Banding Together for Patient Safety

Pennsylvania Wristband Standardization Project
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Executive Summary

Background

Since its establishment under Act 13 of 2002, the Pennsylvania Patient Safety Authority has issued several reports indicating that wristbands have been omitted when they should have been put on, have been removed when they should have remained, or were inadvertently covered up by clinicians or patients.

In April 2005, a report submitted to the Patient Safety Authority described an event in which clinicians nearly failed to rescue a patient having a cardiopulmonary arrest because the patient had been incorrectly designated as “DNR” (do not resuscitate).\(^1\) The source of the confusion was that a nurse had incorrectly placed a yellow wristband on the patient. In this hospital, the color yellow signified that the patient should not be resuscitated. In a nearby hospital, in which the nurse also worked, yellow signified “restricted extremity,” meaning that this arm is not to be used for drawing blood or obtaining intravenous (IV) access. Fortunately, in this case, another clinician identified the mistake and the patient was resuscitated.

This “near miss” event prompted the formation of Pennsylvania's Color of Safety Task Force in January 2006. Eleven Pennsylvania hospitals made up the group. The goal of the Task Force was to standardize policies and procedures and implement strategies to reduce the possibility of miscommunication with color-coded wristbands, including standardizing the meanings associated with the various colors. They developed detailed protocols, policies, and training resources to assist health care facilities in implementing these measures, which the Patient Safety Authority published on its web site in August 2006.\(^2\) Hospitals in other states, including some that border Pennsylvania, have modeled their standardization of color-coded wristbands on the Pennsylvania Task Force's efforts.\(^3\), \(^4\), \(^5\), \(^6\)

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The Case for Voluntary Standardization

The use of color-coded patient wristbands in Pennsylvania health care facilities is widespread, with 78 percent of facilities responding to a 2005 Patient Safety Authority survey that they use this method to communicate clinical information. However, there is wide variation of meanings associated with the colors used on these wristbands, as shown below.

Variety of Medical “Messages” and Colors Used on Patient Wristbands in Pennsylvania Facilities

<table>
<thead>
<tr>
<th>Message</th>
<th>Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple</td>
<td>Blue</td>
</tr>
<tr>
<td>Teal</td>
<td>Green</td>
</tr>
<tr>
<td>Red</td>
<td>Pink</td>
</tr>
<tr>
<td>Orange</td>
<td>Yellow</td>
</tr>
<tr>
<td>White</td>
<td></td>
</tr>
</tbody>
</table>

A follow-up survey the Patient Safety Authority conducted in September 2007 found that while a majority (nearly 80%) of responding facilities have reviewed the Patient Safety Authority’s and the Task Force’s guidance, only about half have implemented the suggested changes for standardization. Some facilities have indicated a reluctance to change at this time because they are awaiting mandates at the state or national level.
Since the Task Force’s regional effort to standardize the meanings associated with certain colors of wristbands, several other states have undertaken a similar voluntary initiative. The following table represents the efforts currently underway in states across the country.

**Voluntary State Actions on Standardizing Wristband Colors as of April 2, 2008**

<table>
<thead>
<tr>
<th>State</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>3 colors. Planned kickoff – Summer 2008</td>
</tr>
<tr>
<td>Arizona</td>
<td>3 colors plus 2 more (pink – restricted extremity, green – latex allergy)</td>
</tr>
<tr>
<td>Arkansas</td>
<td>3 colors</td>
</tr>
<tr>
<td>California</td>
<td>3 colors</td>
</tr>
<tr>
<td>Colorado</td>
<td>3 colors plus 2 more (pink – restricted extremity, green – latex allergy)</td>
</tr>
<tr>
<td>Florida</td>
<td>Planning to use 3 colors</td>
</tr>
<tr>
<td>Georgia</td>
<td>Waiting on national consensus</td>
</tr>
<tr>
<td>Indiana</td>
<td>Supportive of 3 colors, waiting on national effort</td>
</tr>
<tr>
<td>Kentucky</td>
<td>Task force appointed, surveying</td>
</tr>
<tr>
<td>Michigan</td>
<td>3 colors</td>
</tr>
<tr>
<td>Minnesota</td>
<td>3 colors plus 2 more (pink – restricted extremity, green – latex allergy)</td>
</tr>
<tr>
<td>Mississippi</td>
<td>Waiting on national consensus</td>
</tr>
<tr>
<td>Missouri</td>
<td>3 colors</td>
</tr>
<tr>
<td>Nevada</td>
<td>3 colors. Planned kickoff – Fall 2008</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>3 colors</td>
</tr>
<tr>
<td>New Jersey</td>
<td>3 colors plus 2 more (pink – restricted extremity, green – latex allergy)</td>
</tr>
<tr>
<td>New Mexico</td>
<td>3 colors plus 2 more (pink – restricted extremity, green – latex allergy)</td>
</tr>
<tr>
<td>Oregon</td>
<td>3 colors, plus 1 more (pink – restricted extremity)</td>
</tr>
<tr>
<td>South Carolina</td>
<td>Waiting on national consensus</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Waiting on national consensus</td>
</tr>
<tr>
<td>Texas</td>
<td>3 colors</td>
</tr>
<tr>
<td>Washington</td>
<td>3 colors plus 2 more (pink – restricted extremity, green – latex allergy)</td>
</tr>
<tr>
<td>West Virginia</td>
<td>3 colors</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Planning to use 3 colors</td>
</tr>
</tbody>
</table>
**Taking the Next Step**

Pennsylvania served as a catalyst in identifying an opportunity to improve patient safety by re-evaluating the use of color-coded wristbands. Through the Patient Safety Authority’s advisory, which alerted Pennsylvania hospitals to the risks associated with color-coded patient wristbands, and the work of the Color of Safety Task Force, Pennsylvania has served as a model nationwide. However, it is time for Pennsylvania to take the next step and initiate voluntary wide-spread adoption of standardized colors for use in wristbands statewide.

Building on the successful effort of the Color of Safety Task Force and the efforts spearheaded in other states across the country, The Hospital & Healthsystem Association of Pennsylvania (HAP) and the Pennsylvania Patient Safety Authority encourage all hospitals as well as other health care facilities to voluntarily be a part of this important statewide safety standardization effort.

Because there is no evidence that using color-coded wristbands is superior to traditional methods of communicating clinical information, it is not advised that health care facilities begin this practice if they have not already done so. However, if a health care facility does use these wristbands, HAP and the Pennsylvania Patient Safety Authority encourage adoption and use of standardized colors which are based on those originally developed by the Color of Safety Task Force.

**The Impact of Adoption**

It is anticipated that adoption of standardized colors for wristbands statewide will result in improved quality of health care by reducing the risk that patients will receive the incorrect care or fail to receive the correct care due to caregivers’ misunderstanding of the meanings of color-coded wristbands used to communicate clinical information.

The cost impact to health care facilities should be negligible. Facilities may incur incremental costs associated with embossing or pre-printing information on color-coded wristbands if they do not already do so.

There will be an operational impact on facilities whose policies regarding wristband use are significantly different from this guidance. Transitioning to a new set of colors/meanings and new ways of implementing the use of these wristbands may itself potentially increase risk of error in the short term. This risk can be minimized through staff education and reinforcement during the transition period.

There is no set timeframe by which facilities using color-coded wristbands should adopt the standardized colors and meanings. This allows facilities the flexibility to use existing stock and to schedule a transition at a time that minimizes confusion for staff.
To assist in implementation, HAP in collaboration with the Pennsylvania Patient Safety Authority has updated the tool kit that was originally developed by the Color of Safety Task Force keeping much of the work from the original document but including some other resources developed in other states that have adopted standardized colors for wristbands.

**Summary**

Pennsylvania hospitals as well as other health care facilities are encouraged to voluntarily adopt standardized colors of wristbands. A clearly defined and consistently implemented practice for identifying and communicating patient risk factors or special needs by standardizing the use of color-coded wristbands will support safe patient care.

Pennsylvania facilities implementing standardization of wristbands at their facility should develop policies and protocols that address the application of wristbands, patient and/or family education, staff education, and hand-off communication for transfers within the facility and to another health care setting.
Adoption of Standardized Colors

After considering the work undertaken by the Pennsylvania Task Force along with the research, dialogue, and decisions reached in other states across the country to standardize the meaning of wristband colors, HAP and the Pennsylvania Patient Safety Authority encourage hospitals and other health care facilities to use the following wristband colors and meanings:

<table>
<thead>
<tr>
<th>Band Color</th>
<th>Communicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Allergy</td>
</tr>
<tr>
<td>Yellow</td>
<td>Fall Risk</td>
</tr>
<tr>
<td>Green</td>
<td>Latex Allergy</td>
</tr>
<tr>
<td>Purple*</td>
<td>DNR</td>
</tr>
<tr>
<td>Pink</td>
<td>Restricted Extremity</td>
</tr>
</tbody>
</table>

*Using the color purple for DNR is a change from the original color scheme adopted by the Color of Safety Task Force published in August 2006. In making this change, Pennsylvania will match the colors of other states and reduce the risk of confusion among health care providers and between facilities.

The Pennsylvania Patient Safety Authority also advises that when a facility chooses to implement a wristband for one of the five clinical messages, facilities should conform to both the color and text descriptor listed above. In addition, this tool kit includes specifics for standardized wording, fonts, and font sizes in the “Implementation Information and Resources” section of this tool kit. If labels, stickers, signs, or other visual cues are used to communicate risk factors, they should also use standardized colors and wording.

Patient safety and quality professionals involved in the standardization work in other states suggest that hospitals and other health care facilities consider using these same colors to designate these medical conditions even if wristbands are not used in the organization. For example, if stickers or placards are used in lieu of a wristband to alert clinicians of certain medical conditions, then the stickers or placards should be consistent with the color used for that medical condition.
The Colors: Meanings and Use

Red—ALLERGY

It is recommended that hospitals adopt the color red for the allergy alert designation with the word “ALLERGY” printed on the wristband.

Q. Why did you select red?
A. Red was largely selected due to the results of the Pennsylvania Patient Safety Authority’s survey on the use of color-coded wristbands. Seventy-six percent of Pennsylvania hospitals responding to the survey indicated that they used color-coded wristbands to signify if a patient had an allergy. Further, red was the dominant color used by the reporting Pennsylvania hospitals, at 78 percent.

Research of other industries showed that red has an association that implies extreme concern. The American National Standards Institute (ANSI) has designated certain colors with very specific warnings, and uses red to communicate “stop” or “danger.” It is believed that this message would also translate when communicating an allergy status. When a caregiver sees a red allergy alert wristband, they would likely be prompted to “stop” and double check if the patient is allergic to medications, food, etc.

Q. Should the allergies be written on the wristband too?
A. It is advised that allergies be written in the medical record according to your hospital’s policy and procedure. There are several reasons why it is not advised to include the allergies on the wristband, including:

- Legibility may hinder the correct interpretation of the allergy listed.
- By writing allergies on the wristband, health care providers may assume the list is comprehensive. However, space is limited on a wristband and some patients may have several allergies. The risk of writing on the wristband is that some allergies would be inadvertently omitted due to lack of space, which can lead to confusion or an assumption that the list is comprehensive.
- Throughout a hospitalization, allergies may be discovered by other caregivers, such as dietitians, radiologists, pharmacists, etc. This information is typically added to the medical record and not always a wristband. By having one source of information to refer to, such as the medical record, staff of all disciplines will know where to add newly discovered allergies.
Yellow—FALL RISK

It is recommended that hospitals adopt the color yellow for the fall risk alert designation with the words “FALL RISK” printed on the wristband.

Q. Why did you select yellow?
A. Of those Pennsylvania hospitals that responded to the Pennsylvania Patient Safety Authority’s survey on the use of color-coded wristbands, 42 percent indicated that they used color-coded wristbands to signify a patient at risk for falls. Green was the dominant color being used, but the Pennsylvania Color of Safety Task Force recommended using the color yellow, which has been subsequently adopted by other states across the country.

Research of other industries tells us that yellow has an association that implies “caution.” The American National Standards Institute (ANSI) uses yellow to communicate “tripping” or “falling” hazards. The color yellow would alert hospital staff to use caution with a person who has a history of previous falls, dizziness, balance problems, or weakness or confusion about their current surroundings.

Q. Why use an alert band for fall risk?
A. When a patient is wearing this alert wristband, it notifies all hospital staff that the patient needs to be assisted when walking or getting up from a sedentary position. And, according to the Centers for Disease Control and Prevention (CDC), falls are an area of concern in the aging population. CDC data indicates:

- More than a third of adults aged 65 years or older fall each year. Of those who fall, 20-30 percent suffer moderate to severe injuries that reduce mobility and independence, and increase the risk of premature death.
- Older adults are hospitalized for fall-related injuries five times more often than they are for injuries from other causes.
- The total cost of all fall injuries for people age 65 or older in 1994 was $27.3 billion (in current dollars). By 2020, the cost of fall injuries is expected to reach $43.8 billion (in current dollars).
Green—LATEX ALLERGY

It is recommended that hospitals adopt the color green for the latex allergy alert designation with the words “LATEX ALLERGY” printed on the wristband.

Q. Why did you select green?
A. Green was selected due to the color having a close association with the environment. Although many hospitals may not necessarily use a separate band for a latex allergy, many facilities may use another form of designation to alert hospital staff, including a sticker on the chart or placard outside of the patient’s hospital room. The need to standardize colors extends beyond wristbands to include any form of designation that is associated with the medical condition. The purpose of the latex allergy wristband is to provide a standard color (green) for health care providers, which can be easily identified and readily associated with allergies to latex.

Q. Why use an alert for Latex Allergy?
A. Latex allergy may cause anaphylaxis, a potentially life-threatening condition. Health care facilities may elect just to implement use of red to signify that the patient has an allergy rather than electing to use both a red and a green band.
Purple—DNR—(Do Not Resuscitate)

It is recommended that hospitals adopt the color purple for the DNR alert designation (Do Not Resuscitate), with the letters “DNR” printed on the wristband.

Q. Why did you select purple?
A. Based on a survey by the Pennsylvania Patient Safety Authority of Pennsylvania hospitals, blue was the dominant color (52%) used to represent DNR. However, as other states considered adoption of the colors, there was concern that use of the color blue might create confusion when responding to a code. For instance, a 2006 survey of Colorado hospitals showed that 73 percent of hospitals use “code blue” to overheard page a cardiac arrest. The Colorado Hospital Association’s Quality Professionals’ Group thought that use of a blue wristband may cause confusion considering the overwhelming use of “code blue.” Given this potential confusion, blue was eliminated as a color choice for the DNR alert wristband. Most other states quickly followed the lead of the western states working collaboratively on this effort. In order to achieve consistency with the majority of states moving in this direction, including states bordering Pennsylvania, members of the Pennsylvania Color of Safety Task Force were consulted and indicated their willingness to move from the color blue for DNR to the color purple.

Q. If we adopt the purple DNR wristband, do we still need to look in patients charts?
A. Yes. Some hospitals do not use wristbands to alert clinicians of an advance directive because they want the clinicians to always review the medical record for the most current patient information. However, a medical record should always be reviewed even if alert wristbands are used in the facility. Code status can change throughout a hospitalization, and it is important to know the current status so that the patients’ and/or families wishes can be honored.

Q. What if patients or family members are offended by the DNR wristband?
A. A DNR designation can be troubling for patients and/or family members especially in the event of a serious illness. However, in order to respect the wishes of patients and/or family members, clinicians need to be aware of this designation, especially in the event when a course of care needs to be determined very quickly. In order to avoid confusion or lack of certainty, following the full advice for the DNR alert wristband is the preferred method for using the band. However, an alternative method for using the DNR alert wristband would be to use a purple wristband, but without the label “DNR” printed on the band. In the event that a patient does not want to wear a DNR alert wristband, ensure that the patient and/or family is made aware of the risks for refusing to wear the band, and ensure that the patient refusal form has been signed. A sample form is provided in the “Implementation Information and Resources” area of this tool kit.
Pink—RESTRICTED EXTREMITY

It is recommended that hospitals adopt the color pink for the restricted extremity alert designation with the words “RESTRICTED EXTREMITY” printed on the wristband.

Q. Why use an alert for Restricted Extremity?
A. In the survey conducted by the Pennsylvania Patient Safety Authority, one third of responding Pennsylvania hospitals indicated that they used color-coded wristbands to signify a restricted extremity. The pink wristband has been used for breast cancer/lymphedema patients to indicate the extremity should not be used for starting an intravenous line or drawing laboratory specimens. Circulation is compromised in a patient with lymphedema and unnecessary invasive procedures should be avoided in the affected extremity. Pink wristbands can be used to indicate any other diagnosis that results in a restricted extremity.

Q. Which extremity should the restricted extremity band go on?
A. The restricted extremity band should be placed on the affected extremity. This alert wristband can also be placed on an extremity that should not be used for blood pressure measurement, IV insertion, or other medical procedures secondary to certain medical conditions, such as previous history of breast cancer or lymphedema.
Important Reminders

There is no evidence that using color-coded wristbands is superior to traditional methods of communicating clinical information. Therefore, if health care facilities are not using this practice to communicate important clinical information, it is not suggested that health care facilities begin this practice.

Color-coded wristbands should only serve as a visual cue and alert to caregivers. It should not replace verification of information in patients' medical records.

- Do not rely on color alone to communicate the meaning. Wristbands serve as a visible alert and caregivers should always check the chart to confirm patients’ clinical conditions or risks.
- When a discrepancy arises between a medical record and a color-coded wristband, caregivers need to reconcile those differences.
- Educate staff to always utilize patients’ medical records for verification of allergies, fall risks, and advance directives.
- Verify color-coded alert wristbands at the time of patient assessments, during patient care hand-offs, during change of shift, when transfers occur between units, and at the time of discharge.

Limit the use of color-coded wristbands to high-alert medical conditions.

- It is not necessary that a facility implement all five of these wristbands when adopting standardized wristbands. Facilities should limit the total number of color-coded wristbands used in their facility to no more than five, excluding the patient identification band.
- If a facility chooses to implement color-coded patient wristbands for a clinical message other than the five outline here, the facility should choose a color other than those used in the list above. Use primary and secondary colors. Avoid using shades of the same color for more than one wristband.
- Special consideration for the pediatric population has been identified. Facilities using the Broselow color-coding system for pediatric resuscitation carts should take steps to reduce the potential for confusion between the Broselow bands and the color-coded bands used to designate allergy, fall risk, latex allergy, DNR status, and restricted extremity.
- Consider the potential for confusion between color-coded wristbands indicating a clinical condition or risk factor if your facility uses a colored wristband for patient identification information.
Use wristbands that are pre-printed with text that clearly identifies the alert.

- This can reinforce the color-coding system for new clinicians, help caregivers interpret the meaning of the band in dim light, and also help those who may be color blind.
- This step helps to eliminate the chance of confusing wristband colors with overhead alert messages.
- Some facilities have expressed reluctance to include pre-printed text on the wristbands, as the Patient Safety Authority advises, for fear of compromising patients’ right to privacy. While it is important to respect every patient’s right to privacy, this goal is subordinate to the goal of ensuring that every patient receives the correct care. The Joint Commission does not view the use of color-coded wristbands to be a violation of privacy in the health care setting.

Make sure that wristbands reflect the current medical conditions of patients.

- Assign clinical staff member responsible for checking, applying, and removing color-coded wristbands.
- Upon admission to a hospital and during initial assessment of patients, apply wristbands appropriate to individual conditions and risk factors.
- Place appropriate wristbands on patients at the time of admission, when medical condition(s) change, or when additional information is updated or received during the course of the hospital stay.
- Document patients’ conditions or risk factors in medical records.
- Develop a consistent protocol for anatomical placement of color-coded wristbands.
- Reassessment of the appropriateness of the color-coded wristband should be ongoing and scheduled at intervals during the patients’ care, including before invasive procedures, at transfer, and during changes in level of care.
- If wristbands need to be removed during the course of treatments, apply new wristbands on another extremity prior to removing the bands that must be removed.
- Errors and/or omissions of wristbands should be corrected immediately when identified by a health care worker.

Remove wristbands that have been applied from another facility.

- Ensure that hospital policy is amended.
- Wristband standardization and implementation is voluntary in Pennsylvania, and as health care facilities elect to voluntary implement this practice, the exact timing for implementation may differ from facility to facility. Therefore, wristbands should be removed at the time of admission to your health care facility.

Remove any “social cause” (such as Live Strong, Alzheimer’s Disease) or other non-facility colored wristbands.

- Ensure that hospital policy is amended.
- Non-facility (or “community”) colored wristbands should not be worn in the health care setting and should be removed on admission to a health care facility to avoid confusion with the facility’s color-coded wristbands.
Explain the hazards to patients who refuse to remove non-facility bands, and cover the wristband with a bandage or medical tape if necessary.

If a patient refuses to remove the non-facility wristband, explain that the organization has attached meaning to certain color wristbands, explain the potential risks to the patient, and have the patient sign a refusal form. A sample form is included in the “Implementation Information and Resources” section of this toolkit.

Educate patients and their families regarding the purpose and meaning of the color-coded wristbands.

- As with most patient safety initiatives, it is important to explain to patients and/or their families the purpose of color-coded wristbands and to reinforce the importance of their involvement in their care.
- Remind patients and/or their families that the wristbands provide an important visual cue to caregivers about patients’ medical choices or conditions and provide another opportunity to prevent error.
- Advise patients and/or their families to contact the nurse if the band falls off or is removed and not reapplied immediately.
- Use the Patient and Family Education Brochure provided in this tool kit or another that has been developed by your own organization.

Educate health care workers on the purpose and meaning of the color-coded wristbands.

- Educate new employees about wristband use and meanings during orientation and reinforce with annual staff competencies.
- Develop a strategy and implementation plan to educate existing staff in the organization.
- Education components should include the risks of wristband usage, meaning of colors, staff responsibilities, re-application of wristbands, communication during transfers within the facility, and discharge/transfer to another facility.

Leave the color-coded wristbands in place at the time of patient discharge.

- Color coded bands should not be removed at discharge.
- For home discharges, the patient is advised to remove the band when he/she is off facility grounds.
- For discharges or transfer to another facility, the bands are left intact as a safety alert for staff at the next facility.
- The receiving facility is responsible for re-assessment and subsequent band removal, reconfirmation, and application.
**Frequently Asked Questions**

Q. Why should hospitals consider standardized wristbands?
A. While there has been extensive discussion regarding the use of color-coded alert wristbands, a recent literature review has not conclusively identified a better intervention. An increasing number of health care providers are not hospital-based staff; therefore the need to have certain medical conditions conveyed in a transparent and universal fashion is crucial for patient safety. It is imperative that current processes in hospitals take this into account, especially for health care providers who may not be familiar with how to access information in a hospital (e.g. computerized medical records), may not be familiar with where to find information in the medical record, or even where to locate the medical record in a timely fashion. In a situation when seconds count, an alert wristband on the patient would quickly notify health care providers of a certain medical designation. Similar to a second identifier, a color-coded alert wristband can quickly communicate information in a crisis situation, an evacuation situation, or transfer situation.

However, it is important to realize that while standardizing color-coded wristbands helps to impart important medical information to caregivers quickly, color-coded wristbands should not be relied on exclusively for critical information. Health care providers should always refer to the medical record and other documentation to support the meaning of the wristband. Further, color-coded wristbands should not replace efforts aimed at standardizing how and when this information should be included in ongoing communication between caregivers, including making sure that information in the patients’ medical records match the wristbands that are applied.

Finally, because there is no evidence that using color-coded wristbands is superior to traditional methods of communicating clinical information, it is not advised that health care facilities begin this practice if they have not already done so.

Q. Are the use of alert wristbands a privacy violation?
A. The Joint Commission does not view the use of color-coded alert wristbands to be a violation of privacy in the health care setting.

Q. Do hospitals have to use all five of the wristbands?
A. No. Hospitals and health care facilities can choose to use some or all of the alert wristbands based on the unique needs of their facility. Hospitals should not feel compelled to start using an alert wristband for a certain medical condition based on the suggestions in this tool kit unless it has been determined internally that use of an additional band would be beneficial and necessary. The main purpose of this tool kit is to encourage hospitals and health care systems to follow a standard model if alert wristbands are used.
Q. Who decided on the colors?
A. There is not one specific answer to this question. In April 2005, a report submitted to the Pennsylvania Patient Safety Authority described an event in which clinicians nearly failed to rescue a patient having a cardiopulmonary arrest because the patient had been incorrectly designated as “DNR” (do not resuscitate). The source of the confusion was that a nurse had incorrectly placed a yellow wristband on the patient. In this hospital, the color yellow signified that the patient should not be resuscitated. In a nearby hospital, in which the nurse also worked, yellow signified “restricted extremity,” meaning that this arm is not to be used for drawing blood or obtaining intravenous (IV) access. Fortunately, in this case, another clinician identified the mistake, and the patient was resuscitated.

This “near miss” event prompted the formation of the Color of Safety Task Force in January 2006. Eleven Pennsylvania hospitals made up the alliance. The goal of the Task Force was to standardize policies and procedures and implement strategies to reduce the possibility of miscommunication with color-coded wristbands, including standardizing the meanings associated with the various colors. They developed detailed protocols, policies, and training resources to assist health care facilities in implementing these measures, which the Patient Safety Authority published on its website in August 2006. To assist in their work, the Color of Safety Task Force used information from a survey conducted by the Patient Safety Authority in which hospital patient safety officers indicated whether they used color-coded wristbands and which colors were used to identify a particular medical condition.

In similar fashion, many other states followed suit and surveyed the hospitals in their states. Using the colors originally designated by Pennsylvania’s Color of Safety Task Force, their own state’s results, and their own committees, these states recommended adoption of certain colors for certain medical conditions. Several western states, including Colorado, Arizona, California, and New Mexico worked collaboratively on selection of a color scheme.

Through all of these state initiatives, there was agreement on all but the color designation for DNR. The Pennsylvania Color of Safety Task Force originally designated the color blue to represent DNR, but subsequently other states elected to use the color purple to mean DNR. In order to achieve consistency with the majority, members of the Pennsylvania Color of Safety Task Force were consulted and indicated their willingness to move from the color blue for DNR to the color purple.

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Implementation Information and Resources

Implementation Considerations

Organizational Approval—

Review: Adoption may require approval by certain groups, including:
- Patient Safety Committee
- Quality Improvement Council
- Medical Staff Committee
- Board of Directors
- Director of Education

Action Plan: Facilities may have different committees that need to approve changes that directly impact patient care. Each facility needs to assess which committees need to approve the adoption of the initiative. Remember to consider the stakeholders and be sure they understand and approve the initiative before it is implemented.

Supply Assessment and Purchase—

Review: Assessment of current supply and wristband procurement.

Action Plan:
- Most organizations have a vendor they are already using for wristbands. It is important to communicate to vendors that you are standardizing your color-coded wristbands to conform to the specifications included in this tool kit. Many vendors may be aware of this initiative and what specific colors need to be used for this initiative.
- Coordinate with your materials management department to evaluate the current stock of out-of-date colored wristbands, and approximate time when new bands can be introduced.

Hospital Specific Documentation—

Review: Policy adoption, assessment revision, forms revised to meet standards, and consents.

Action Plan:
- The color-coded alert wristband policy should be reviewed and approved if changes are made.
- Hospitals should review their respective forms for possible modifications (patient education assessments, etc.).
- You may want to include language that the patient received in the wristband education brochure (see Staff/Patient Education materials).
If a patient refuses to wear a band, there should be written documentation of refusal. Make certain to coordinate with risk management staff and individual hospital administrators.

**Staff and Patient Orientation, Education, and Training —**

Review: Schedule staff training, documentation requirement, posters, and FAQs.

**Action Plan:**
- Education format and training materials need to be reviewed. Staff education materials and a competency form have been provided in this tool kit. The competency form may be customized to suit each hospital and their unique needs.
- Education of hospital staff will need to be scheduled and documented per hospital policy.
- Ensure that new employee orientation procedures include wristband education.
### Implementation Considerations

<table>
<thead>
<tr>
<th>AREA</th>
<th>REQUIREMENT</th>
<th>ACTION PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MATERIALS MANAGEMENT</strong></td>
<td>Purchase color-coded wristbands with text</td>
<td>Review wristband specifications and requirements with materials management</td>
</tr>
<tr>
<td></td>
<td>Determine whether you will use any other coordinating color supplies to help</td>
<td>Estimate approximate time that current supply will be depleted</td>
</tr>
<tr>
<td></td>
<td>reinforce alert communication</td>
<td>Set date for implementation</td>
</tr>
<tr>
<td><strong>HOSPITAL-SPECIFIC</strong></td>
<td>Hospital policy and procedure changes</td>
<td>Implementing standardized color-coded wristbands will need to be discussed, reviewed, and approved by the organization</td>
</tr>
<tr>
<td><strong>DOCUMENTATION</strong></td>
<td>Assessment tools</td>
<td>Hospitals will need to consider what revisions need to be made to policies and procedures, forms, and documentation requirements</td>
</tr>
<tr>
<td></td>
<td>Forms revision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refusal form</td>
<td></td>
</tr>
<tr>
<td><strong>STAFF EDUCATION AND</strong></td>
<td>Develop content</td>
<td>Hospital staff education needs to be scheduled, completed, and documented per hospital policy</td>
</tr>
<tr>
<td><strong>TRAINING</strong></td>
<td>Determine delivery method for existing and new staff</td>
<td>Hospitals may elect to document staff competency using the enclosed form or some modification thereof</td>
</tr>
<tr>
<td></td>
<td>Document education and understanding of new policy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consider posters to raise awareness of new policy and staff education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>requirements</td>
<td></td>
</tr>
<tr>
<td><strong>PATIENT EDUCATION</strong></td>
<td>Develop content</td>
<td>Patient education process and documentation practices will need to be implemented in accordance with hospital policy</td>
</tr>
<tr>
<td></td>
<td>Develop scripts for staff</td>
<td>Hospitals may elect to develop patient brochures or other information that can be provided to patients</td>
</tr>
<tr>
<td></td>
<td>Develop materials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify documentation requirements</td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNITY AWARENESS</strong></td>
<td>Identify key community contacts</td>
<td>Implement communication plan with local charities, media, and other health care providers</td>
</tr>
<tr>
<td></td>
<td>Develop communication plan and strategies</td>
<td></td>
</tr>
</tbody>
</table>
Sample Staff & Patient Education Resources

SAMPLE HOSPITAL POLICY AND PROCEDURE

Purpose:
To have a standardized process that identifies and communicates patient-specific risk factors or special needs by standardizing the use of color-coded alert wristbands based upon the patient’s assessment, wishes, and medical status.

Objectives:
- Reduce the risk of confusion associated with the use of color-coded alert wristbands.
- Communicate patient safety risks to all health care providers.
- Include the patient, family members, and significant others in the communication process and promote safe health care.
- Adopt the following risk reduction strategies:
  - A preprinted written descriptive text is used on the bands clarifying the intent (i.e., “ALLERGY,” “FALL RISK,” “DNR,” “LATEX ALLERGY,” or “RESTRICTED EXTREMITY”).
  - Hospital staff should not write on the alert wristband.
  - Colored alert wristbands may only be applied or removed by a nurse or designated staff person conducting an assessment.
  - If labels, stickers, or other visual cues are used in the medical record to communicate risk factors or wristband application, those cues should use the same corresponding color and label text (if applicable) of the colored alert wristband.
  - “Social cause” or other non-facility community wristbands, such as the “Live Strong” and other causes, should not be worn in the hospital setting. This is to avoid confusion with the color-coded alert wristbands and to enhance patient safety.
  - Assist the patient and their family members to be a partner in the care provided and safety measures being used.

The following represents the meaning of each color-coded alert wristband:

<table>
<thead>
<tr>
<th>Band Color</th>
<th>Communicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Allergy</td>
</tr>
<tr>
<td>Yellow</td>
<td>Fall Risk</td>
</tr>
<tr>
<td>Green</td>
<td>Latex Allergy</td>
</tr>
<tr>
<td>Purple</td>
<td>DNR</td>
</tr>
<tr>
<td>Pink</td>
<td>Restricted Extremity</td>
</tr>
</tbody>
</table>
Identification (ID) Bands in Admission, Pre-Registration Procedure and/or Emergency Department:
The standard admission identification (ID) wristbands are applied in accordance with procedures outlined in organizational policy on patient ID and registration. These ID bands may be applied by non-clinical staff in accordance with organizational policy.

Color-Coded Alert Wristbands:
During the initial patient assessment, data is collected to evaluate the needs of the patient and a plan of care unique to the individual. Throughout the course of care, reassessment is ongoing which may uncover additional pertinent medical information, trigger key decision points, or reveal additional risk factors about the patient. It is during the initial and reassessment procedures that risk factors associated with falls, allergies, DNR, latex allergy, or restricted extremity status are identified or modified. Because this is an interdisciplinary process, it is important to identify who has responsibility for applying and removing color-coded alert wristbands, how this information is documented, and how it is communicated.

The following procedures have been established to remove uncertainty in these processes:
- Any patient demonstrating risk factors on initial assessment will have a colored alert wristband placed on the same extremity as the admission ID band by the nurse or designated staff member, except in the event of needing to use a restricted extremity alert wristband, which should be placed on the extremity that should not be used.
- The application of the band is documented in the chart by hospital staff, per hospital policy.
- If labels, sticker, or other visual cues are used to document in the medical record, these alternative cues should correspond to the alert wristband color and text label (if applicable).
- Upon application of the colored alert wristband, the nurse or designated staff member will instruct the patient and their family member(s) (if present) that the wristband is not to be removed.
- In the event that any color-coded alert wristband(s) has to be removed for a treatment or procedure, a nurse or designated staff member will remove the wristbands. Upon completion of the treatment or procedure, risks will be reconfirmed, and the appropriate alert wristbands will be placed on the patient by a designated staff member.

“Social Cause” or Other Non-Facility Community Wristbands:
- Following the patient ID process, a designated staff member examines the patient for “social cause” wristbands.
- If “social cause” wristbands are present, the designated staff member will explain the risks associated with the wristbands and ask the patient to remove them.
- If the patient agrees, the wristband will be removed and given to a family member to take home, or stored with the other personal belongings of the patient.
If the patient refuses, the designated staff member will request the patient sign a refusal form acknowledging the risks associated with the “social cause” wristbands. In the event that the patient is unable to provide permission, and family member(s) or a significant other is also not present, the designated staff member may remove the band(s) in order to reduce the potential of confusion or harm to the patient.

**Patient / Family Involvement and Education:**
It is important that the patient and family members are informed about the care provided in the hospital setting. It is also important that the patient and their family member(s) are acknowledged as a valuable member of the health care team. Including patients and/or family member(s) in the process of using color-coded alert wristbands will assure a common understanding of what the alert wristbands mean, how care is provided when the alert wristbands are worn, and the patient's/family's role in correcting any information that contributes to this process. Therefore, during assessment procedures, the designated staff member should take the opportunity to educate the patient and their family members about:

- The meanings of the alert wristbands and the medical condition associated with each wristband.
- The risks associated with wearing “social cause” wristbands and why these bands should be removed.
- To notify the hospital staff whenever a wristband has been removed and not reapplied, or
- When a new band is applied and the patient and/or family has not been given an explanation as to the reason.
- Patients and families should also be given a Patient/Family Education brochure that explains this information as well.

**Hand-Offs:**
- The nurse will reconfirm color-coded alert wristbands before invasive procedures, during patient transfers, and during change of shift with patients and/or family members, as well as other caregivers.
- Discrepancies in information need to be investigated and corrected immediately.
- Color-coded alert wristbands should not be removed at discharge.
- For home discharges, the patient is advised to remove the wristband at home.
- For discharges to another facility, the wristbands should not be removed during transfer. Receiving facilities should follow their policy and procedure for the banding process.

**DNR (Do Not Resuscitate):**
- DNR (Do Not Resuscitate) status and all other risk assessments are determined by individual hospital policy, procedure and/or physician order written and acknowledged within that care setting only.
- The color-coded alert wristband serves as an alert and does not take the place of an order. Do Not Resuscitate orders must be written and verification of advanced directives must occur.
**Staff Education:**
- Staff education regarding color-coded alert wristbands will occur during the new orientation process and reinforced as indicated.
- Hospitals should consider inserting language that addresses how staff competency is assessed if a decision is made to include color-coded wristbands as a competency for staff or selected staff.

**Patient Refusal:**
- If the patient is capable and refuses to wear the color-coded alert wristband, an explanation of the risks will be provided to the patient and/or family.
- The designated staff member will reinforce that it is the patient's and/or family's opportunity to participate in efforts to prevent medical errors, and it is their responsibility as part of the health care team.
- The designated staff member will document in the medical record patient refusals, and the explanation provided by the patient or their family member.
- The patient will be requested to sign a refusal form.
SAMPLE PATIENT REFUSAL FORM

Include relevant patient identification on this form as specified per hospital policy.

Patient Refusal to Participate in the Hospital’s Color-Coded Wristband Policy

The above named patient has refused to follow the recommendations of the hospital staff as it relates to [facility name]’s color-coded alert wristband policy.

I, ________________________________, have refused the following recommendations:

- To wear a color-coded alert wristband that would alert medical staff about a medical condition that I have. The benefits of the use of color-coded wristbands have been explained to me by a member of the health care team. I understand the benefits of the use of color-coded wristbands and despite this information, I do not give permission for the use of color-coded wristbands in my care.

- To remove a personal “social cause” wristband (e.g. “Live Strong”) while I am a patient at this facility. The risks of refusing to remove the “social cause” colored wristbands have been explained to me by a member of the health care team. I understand that refusing to remove the “social cause” wristbands could cause confusion in my care, and despite this information, I do not give permission for its removal.

Reason(s) provided by patient (if any)
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

The benefits of the use of the color-coded alert wristbands have been explained to me by a member of the hospital staff. However, I do not give my permission to wear the color-coded alert wristbands that would alert hospital staff to my medical condition(s) and/or refuse to remove a colored “social cause” wristband that may cause confusion with medical alert wristbands.

__________________________________________________________
Patient Signature                                      Date

__________________________________________________________
Hospital Staff Signature                                 Date
STAFF EDUCATION

Introduction

The following section regarding staff education has been developed to facilitate implementation of the wristband standardization project in Pennsylvania hospitals and other health care facilities. Facilities may select those materials that they believe would be most beneficial in assisting in the education of staff in their facility or may elect to modify the materials presented.

The decision on how to implement standardized wristbands will be unique to each hospital. The education process can be either formal or informal. Suggested methods that can be used to ensure staff receives the appropriate education and training include unit or department staff meetings, formal education sessions, online modules, or annual competencies. Organizations should consider introducing new staff to hospitals policies and procedures related to use of color-coded wristbands during initial hospital orientation.

A sample presentation that can be used with hospital staff is available on HAP's website at [http://www.haponline.org/resourcecenter/publications/quality/](http://www.haponline.org/resourcecenter/publications/quality/)

A sample brochure that can be used with hospital staff is available on HAP's website at [http://www.haponline.org/resourcecenter/publications/quality/](http://www.haponline.org/resourcecenter/publications/quality/)

Preparation for Getting Started: Identify Other Key Participants

- While nurses will likely be the designated staff person placing the wristbands on patients, remember that unit clerks may be involved in the process as well. For example, as unit clerks compile the medical record or review orders, they might assist the nurse in identifying particular medical conditions that warrant the use of a color-coded wristband.

- Remember to educate environmental services staff as they are often present in patient rooms. If environmental services staff is made aware that yellow wristbands signify that a patient is at risk for falls, they can alert appropriate staff and help prevent patient harm or injury.

- Remember to educate dietary staff. A red wristband indicates that the patient has some type of allergy, which may not be limited to medications. A red band could alert dietary staff to consider whether the patient has food allergies.

- Consider other staff throughout the facility where patients may undergo diagnostic testing or other procedures. They should be aware of what the wristband colors mean and how they will act on that visual cue in their respective departments before performing scheduled tests or procedures.

- Do not make assumptions that the entire hospital staff has knowledge of the color-coded wristbands. Be sure to consider medical staff, residents, and students who provide care to patients in your organization.
Getting Started

- **Start with a Story** – Individuals need to know “why” they should do something; simply telling them they need to start doing something “because it is hospital policy” is not sufficient to get high levels of compliance. A story can provide context and help hospital staff understand why it is important to comply with hospital policy and procedure.

In December 2005, the Pennsylvania Patient Safety Authority issued an advisory based on an incident or “near miss” report. This advisory, which has received national attention, described an incident that occurred in a Pennsylvania hospital in which clinicians nearly failed to rescue a patient who had a cardiopulmonary arrest. The source of the confusion was a nurse who had incorrectly placed a yellow wristband on the patient.

In the hospital where the patient was admitted, a yellow wristband meant “Do Not Resuscitate.” However, at a nearby hospital where the nurse was also employed, a yellow wristband meant “Restricted Extremity,” which is what the nurse wanted to alert hospital staff about. Fortunately, another nurse recognized the mistake, and the patient was resuscitated.

This “near miss” occurrence highlights a potential source of confusion and an opportunity to improve patient safety by reevaluating the use of color-coded wristbands. This event also underscores the importance of bringing near miss events to the attention of the hospital so that such events can be shared with the Pennsylvania Patient Safety Authority so that all health care providers can learn from these events.

Since this event, there have been efforts beginning in Pennsylvania and now nationally to adopt a standardized set of colors that all hospitals and other health care providers should use to mean certain medical conditions.

- **Provide Statewide Wristband Use Data** – Educating staff about how Pennsylvania hospitals use color-coded wristbands makes the information more relevant and helps to reinforce how important standardization is in improving patient safety. Pennsylvania information is available in two supplemental advisories issued by the Pennsylvania Patient Safety Authority.
  
  - The second advisory, “Update on Use of Color-Coded Patient Wristbands” was published on August 9, 2006 (http://www.psa.state.pa.us/psa/lib/psa/advisories/v3_s1_sup_advisory_8-9-06.pdf).
A chart from the first publication helps to illustrate the differences among Pennsylvania hospitals that responded to a survey conducted by the Pennsylvania Patient Safety Authority.

**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 on Colored Wristbands +</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</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>

*Percentages are based on 108 facilities indicating that they use color-coded wristbands
+Percentages are based on the number of facilities indicating that they use a color-coded wristband for this clinical topic

- Seven different wristband colors were in use to designate an allergy
- Seven different wristband colors were in use to designate a fall risk
- Seven different wristband colors were in use to designate a restricted extremity
- Five different wristband colors were in use to designate DNR status
- Three different wristband colors were in use to designate an allergy to latex

**Stress the “Big Picture” on Compliance with Standardization** – Providing context for why it is important to participate in a statewide effort may provide incentive for compliance. Explain to staff that this initiative is part of a statewide and national effort aimed at standardizing the colors of wristbands. Organizations may elect to use this as an opportunity to explain more about how standardization can make a huge impact on improving patient safety and encourage staff to consider other processes of care that would be amenable to standardization across the organization.

**Introduce the Colors** – Review with staff the five wristbands, color designation, and corresponding meaning.

**NOTE:** Even though Pennsylvania hospitals may use different vendors, it is important to use the same color shade for alert wristbands as designated in this tool kit. For example, the light pink color that should be used for the restricted extremity should be the only shade of pink used.
Utilize the Other Parts of this Toolkit – Use The Colors: Meanings and Use section to explain why certain colors were selected.

Stress the Risk Reduction Strategies – The risk reduction strategies included in the Pennsylvania Patient Safety Advisories and throughout this document should be shared with hospital staff.

Explain the Process for Educating Patients – You can mention to staff that there is a patient/family education brochure that can be used if you believe your organization would find this useful. Below is an example of a script that can be used by staff when talking to a patient or family members.

Q. What is a color-coded alert wristband?

A. Color-coded alert wristbands are used in hospitals to quickly communicate a patient’s health care status or medical condition. Wristbands are used by hospital staff to help provide the best possible care.

Q. What do the colors mean?

A. RED means ALLERGY; YELLOW means FALL RISK; PURPLE means DO NOT RESUSCITATE; GREEN means LATEX ALLERGY; and PINK means RESTRICTED EXTREMITY

- **ALLERGY** - If a patient has an allergy to anything, including food, medicine, dust, grass, or animals, please tell us. Knowledge of any type of allergy could be very important to the care that a patient receives.
- **FALL RISK** - Our hospital wants to prevent falls at all times. Nurses assess patients all the time to determine if they need extra help and attention in order to prevent a fall. Sometimes, a person may become weakened during their illness or because they just had surgery. When a patient is wearing this wristband, it alerts all staff that the patient needs to be assisted when walking or getting up from lying down.
- **RESTRICTED EXTREMITY** - Some patients have past or current medical conditions that would prohibit the use of certain limb or extremity for various reasons. The band will alert staff to avoid using this limb for blood draws, IV insertions, and other medical procedures.
- **DNR** - Some patients have indicated that they would prefer that certain measures to extend life, such as trying to resuscitate them if they stop breathing, not be performed. It is our responsibility to ensure that we honor these kinds of decisions that have been made by patients when they seek care at our facility.
- **LATEX ALLERGY** - If a patient has an allergy to latex, it is very important to alert hospital staff. Many products used in hospitals are made of latex, and contact with any of these items can cause a severe allergic reaction. Non-latex products need to be substituted for latex products when a patient has a latex allergy.
Review with Staff the Following Key Points – The items listed below are part of the competency expectations associated with this initiative. Therefore, it is important that hospital staff has a good understanding of these key points. If your hospital policy will be modified to include certain key points, make sure the competency form given to staff reflects these changes.

- What do the colors mean?
- Who can apply the wristband to the patient?
- When in the course of care are wristbands applied?
- What is hospital policy on the removal of “social cause"wristbands?
- What is the process for patient education and how is this information conveyed to patients and families?
- What is the policy on reapplication of wristbands?
- What is the policy for communication of wristband use during patient transfers, hand-offs, or at change of shift?
- What is the policy for patient refusal to comply with hospital wristband policy?
- What is the policy for removal of wristbands prior to discharge of patients to home or other post-acute care facilities?
SAMPLE STAFF COMPETENCY CHECKLIST

To meet the competency standard, the employee must demonstrate proficiency in performing the technical procedures safely as evidence by department specific criteria.

Methods Used to Evaluate Competency:

A. Demonstration  
B. Direct Observation/Checklist  
C. Video/PowerPoint Review  
D. Skills Lab  
E. Self Study and Test  
F. Data Management  
G. Other

<table>
<thead>
<tr>
<th>Patient Color-Coded Alert Wristband Process</th>
<th>Date</th>
<th>Method Used</th>
<th>Evaluator's Initials</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Code- Discuss what the five colors mean.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe processes related to the application, reapplication, and removal of wristbands, including who is authorized to apply and remove them.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide an explanation of the policy as it relates to &quot;social cause&quot; wristbands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe processes used to educate patients and families about the color-coded wristbands.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe process used when patient does not want to participate in hospital policy related to use of color-coded alert wristbands.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe communication processes among staff at time of patient hand-offs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review patient instructions and staff responsibilities related to wristbands at the time of hospital discharge.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Employee Signatures: 

Evaluator’s Signature: 

Pennsylvania Wristband Standardization Tool Kit
PATIENT EDUCATION

A sample flyer that can be used with patients is available on HAP’s website at http://www.haponline.org/resourcecenter/publications/quality/
Community Information & Resources

Community Education

Organizations that decide to voluntarily standardize color-coded wristbands as advised should consider making sure that other stakeholders and health care providers that they have relationships with are made aware of the hospital's involvement in this effort. The following represents some ideas about which organizations should be contacted by the hospital.

- Local charitable organizations, particularly those that use and distribute "social cause" wristbands
- Local print and television media
- Local ambulance services
- Local nursing homes
- Local medical society
- Dialysis centers
- Imaging centers
- Wound centers
- Ambulatory surgical facilities
- Home health services
- Hospice providers
- Radiation oncology centers
- Staffing agencies
- Local physician offices
- Affiliated education organizations
- Services for which the hospital contracts
SAMPLE INFORMATION LETTER: SOCIAL CAUSE AND CHARITY GROUPS

This letter is being sent to you to make you aware of the potential dangers associated with persons wearing popular social cause color-coded wristbands when hospitalized. These wristbands are often intended to bring awareness to special interests, concerns, or causes, such as fighting cancer or other diseases. In some cases, they are worn simply as a fashion statement. Additionally, hospitals often use color-coded wristbands to provide visual cues about a patient's clinical status or medical condition. We are concerned about the potential for mistakes or errors if hospital staff inadvertently mistake one of the social cause wristbands for one that imparts important clinical information that hospital staff would act on. For instance, a social cause purple wristband is worn to bring awareness to Alzheimer’s Disease, but a purple wristband used in the hospital means that the patient has indicated that he/she does not want to be resuscitated. If a person wearing a purple social cause wristband was to experience a cardiac arrest while hospitalized, hospital staff could mistakenly interpret the wristband to mean that the patient does not want to be resuscitated, when in fact, this is not the case.

In Pennsylvania, the Patient Safety Authority receives patient safety reports from hospitals, analyzes those reports, and issues advisories and alerts that often contain guidance that hospitals should implement to ensure greater patient safety. The Patient Safety Authority has released advisories cautioning hospitals about the inherent risks associated with the social cause color-coded wristbands.

Hospitals in Pennsylvania and across the country are banding together in a voluntary effort to standardize the meanings of color-coded wristbands used in hospitals and other health care facilities in order to improve caregiver recognition and communication and reduce the risk of error by having different meanings attached to different colors in different hospitals. As part of this overall effort, we are discouraging patients from wearing social cause wristbands when hospitalized. In fact, we will be introducing a policy that will prohibit patients from wearing these color-coded social cause wristbands while hospitalized.

We encourage all charities, foundations, and fundraising groups to consider the above information when planning your next event. There are no restrictions or risks associated with the use of label pins, ribbons, or beaded bracelets and would suggest you consider these options.

Thank you for your consideration and anticipated support in this important patient safety initiative. Should you have any questions or concerns, please contact (include appropriate hospital contact)

Respectfully,
SAMPLE INFORMATION LETTER: OTHER COMMUNITY HEALTH CARE PROVIDERS

Hospitals in Pennsylvania and across the country are banding together in a voluntary effort to standardize the meanings of color-coded wristbands used in hospitals and other health care facilities in order to improve caregiver recognition and communication and reduce the risk of error by having different meanings attached to different colors in different hospitals. As part of this overall effort, we are discouraging patients from wearing social cause wristbands when hospitalized. In fact, we will be introducing a policy that will prohibit patients from wearing these color-coded social cause wristbands while hospitalized.

These wristbands are often intended to bring awareness to special interests, concerns, or causes, such as fighting cancer or other diseases. In some cases, they are worn simply as a fashion statement. Additionally, hospitals often use color-coded wristbands to provide visual cues about a patient’s clinical status or medical condition. We are concerned about the potential for mistakes or errors if hospital staff inadvertently mistake one of the social cause wristbands for one that imparts important clinical information that hospital staff would act on. For instance, a social cause purple wristband is worn to bring awareness to Alzheimer’s Disease, but a purple wristband used in the hospital means that the patient has indicated that he/she does not want to be resuscitated. If a person wearing a purple social cause wristband was to experience a cardiac arrest while hospitalized, hospital staff could mistakenly interpret the wristband to mean that the patient does not want to be resuscitated, when in fact, this is not the case.

Additionally, as of (Include Date Here), we will implement a series of standardized color-coded wristbands to signify a patient's medical status or condition. Since you may be treating patients that may have been hospitalized at (Name of Hospital), we want to make sure that you know the significance of each color. Additionally, we want to inform you that we will leave these color-coded wristbands in place at the time of discharge. So, if you are providing post-acute care services, you might find that patients will have left these wristband in place to communicate to you important clinical information. The chart below presents the meaning of each color-coded wristband.

<table>
<thead>
<tr>
<th>Band Color</th>
<th>Communicates</th>
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</thead>
<tbody>
<tr>
<td>Red</td>
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<td>Yellow</td>
<td>Fall Risk</td>
</tr>
<tr>
<td>Green</td>
<td>Latex Allergy</td>
</tr>
<tr>
<td>Purple</td>
<td>DNR</td>
</tr>
<tr>
<td>Pink</td>
<td>Restricted Extremity</td>
</tr>
</tbody>
</table>
Please alert your staff to the meaning of each color. As appropriate, you might also want to consider using these same colors to mean the same thing in your respective facility. For more information about this initiative, you can access information from the Pennsylvania Patient Safety Authority website (http://www.psa.state.pa.us/psa/cwp/view.asp?a=1293&q=446932#3).

Thank you for your consideration and anticipated support in this important patient safety initiative. Should you have any questions or concerns, please contact (include appropriate hospital contact)

Respectfully,
Human Factors Considerations

To improve patient safety in the delivery of health care has become a goal for every organization. A part of that is to reduce risks for injury or harm whenever possible. By implementing risk reduction strategies, organizations demonstrate patient safety in a consistent fashion.

Risks are about events that, when triggered, may cause potential harm, significant injury or in the worst case scenario, death of a patient. The commitment to practice safely begins at the bedside and is underscored through leadership support to be proactive in the effort to ensure safe practice.

The initial step begins with risk identification. Trends in adverse events or "the risk thereof" is key to organizational claim management. Failure to rescue, medication errors, and falls consistently challenge organizations to improve patient safety and reduce financial losses. Medication errors and falls are among the highest reported incidents and are often underestimated "based on their everyday occurrence." Human factors are often the root cause of such preventable events and are often related to a complicated communication process, an ever-changing environment, and inconsistent caregivers.

Communication is a leading contributing factor for sentinel events that occur in the health care setting. One method to assist with effective communication is using color coding for "alert" wristbands. This provides a simplified tool that, when standardized, provides a continuous communication link within an organization as well as between other health care facilities.

Within health care, the science of human factors addresses human performance within medical systems, particularly as it relates to processes of care, error management, and patient safety. Error management indicates not only decreasing errors themselves, but also decreasing the opportunity for error-causing situations to arise, by designing safe systems that take a human's capabilities and limitations into account throughout the design process. This is of primary importance when addressing the design of wristbands, a tool used daily in health care by every provider.

To fully integrate human factors into wristband design, there are a few key points to emphasize:

- Human error most frequently arises from stressful, busy, uncommon situations. Because of the dynamic nature of health care, it is important to create our systems to help staff do their work. By standardizing wristbands across the state, staff no longer have to remember symbols or colors specific to hospitals, they are able to learn a single set of rules for every hospital.
The text information contained on the wristband should not wrap around the entire wrist. This decreases the chance that information will be missed because it is on the other side of the band and was not seen.

The MINIMAL amount of information that is required should be displayed on the wristband. Key data should be placed where it is seen first.

Wristbands should be designed so that they highlight SPECIFIC, PERTINENT information. Too much information can be difficult to distinguish and can get misread or misinterpreted, especially when in a hurry. Visual cues, such as highlighting, can be used to make the information 'pop out.' However, the cue should be used consistently. Also, the style and placement of information should remain consistent for every band. Again, only the absolute minimal amount of information should be placed on the band. Limit abbreviations.

If using text on the wristband, be sure to use large letters that are NOT italicized. Italicics are more difficult for the eyes to quickly read and interpret.

The text should always be in a color that contrasts the color of the bracelet. For example: blue print on a black background or vice versa is difficult to read. But black print on a yellow bracelet is very easy to read.

Reading improves with an increase in text size, but only up to a critical point, at which it levels off. That critical point is dependent on task; therefore, it would be beneficial to observe the task and determine how readable the text on the bracelets needs to be to allow for optimal performance.

In closing, taking human factors – human capabilities and limitations – into account will allow for a safer and more intuitive system. As a rule of thumb, simpler is ALWAYS better. The advice here are based on a broad spectrum of possible bracelet designs, highly dependent on the amount of text and the length of text. They are based on scientific research into human abilities to see, read, and perceive and interpret information. Some of these considerations were taken into account in developing the vendor wristband specifications on the following pages.

Human Factors Resources

Information for Vendor Supplies

It is important for the colors of the wristbands to match, therefore provide your vendor of choice with the following specifications:

<table>
<thead>
<tr>
<th>Wristband Type</th>
<th>Color Specifications</th>
<th>Text Specifications</th>
<th>Font Style &amp; Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy Wristband</td>
<td>Red – PMS 1788</td>
<td>“ALLERGY” in Black</td>
<td>Arial Bold, 48 pt All Caps</td>
</tr>
<tr>
<td>Fall Risk Wristband</td>
<td>Yellow – PMS 102</td>
<td>“FALL RISK” in Black</td>
<td>Arial Bold, 48 pt All Caps</td>
</tr>
<tr>
<td>DNR Wristband</td>
<td>Purple – PMS 254</td>
<td>“DNR” in White</td>
<td>Arial Bold, 48 pt All Caps</td>
</tr>
<tr>
<td>Restricted Extremity Wristband</td>
<td>Pink – PMS 1905</td>
<td>“RESTRICTED LIMB” in Black</td>
<td>Arial Bold, 28 pt All Caps</td>
</tr>
<tr>
<td>Latex Allergy Wristband</td>
<td>Green – Pantone Green</td>
<td>“LATEX ALLERGY” in Black</td>
<td>Arial Bold, 28 pt All Caps</td>
</tr>
</tbody>
</table>

You may use any vendor you wish. However, the list below contains information about vendors who already produce certain alert wristbands in the standardized color, text, and font.

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Alert Wristbands Commonly Produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>The St John Companies</td>
<td>Allergy</td>
</tr>
<tr>
<td></td>
<td>Fall Risk</td>
</tr>
<tr>
<td></td>
<td>DNR</td>
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<tr>
<td></td>
<td>Restricted Extremity</td>
</tr>
<tr>
<td></td>
<td>Latex Allergy</td>
</tr>
<tr>
<td></td>
<td>Patient Identification</td>
</tr>
<tr>
<td>Standard Register</td>
<td>Allergy</td>
</tr>
<tr>
<td></td>
<td>Fall Risk</td>
</tr>
<tr>
<td></td>
<td>Patient Identification</td>
</tr>
<tr>
<td>EndurID</td>
<td>Allergy</td>
</tr>
<tr>
<td></td>
<td>Fall Risk</td>
</tr>
<tr>
<td></td>
<td>Patient Identification</td>
</tr>
<tr>
<td>Posey</td>
<td>Allergy</td>
</tr>
<tr>
<td></td>
<td>Fall Risk</td>
</tr>
<tr>
<td></td>
<td>Patient Identification</td>
</tr>
</tbody>
</table>
| PDC (Precision Dynamics Corporation) | Allergy  
|-------------------------------------|---------
| 13880 Del Sur Street               | Fall Risk  
| San Fernando, CA 91340            | Patient Identification  
| 800-847-0670 x5150                |         
| [www.pdccorp.com](http://www.pdccorp.com) |         |
Resources

Pennsylvania Patient Safety Advisories

December 2005 Supplementary Advisory

August 2006 Supplementary Advisory
http://www.psa.state.pa.us/psa/lib/psa/advisories/v3_s1_sup_advisory_8-9-06.pdf

Selected Bibliography
For further research, or to obtain articles or books cited here, readers should refer to the research and document delivery services of their institution's medical library or local public library.

Arizona Hospital and Healthcare Association – http://www.azhha.org


Minnesota Hospital Association – http://www.mnhospitals.org

New Jersey Hospital Association – [http://www.njha.com](http://www.njha.com)

Acknowledgements

The Hospital & Healthsystem Association of Pennsylvania wish to thank the following organizations for their dedication to this important issue and willingness to exchange information and resources:

**Pennsylvania hospitals and health systems** for submitting incidents, or near misses, and serious events to the Pennsylvania Patient Safety Authority for purposes of learning to reduce patient injury and harm.

**The Pennsylvania Patient Safety Authority** and **ECRI Institute** for analyzing reports made by Pennsylvania hospitals and health systems through the Patient Safety Reporting System and sharing information with the provider community to help advance patient safety.

**The Western Regional Alliance for Patient Safety**, an alliance of western region hospital associations and organizations focused on assisting health care providers and hospitals improve patient safety and quality that worked collaboratively to standardize color-coded wristband across state lines. The states involved in this collaborative work include Arizona, California, Colorado, New Mexico, Nevada, and Utah. Tool kit materials developed by the Arizona Hospital and Healthcare Association, the Colorado Health and Hospital Association, and the New Mexico Hospitals and Health Systems Association were used in compiling information contained in this tool kit.

**The Minnesota Hospital and New Jersey Hospital Association** for making available their tool kits. Elements of these respective tool kits were used in compiling information contained in Pennsylvania color-coded wristband implementation tool kit.

**The Color of Safety Task Force**, a group of 13 hospitals in northeast and central Pennsylvania that came together to standardize color-coded wristbands on a regional level. This task force created the original implementation tool kit and served as the catalyst behind other similar state initiatives. This grassroots regional patient safety effort fueled interest in this topic nationally. The original members of this task force are listed below.
Members of The Color of Safety Task Force:

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE</th>
<th>ORGANIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael D. Wolk, MD</td>
<td>Medical Director</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Carol Berry</td>
<td>ED Nurse Manager</td>
<td>Tyler Memorial Hospital</td>
</tr>
<tr>
<td>Jackie Brozena</td>
<td>Vice President</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Patricia Cornell</td>
<td>Director, Materials Management</td>
<td>Marian Community Hospital</td>
</tr>
<tr>
<td>Franchesca Charney</td>
<td>Director, Risk Management</td>
<td>Holy Spirit Health System</td>
</tr>
<tr>
<td>Jean Decki</td>
<td>AVP</td>
<td>Marian Community Hospital</td>
</tr>
<tr>
<td>Darlene Drake</td>
<td>Medical-Surgical Nurse Manager</td>
<td>Tyler Memorial Hospital</td>
</tr>
<tr>
<td>Brenna Evans</td>
<td>Director, Quality Management</td>
<td>Tyler Memorial Hospital</td>
</tr>
<tr>
<td>Bruna Cruciani Evans</td>
<td>Patient Services Representative, Patient Safety Officer, Risk Management</td>
<td>Mercy Hospital</td>
</tr>
<tr>
<td>Connie Fanning</td>
<td>Clinical Risk Accreditation Manager</td>
<td>Community Medical Center</td>
</tr>
<tr>
<td>Ann Fumanti</td>
<td>Quality Improvement, Risk Management</td>
<td>Moses Taylor Hospital</td>
</tr>
<tr>
<td>Denise Gieski</td>
<td>Director of Nursing</td>
<td>Tyler Memorial Hospital</td>
</tr>
<tr>
<td>Ayad Haboubi</td>
<td>Director, Rehabilitation Technology</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Bonnie Haluska, Chairperson</td>
<td>AVP, Inpatient Services</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Teresa Lacey</td>
<td>Director of Nursing</td>
<td>Community Medical Center</td>
</tr>
<tr>
<td>Sandy Lindemuth</td>
<td>Assistant Director of Nursing/Development</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Nancy O'Malley</td>
<td>Executive Director of Nursing</td>
<td>Mercy Hospital</td>
</tr>
<tr>
<td>Cathy Rovinsky</td>
<td>ADON, Patient Safety Officer</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Jeana Sluck</td>
<td>Executive Director, Nursing and Inpatient Departments</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Marilyn Swendsen</td>
<td>Risk Management and Patient Safety</td>
<td>Wayne Memorial Hospital</td>
</tr>
<tr>
<td>Kathy Tirpak</td>
<td>Director, Medical Staff Services</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Maria Walker/Chris Hubert</td>
<td>Patient Safety Liaisons</td>
<td>Allied Services Rehabilitation Hospital</td>
</tr>
<tr>
<td>Jean Yurkanin</td>
<td>Discharge Coordinator</td>
<td>Mid-Valley Hospital</td>
</tr>
<tr>
<td>Gerri Zionkowski</td>
<td>ICU Manager</td>
<td>Tyler Memorial Hospital</td>
</tr>
</tbody>
</table>