

Executive Summary — February 2007

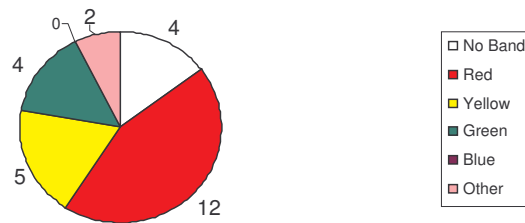
In December 2005, a patient safety advisory was issued from the Pennsylvania Patient Safety Reporting System that received national attention. This advisory brought to surface an incident that occurred in a hospital in which clinicians nearly failed to rescue a patient who had a cardiopulmonary arrest because the patient had been incorrectly designated as “DNR” (Do Not Resuscitate).

The source of confusion was a nurse that had incorrectly placed a yellow wristband on the patient. In that hospital a yellow wristband meant DNR. In a nearby hospital, where the nurse also worked, yellow meant “restricted extremity” which was what she wanted to alert staff about. Fortunately in this case, another nurse recognized the mistake and the patient was resuscitated.

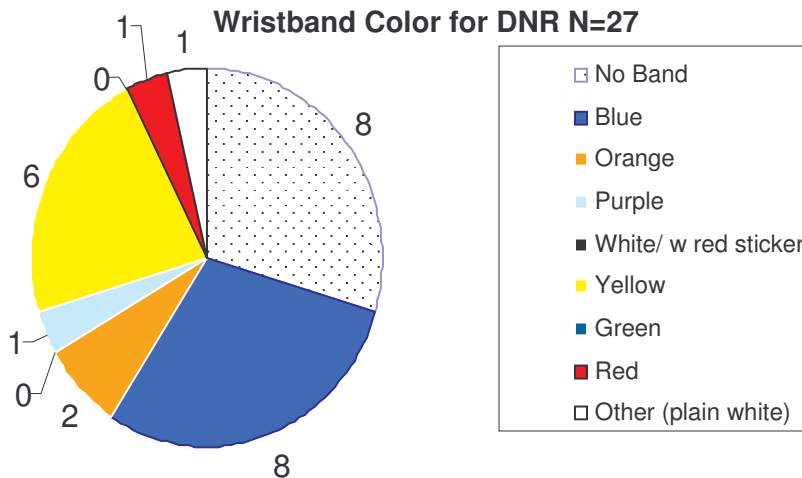
Seven different colors/methods are being used throughout New Mexico to convey Do Not Resuscitate.

NM colored wristband study 1/07:

Wristband Color for Allergies N=27



Wristband Color for DNR N=27



Most of us can imagine this type of near miss occurring in any institution. Consider these statistics regarding hospital staff:

- In 2006, the New Mexico Center for Nursing Excellence collaborated in a Senate Joint Memorial 37 Task force that reported NM hospital average vacancy rate for RNs at 15%, with a range of 2% to 33%. In 2004, Arizona’s hospitals reported 14.9% vacancy, California 14%, Colorado 11%. During that same time, the American Hospital Association reported a national RN vacancy rate of 8.5%.

- Many hospitals in the West are using Registry or Traveler RNs to staff vacant positions. Many of those RNs work in multiple medical facilities and travel from state to state on a regular basis. (CO data from Cirrus Registry: RN's placed in CO most frequently come from the following states (in order of frequency): NM (53), OK (41), CO (40), NC (29), ID (29), LA (21), WY (20), IL (17), FL (9), AL (6)

The potential for confusion is obvious, significant, and avoidable. In March 2006, a workgroup from the Arizona Hospital Association convened and developed a plan and ToolKit to standardize color-coded wristbands, with the overall goal for it to be used on a national level.

DNR

No Band	30%
Blue	30%
Orange	7%
Purple	0%
White/ w red sticker	4%
Yellow	22%
Green	0%
Red	4%
Other (plain white)	4%

Good Neighbors

As a member of the Western Region Alliance for Patients Safety (WRAPS) with a mission of “*the right care for every person, every time*”, New Mexico supports the goals of cooperation and standardization within the Western State’s region to make improvements in healthcare safety. Through WRAPS, we believe this can be accomplished at a higher level than organizations working alone.

The Arizona Workgroup focused on three condition alerts:

- **DO NOT RESUSCITATE**
- **ALLERGY**
- **FALL RISK**

AZ reached consensus on color definitions of wristbands, and developed a work-plan and Implementation Toolkit to use to adopt the standardization of color-coded wristbands.

The New Mexico Hospital Association started a Patient Safety Initiative program in October 2006. We conducted a survey to address the standardization in New Mexico with color-coded wristbands.

We wanted to assess if we had the same potential for harm in New Mexico. In January 2007, surveys were sent to hospital QI Directors and Patient Safety Officers asking questions related to Color-coded Wristbands. Thirty-three hospitals participated in the survey.

The results were concerning; **seven** different colors/methods are being used in New Mexico to convey DNR. **Four** different wristband colors are used to convey allergies.

Our risk is apparent.

Standardize the colors being used for Allergies, Fall Risk and DNR in all New Mexico healthcare organizations (hospitals, home health, skilled nursing facilities, etc.)

Our answer is this project.

WRAPS Purpose / Mission



The WRAPS will be convened to enhance and promote patient safety by advocating the adoption of regional safe practices in health care organizations and sharing innovative work products and promising practices when possible. The WRAPS will prioritize work based on strategies that are efficient, effective and realistic for healthcare providers to adopt and utilize.

OUR TASK:

1. Reach consensus on adoption of color definitions of wristbands.
2. Develop a work-plan and model a New Mexico Implementation Tool Kit for hospitals to use to adopt the standardization of color-coded wristbands.

Our safety as a state and success in this effort will depend on the participation and adoption of each and every hospital in this state. This effort will require a willingness to change for the greater good. Some hospitals will have a minor change while others may have a major change. We realize that change is difficult; we also realize that change made for reasons that benefit the safety of your staff, your loved ones and your communities are changes for all the right reasons.

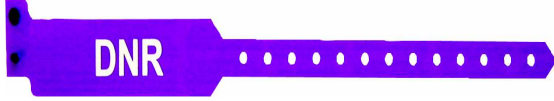
To access the Patient Safety Advisory report go to:

http://www.psa.state.pa.us/psa/lib/psa/advisories/v2_s2_sup__advisory_dec_14_2005.pdf

Recommendations for Adoption

Recommendation: DNR - Purple

It is recommended that hospitals adopt the color **PURPLE** for the **Do Not Resuscitate** designation with the words embossed / printed on the wristband, "DNR".



PURPLE for DNR

1. Why not blue?
 - Should not be the same color that is used for calling a code
 - Registry, turnover, travelers, etc
2. Why not orange?
 - Pre-hospital confusion with Advance Directives in some hospitals
3. Why not green?
 - Color blind
 - "Go ahead" confusion
4. If we adopt purple, do we still need to look in the chart?
 - Yes!
 - Code designation can and does change during a patients stay

Recommendation: Allergy - Red

It is recommended that hospitals adopt the color **RED** for the **ALLERGY ALERT** designation with the words embossed / printed on the wristband, "ALLERGY".



- RED for the Allergy Alert

1. Why Red?
 - 57% of NM Hospitals currently use red
2. Any other reasons?
 - Associated with other messages such as STOP! DANGER! due to traffic lights and ambulance/police lights.
2. Do we write the allergies on the wristband too?
 - No because that may create new errors due to:
 - Legibility issues
 - Allergy list may change
 - Patient chart should be the source for the specifics

Calling CODE BLUE!

- *Is used by 96% of NM hospitals to call a code team.*
- *If NM selected the color blue for the DNR wristband, the potential for confusion exists.*
- *"Does blue mean I code or I do not code?"*

Quick Adoption

By adopting red for allergy alert, the standardization for this is easily achieved since 57% of NM hospitals already use red for allergy alert band, and red is used twice as often as any other color.

Recommendation: Fall - Yellow

It is recommended that hospitals adopt the color **YELLOW** for the **Fall Risk Alert** designation with the words embossed / written on the wristband, "Fall Risk".



Falls account for more than 70 percent of the total injury-related health cost among people 60 years of age and older



YELLOW for Fall Risk

1. Why Yellow?

- Associated with "Caution" or "Slow Down" (Stop Lights and School Buses)
- American National Standards Institute = TRIPPING OR FALLING HAZARDS
- All health care providers want to be alert to fall risks as they can be prevented by anyone.

FAQs about Color-coded Alert Wristbands

Q#1.

Back in the old days, we never used wristbands. Why should we consider it now?

A. While there is much discussion regarding the issue of "to band or not to band," a literature review to date has not identified a better intervention conclusively. One may say, "In the good old days, we just looked at the chart and didn't band patients at all," however, those days consisted of a workforce base that was largely core staff employed by the hospital. Now, an increasing number of healthcare providers are not hospital based staff, so it is imperative that current processes take this into consideration.

Q#2.

We don't use wristbands for DNRs at this hospital. Why should we consider adopting this?

A. Wristbands are used in most NM hospitals to communicate an alert. Registry staff, travelers, non-clinical staff, etc. may be unaware of where to look or where to find the medical record if they are new to your hospital. By having a wristband on, a quick warning is communicated so anyone could know about this alert. Additionally, it is also a means to communicate to the family that we are clear about their end of life wishes. By not having a band on, errors of omission could potentially be created.

Q#3.

Why not use Blue for DNR?

A. At first we considered blue a great choice. However, a survey of NM hospitals indicated 96% of hospitals call a code by announcing "Code Blue" or "Dr. Blue." By also having the DNR wristband as "no code" there was the potential to create confusion. "Does blue mean we code or do not code?" To avoid creating any second guesses in this critical moment, we opted to not use blue.

Q#4.

In some hospitals, the pre-hospital color for Advance Directive is Orange, wouldn't it make sense to use it throughout the continuum of care?

A. Orange was also a top runner because it is the color used in some pre-hospitalization to indicate the patient has an Advance Directive (AD). One

might think that having this same color within the continuum of care would be beneficial. However, what if a patient arrives with an orange band and the receiving care provider does not validate the AD? One may assume the designation was validated because they see the patient with an orange wristband. By having the band a completely different color we signify that the AD has been validated during this hospitalization and a current no code order has been written by the physician.

Q#5.

Why didn't you select Green for DNR?

A. Again, we considered this color as well, however, due to color blindness concerns it was decided to avoid it altogether. Also, in other industries, the color green often has a "Go Ahead" connotation, such as traffic lights. We again want to avoid any possibility of sending "mixed messages" in a critical moment.

Q#6.

So, if we adopt the purple DNR wristband then do we still need to look in the chart?

A. Yes. Code status can change throughout a hospitalization. It is important to know the current status so the patient's and families wishes can be honored. Always validate that there is an order by a physician for the DNR designation.

Q#7.

Why did you select red for Allergies?

A. Red was selected due to the results of a January 2007 survey conducted with New Mexico hospitals that indicated 57% already use the color red (three times as many use red as any other color). It just made sense to continue with a color that has established use.

Q#8.

Besides that, are there any other reasons for using red for Allergies?

A. Yes there are. Our research of other industries tells us that red has an association that implies extreme concern. The American National Standards Institute (ANSI) has designated certain colors with very specific warnings. ANSI uses red to communicate "Stop!" or "Danger!" We think that message should hold true for communicating an allergy status. When a caregiver sees a red allergy alert band they are prompted to "STOP!" and double check if the patient is allergic to the medication, food, or treatment they are about to receive.

Q#9.

Do we write the allergies on the wristband too?

A. No - it is our recommendation that allergies be written in the medical record or according to your hospital's policy and procedure. We suggest allergies not be written on the wristband for several reasons:

1. Legibility may hinder the correct interpretation of the allergy listed;
2. By writing allergies on the wristband someone may assume the list is comprehensive. However, space is limited on a wristband. The risk is that some allergies would be inadvertently omitted – leading to confusion or missing an allergy;
3. 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.

Q#10.

Why did you select yellow for Fall Risk?

A. Our research of other industries tells us that yellow has an association that implies “Caution!” Think of the traffic lights; proceed with caution or stop altogether is the message with yellow lights. The American National Standards Institute (ANSI) has designated certain colors with very specific warnings. ANSI uses yellow to communicate “Tripping or Falling hazards.” It fits well in healthcare too when associated with a Fall Risk. Caregivers would want to know to be on alert and use caution with a person who has history of previous falls, dizziness or balance problems, fatigability, or confusion about their current surroundings.

Q#11.

Why even use an alert band for Fall Risk?

A. According to the Centers for Disease Control and Prevention (CDC), falls are an area of great concern in the aging population. According to the CDC:

1. More than a third of adults aged 65 years or older fall each year
2. Older adults are hospitalized for fall-related injuries five times more often than they are for injuries from other causes
3. Of those who fall, 20% to 30% suffer moderate to severe injuries that reduce mobility and independence, and increase the risk of premature death
4. The total cost of all fall injuries for people age 65 or older in 1994 was \$27.3 billion (in current dollars).
5. By 2020, the cost of fall injuries is expected to reach \$43.8 billion (in current dollars) Hospital admissions for hip fractures among people over age 65 have steadily increased, from 230,000 admissions in 1988 to 338,000 admissions in 1999.
6. The number of hip fractures is expected to exceed 500,000 by the year 2040.

As the aging population enters the acute care environment, one must consider the risk that is present and do all possible to communicate that to hospital staff. For more information about falls and related statistics, go to:

<http://www.cdc.gov/ncipc/factsheets/fallcost.htm>

Q#12.

Who decided on these colors?

A. Great question! New Mexico would like to follow the lead of its good neighbors, Arizona, Colorado, and California. The original AZ team consisted of various types of healthcare professionals as well as various hospital types. For example, members of the AZ team include the following professions: pharmacists, patient safety officers, quality improvement directors, risk managers, staff educators, healthcare nurse informatics and project managers. The hospitals were rural and urban, large and small, some with high tech medical records and some with a manual paper system. Research in other industries regarding the significance and impact of color was performed, the science of human factors was deeply considered and consulting with other states regarding their work and conclusions all contributed to this diagnostic journey. Both CA and CO have adopted the same colors.

For questions or comments regarding this project, please direct to NMHSA Patient Safety Initiative at:

Ellen Interlandi

New Mexico Hospital Association

2121 Osuna Rd NE

Albuquerque, NM 87113

Phone: 505.343.0010

Email: einterlandi@nmhsc.org

SAMPLES

Staff Education Regarding:

Color coded “alert” wristbands

*Information intended for all staff, clinical
and non-clinical.*

Color Coded Alert

Wristbands –

*A Statewide Patient
Safety Initiative*

How we say something is just as important as **what** we say. The next column is a script you can use to tell your patients / families about the color coded alert wristbands and what they mean. If everyone says it the same, there is a better chance patients and families will understand what we are saying.

SCRIPT

For any staff person talking to a patient or family

What is a Color Coded “Alert” Wristband?

Color coded alert wristbands are used in hospitals to quickly communicate a certain health care status, condition or an “alert” that a patient may have. This is done so every staff member can provide the best care possible.

What do the colors mean?

There are three different color coded “alert” wristbands that we are going to discuss because they are the most commonly ones used.

RED means ALLERGY ALERT

If a patient has an allergy to anything - food, medicine, dust, grass, pet hair, ANYTHING- tell us. It may not seem important to you but it could be very important in the care they receive.

YELLOW means FALL RISK

We want to prevent falls at all times. Nurses review patients all the time to determine if they need extra attention in order to prevent a fall. Sometimes, a person may become weakened during their illness or because they just had a surgery. When a patient has this color coded alert wristband, the nurse is saying this person needs to be assisted when walking or they may fall.

PURPLE means “DNR” Or Do Not Resuscitate

Some patients have expressed an end-of-life wish and we want to honor that.

Other Risk Reduction Strategies Staff Should Know

Color Coded “Alert” Wristbands / Risk Reduction Strategies Quick Reference Card

1. Use wristbands with the alert message pre-printed (such as “DNR”).
2. Remove any “social cause” colored wristbands (such as “Live Strong”).
3. Remove wristbands that have been applied from another facility.
4. Initiate banding upon admission, changes in condition, or when information received during hospital stay.
5. Educate patients and family members regarding the wristbands.
6. Coordinate chart/ white board/care plan/door signage information/stickers with same color coding.
7. Educate staff to verify patient color coded “alert” arm bands upon assessment, hand-off of care and facility transfer communication.

How this all got started...

In 2005, a hospital in Pennsylvania submitted a report to the Pennsylvania Patient Safety Reporting System (PA-PSRS) describing an event in which clinicians nearly failed to rescue a patient who had 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 this nurse also worked, yellow signified “restricted extremity,” meaning that this arm is not to be used for drawing blood or obtaining IV access. Fortunately, in this case, another clinician identified the mistake, and the patient was resuscitated. However, this “near miss” highlights a potential source of error and an opportunity to improve patient safety by re-evaluating the use of color-coded wristbands.*

We want to thank and acknowledge this hospital for their transparency and disclosure of this event. It could have happened any where, and it has served as a “wake up call” to many of us.

*To view the entire report go to http://www.psa.state.pa.us/psa/lib/psa/advisories/v2_s2_sup_advisory_dec_14_2005.pdf

The Big Picture

New Mexico supports ongoing regional collaboration. We accomplish this in several ways, one which includes using the same colors for “alert” wrist bands. Many of the hospitals in the Southwest are adopting the same colors so regardless of which hospital you work at today or tomorrow, the color coded alert wristbands should be the same color for Allergy, the same color for Fall Risk and the same color for Do Not Resuscitate.

This initiative has been adopted in AZ, CO, and CA, and is being considered in many of the southwestern states in this region of the nation. Known as the WRAPS, (Western Region Alliance for Patient Safety), Arizona, California, Colorado, Nevada, New Mexico and Utah are united in this effort. That means whether you are traveling on vacation to these states or relocated to work in another state, most hospitals in this region of the country will be using the following colors:

RED means ALLERGY ALERT
YELLOW means FALL RISK
PURPLE means “DNR”

Suggested Work Plan for Facility Preparation, Staff Education and Patient Education

Area #1

Organizational Approval

Review

- √ Adopting this initiative may need approval by appropriate committees, such as:
 - Patient Safety Committee
 - Medical Staff Committee
 - Quality Improvement Council
 - Board of Directors

Action Plan

Organizations have different committees that need to approve system wide changes, or changes that directly impact patient care. Each organization needs to assess which committees need to approve the adoption of the initiative and begin to get on meeting agendas for approval. For some organizations this may mean simply presentation at one committee, such as the Patient Safety Committee. Other organizations would need to have this approval by several committees, depending on their culture.



Consider the stakeholders and be sure they approve and understand the initiative before it is implemented so they can support it.

Area #2

Supplies Assessment and Purchase

Review

- √ Assessment of current supply
- √ Wristband procurement

Action Plan

Most organizations have a vendor they are using for wristbands in AZ. It is important to communicate to them that you are adopting the Arizona model for color-coded wristbands. Most vendors are aware of the initiative and what bands should be ordered. However, if they do not know, inform them of the colors and the alert message needs to be printed directly on the band (please see "Vendor Information" section). They do need some lead time for the imprinting (about 2-3 weeks).

Coordinate with your Materials Management department to evaluate when current stock will be used up. Once this is known, the rest of the implementation plan will "back fill" into this date.

Area #3

Hospital Specific Documentation

Review

√ Policy adaptation √ Assessment Revision √ Forms revised to meet standards √ Consents

Action Plan

Color-banding policy should be reviewed and approved if changes are made.

Hospitals should review their respective forms for possible modifications (pt. education assessments, etc.) you may want to include language that the patient received the wristband education brochure.

If a patient refuses to wear a band, do you have a document indicating this? Perhaps this needs to be discussed at P&P Committee. A sample is provided in the Toolkit.



Coordinate with Risk Management Staff and individual Hospital Administrators

Area #4

Staff and Patient Orientation, Education and Training

Review

√ Schedule/training content √ Documentation requirement √ Posters and FAQs

Action Plan

Education format and training materials may need to be reviewed.

Competency content and format has been standardized. The competency form may be individualized for the hospital.

Hospital staff education will need to be scheduled, completed and documented per hospital policy.

Make changes to New Employee Orientation so they are provided current information.

Inform Nursing/Allied Health Registries/Agencies that the organization uses regularly, so that they may include in their orientation.