (32%)</td>
<td>Purple (27%)</td>
<td>8 (24%)</td>
</tr>
<tr>
<td>DNR Status</td>
<td>21 (19%)</td>
<td>Blue (52%)</td>
<td>4 (19%)</td>
</tr>
<tr>
<td>Blood Type/Blood Bank ID</td>
<td>13 (12%)</td>
<td>Red (92%)</td>
<td>9 (69%)</td>
</tr>
</tbody>
</table>

Published Results
These results have been published in the Patient Safety Advisory, which presents de-identified information from PA-PSRS reports, lessons learned, and evidence-based risk reduction strategies. See the Patient Safety Authority Website for this and other related articles: www.psa.state.pa.us

Future Direction
In response to this Advisory article:
- The Pennsylvania House of Representatives introduced a Resolution dealing with this issue.
- The Patient Safety Authority is facilitating a work group of representatives from several states and national healthcare organizations to address standardization of color-coded wristbands.