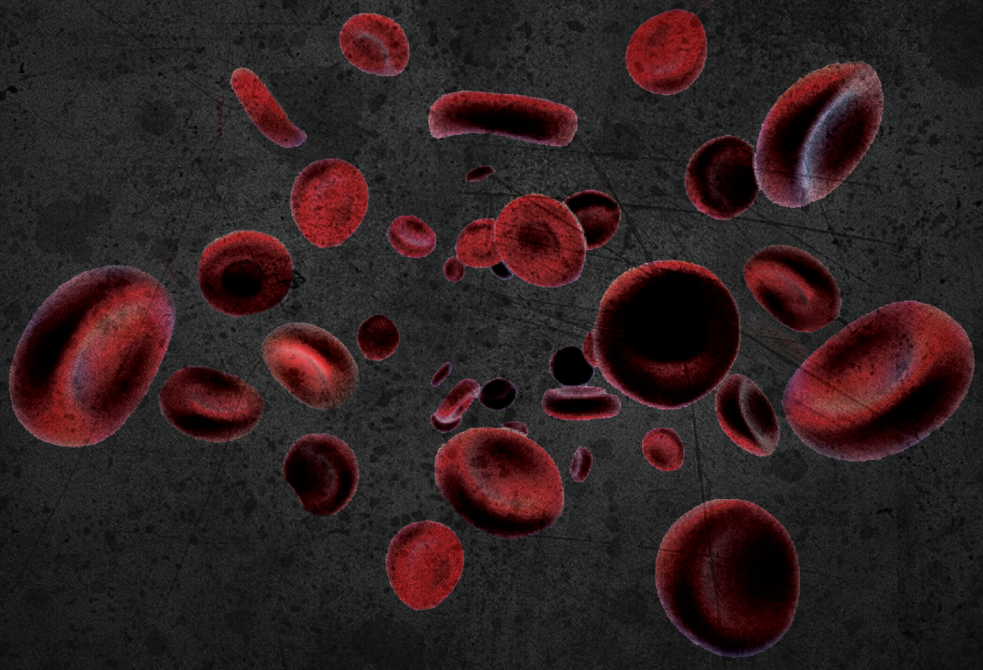
THE FINAL CHECK

A Toolkit for the Prevention of Mislabeled Blood Specimens



SCHA South Carolina Hospital Association

outcomengenuity

THE GOAL: A 90% DROP IN MISLABELED SPECIMENS IN 90 DAYS

SUMMARY

"AS WITH PALMETTO HEALTH RICHLAND, FIVE ADDITIONAL HOSPITALS SHOWED A 90% REDUCTION IN MISLABELED SPECIMENS IN THE FIRST MONTH AFTER IMPLEMENTATION."





In May of 2011, Palmetto Health Richland Hospital in Columbia, South Carolina and the South Carolina Hospital Association partnered with Outcome Engenuity in a project to demonstrate a short term reduction in the number of mislabeled blood specimens. The goal was to achieve a 90% drop in mislabeled specimens (the wrong patient's label on a blood specimen) in a 90 day time frame. The project was intended to be a broader demonstration of the power of Just Culture concepts to dramatically reduce the rate of adverse patient safety events. The project was met with immediate success at Palmetto Health. As a second phase, the South Carolina Hospital Association recruited five additional hospitals to implement The Final Check in an attempt to validate its universality. As with Palmetto Health Richland, five additional hospitals showed a 90% reduction in mislabeled specimens in the first month after implementation. With these successes, Outcome Engenuity and the South Carolina Hospital Association release this toolkit. Its goals are two–fold: to provide hospitals with simple instructions on how to implement The Final Check and to demonstrate the power of Just Culture concepts as a key tool in producing immediate improvement in the safety of care delivered in our healthcare system.

BACKGROUND

In February of 2011, a group of safety specialists from the South Carolina Hospital Association and its member hospitals attended Outcome Engenuity's weeklong Just Culture Certification Course. At that course, the South Carolina team approached Outcome Engenuity with the idea of a Just Culture demonstration project around one of healthcare's most basic safety problems: the mislabeled blood specimen.

To demonstrate the power of Just Culture concepts, Outcome Engenuity made an offer to the South Carolina Hospital Association, and to Palmetto Health Richland Hospital, a 600-bed Level 1 trauma and academic medical center. The offer was simple: a 90% reduction in mislabeled blood specimens in 90 days. As part of its community outreach, Outcome Engenuity made this offer to help at their own expense, if the following criteria could be met:

1) Palmetto Health could reasonably accurately count the current rate of mislabeled specimens

2) Palmetto Health would commit the resources of four individuals for a week to help build the model

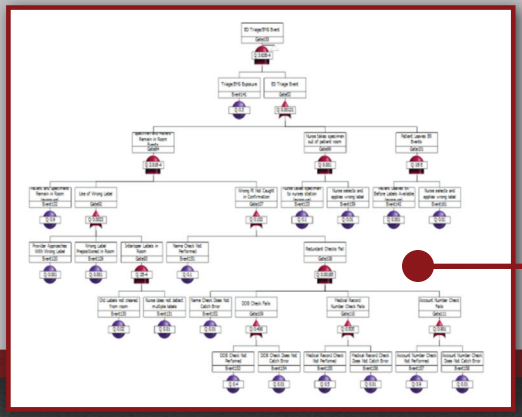
3) Palmetto Health would be willing to immediately share the report (how to get to 1 mislabeled specimen per month) with all staff who are directly involved in specimen mislabeling

4) Palmetto Health would be willing to share the 90 day results (good and bad) with the South Carolina Hospital Association for publication

Palmetto Health accepted the provisions, and the risk modeling began. Throughout the one week on site, the team collectively built what Outcome Engenuity refers to as a "socio-technical probabilistic risk assessment." This risk model was not built on event investigation records, but instead represented a quantitative assessment of how a potential mislabeling event could occur. The model predicted a series of "cut sets" that described unique causal paths to one discrete event. Combined in a "fault tree diagram," the model provided the team the ability to demonstrate the interconnection of human errors and at-risk behavioral choices that could eventually lead to a mislabeled specimen.

Once the ST-PRA model was built, the team at Palmetto went on to identify strategies that would maximize patient safety while at the same time minimize any burdens that those strategies would create for nurse and lab technicians. The core design objective was to realize the 90%+ reduction in mislabeled specimens, while valuing the autonomy that nurses and lab technicians need to get the job done in a complex and ever-changing environment.

An element of the ST-PRA model (fault tree diagram)



BACKGROUND

Key elements of these strategies were put into the risk model so that an anticipated risk reduction could be predicted. The model projected a possible 99% reduction in mislabeled specimens around the following three interventions: the removal of non-value-added expectations, the increase of compliance around name and date-of-birth checks, and the addition of what we call "The Final Check." The Final Check alone showed a predicted rate of a 98% drop in mislabeled specimens, specifically that where the wrong patient's label was attached to a blood specimen.

Table 1- Predicted effectiveness of the Final Check at Palmetto Richland Hospital

Scenario	Predicted Events Per Year	Percent Reduction
Baseline	167	N/A
Eliminate Medical Record and Account Number Checks	169	N/A
Add The Final Check on All Labeling	3.9	98%
Eliminate At-Risk Behavior on Name and DOB Checks	2.3	99%

Table 1

1 Add The Final Check

The Final Check was the key intervention. The ST-PRA model identified a very high level of process variation from nurse to nurse, lab technician to lab technician, even in light of the very punitive threat of the Red Rule. The Final Check was developed in response to this variation in practice, and the recognition that the system factors that shaped the process variation were not going to go away, irrespective of any disciplinary threat. The Final Check, which we see as broadly applicable across hospitals, is the implementation of a post-labeling, verbal confirmation of the last three digits of the medical record number, as read from each specimen label and the patient's arm band. This check, as simple as it is, is the single reason for the 98% reduction in mislabeled specimens. That said, the effectiveness of the check would only be as good as any institution's ability to develop compliance with the check among nursing and laboratory staff. We already assumed a 2% rate of human error in performing the check. That is tolerable within the risk model. What is important is that nurses and lab technicians choose to do The Final Check, with their mind on the task while doing it. It is these factors that led us to develop a check of only the last three digits of the medical record number, and to announce the numbers out loud - two design characteristics that we believe are key to compliance.

> **"THIS CHECK, AS SIMPLE AS IT IS, IS THE SINGLE REASON FOR THE 98% REDUCTION IN MISLABELED SPECIMENS."**

Note: A video documenting Palmetto Health and South Carolina Hospital Association's journey to implementing The Final Check and the successes they have achieved can be seen at www.thefinalcheck.org. Video and print material for The Final Check are also available for download on this site.

2 *Hold Employees Accountable for The Final Check Following the Tenets of a Just Culture*

A rule is a rule – nothing more. Hospitals can have very detailed procedural rules, very strong disciplinary sanctions attached to noncompliance, but that still does not mean their staff are following the rules. Human beings have free will. In the case of specimen labeling, as much as we say that patient safety is valued, inherent system characteristics often promote production goals (i.e. collecting the specimen) over safety rule compliance. In the case of specimen mislabeling, we find extremely high levels of procedural noncompliance across healthcare settings. In many, if not most US hospitals, we turn a blind eye (by choice or by assumption that staff are following the rules) to noncompliance as long as production goals are met. When an adverse event occurs (a mislabeled specimen), we then use disciplinary sanction against the nurse or lab technician because we assume they must not have complied with the rule. It is this outcome-based disciplinary process (no harm, no foul) that is antithetical to patient safety.

To be effective, The Final Check must be implemented within a Just Culture – where it is the behavioral choices of staff that are important, not so much the downstream error or adverse event. We must hold nurses and lab technicians accountable for compliance with The Final Check. One benefit of reading the three digits of the medical record "out loud" is that it allows others - the patient, fellow staff, and line managers - to play a role in accountability. The Just Culture model says console the human error, coach the at-risk behavior, punish the reckless behavior - all independent of outcome. Within the context of The Final Check, the error of mislabeling can be consoled. Within the first stage of implementation, a decision to skip The Final Check can be coached. Effectively implemented, however, most nurses and lab technicians should see the decision to skip The Final Check as a reckless choice. It is not that hospitals will set out to discipline nurses and lab technicians; it is that nurses and lab technicians will see the risks of noncompliance, and as a matter of professional responsibility will choose to comply.

"TO BE EFFECTIVE, THE FINAL CHECK MUST BE IMPLEMENTED WITHIN A JUST CULTURE – WHERE IT IS THE BEHAVIORAL CHOICES OF STAFF THAT ARE IMPORTANT, NOT SO MUCH THE DOWNSTREAM ERROR OR ADVERSE EVENT."

An organization with a "no harm, no foul" perspective of accountability (the typical healthcare organization today) will, by its actions, devalue compliance as staff see that their peers are not held accountable for the risky behavioral choice. In these organizations, noncompliance rates will quickly rise, as production goals take precedence over safety rules. For this reason, it is critical that The Final Check be implemented within the structure of a Just Culture.

3

Reverse Course on the Red Rules and Other Outcome-Based Disciplinary Practices

Palmetto Health, the first hospital to implement The Final Check, had made specimen labeling a "Red Rule." This created a significant punitive deterrent for staff who did not follow the specimen labeling protocol. In practice, however, the Red Rule did not hold staff accountable for following the procedure, but instead waited for a mislabeled specimen, and then in response to a mislabeled specimen, inferred noncompliance with the Red Rule and took disciplinary action. In effect, the Red Rule held staff accountable for an incorrectly labeled specimen, not for failure to comply with the specimen labeling procedure. Whether it is called a Red Rule or simply standard human resources practice, this form of disciplinary sanction should be reversed for The Final Check to be effective. In a Just Culture, there are places where staff are accountable for a Duty to Produce an Outcome – such as time and attendance. Specimen labeling is one area where outcome-based duties will not be effective for the line nurse or lab technician.

"PALMETTO HEALTH, THE FIRST HOSPITAL TO IMPLEMENT THE FINAL CHECK, HAD MADE SPECIMEN LABELING A 'RED RULE.'"

4 *Eliminate Non-Value-Added Steps*

Palmetto Health's specimen labeling policy required confirmation of four discrete items on the label and arm band: 1) Name, 2) DOB, 3) Account Number, and 4) Medical Record Number, prior to affixing the label onto the specimen. It is a common belief in industries that are new to modern safety efforts that "more is better." If what we are doing is not working, we add additional steps. Healthcare organizations today are often reluctant to remove non-value-added steps, out of fear of liability, and from not having the high-fidelity risk modeling tools that can confidently predict the results of eliminated safety steps. In an effort to minimize non-value-added steps, Palmetto Health eliminated the relabeling check of account and medical record numbers, one 10-digit number confirmation and another 9-digit confirmation that had a very low level of compliance to begin. The ST-PRA risk model identified that confirmation of name and date-of-birth (label against patient) upon entry of the patient's room, coupled with The Final Check, would get us the 90%+ reduction we desired. It was important to eliminate steps that staff not only perceived as onerous and non-value-added, but that the risk model confirmed were of low value. Hospitals implementing The Final Check should critically review task steps that go beyond two patient identifiers at task start, and The Final Check at task completion. Added steps, beyond these, are likely to induce noncompliance with The Final Check.

"IT WAS IMPORTANT TO ELIMINATE STEPS THAT STAFF NOT ONLY PERCEIVED AS ONEROUS AND NON-VALUE-ADDED, BUT THAT THE RISK MODEL CONFIRMED WERE OF LOW VALUE."

5

Require Employees to "Raise Your Hand" and Report When Mistakes are Caught During The Final Check

The Final Check was developed through a socio-technical probabilistic risk assessment (ST-PRA). This assessment did not rely on patient safety reports, as those reports rarely detail the causal connections necessary to evaluate and mitigate risk. At most hospitals around the country, patient safety reports on mislabeled specimens simply state that a specimen was mislabeled and include the name of the nurse or lab technician who was involved. Rarely do those reports detail the behavioral choices of staff, or the system attributes that were the precursors to the mislabeled specimen. A component of the Just Culture concept is to create an open learning culture – that said, very few institutions today have developed their Just Culture, and hence their learning systems, to the level of refinement where productive risk reduction strategies can be developed wholly through the analysis of event data. The Final Check has afforded hospitals the opportunity to promote a more effective system of learning. Unique to The Final Check is that it increases the odds that staff will catch the specimen labeling error at bedside, rather than having it caught later upon discovery in the lab. Ideally, when caught at bedside, the nurse or lab technician would feel a duty to report the error and to participate in an investigation of the problem when the problem arose, not at a later date. Because The Final Check would be implemented in the context of a Just Culture, the nurse and lab technician would learn that it is safe to report the mistake – that no disciplinary action would follow solely from the occurrence of a mislabeled specimen or an error caught in The Final Check.

"THE FINAL CHECK HAS AFFORDED HOSPITALS THE OPPORTUNITY TO PROMOTE A MORE EFFECTIVE SYSTEM OF LEANING."

THE INTERVENTIONS

The Steps in Implementing The Final Check are as Follows:

1. **Assess your current specimen labeling procedure.** Remove non-value-added steps (anything beyond two patient identifiers as a pre-labeling step, and The Final Check as a post-labeling step).

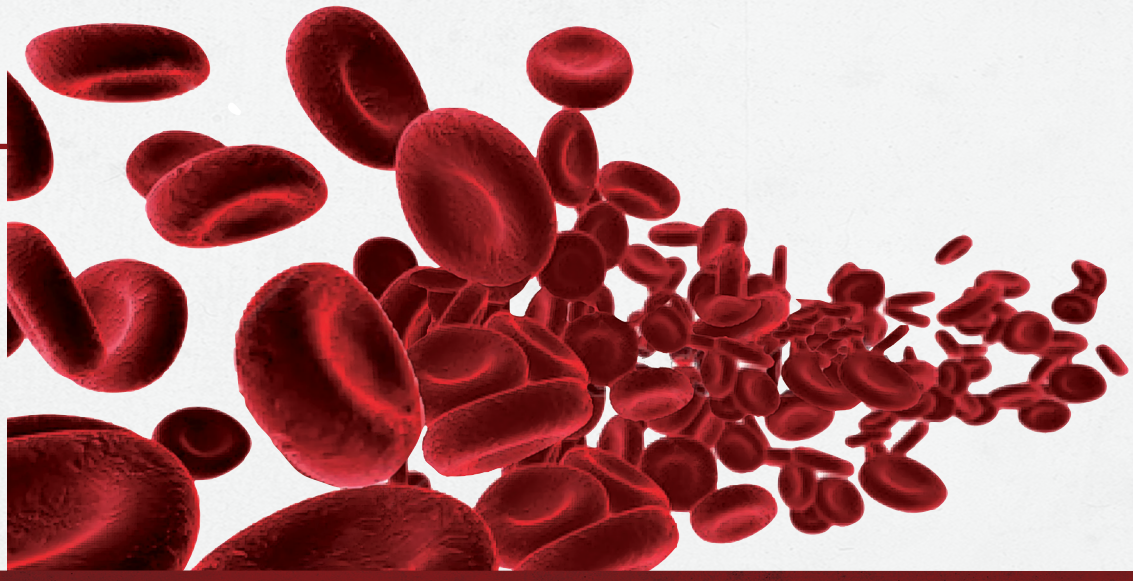
2. **Assess your current disciplinary practices around specimen labeling.** Make them Just – console the mislabeled specimen error, ignore from a disciplinary perspective any downstream harm, put focus on the choices that may lead to a mislabeled specimen – two identifiers going into the room, and especially, The Final Check.

3. **Implement The Final Check.** Use fifteen minutes of a staff meeting to introduce the concepts to nurses and lab technicians. Show them the The Final Check video. Show them the data – so that they believe. Publish the poster as a reminder in the early stages of implementation. Hand out The Final Check card.

4. **Monitor.** Have managers on the floor look for compliance with The Final Check. Give positive feedback when nurses and lab technicians are compliant; coach when non-compliance is found.

5. **Create a learning culture around mislabeled specimens.** Tell your staff that it is safe to raise their hand when they have found a mislabeled specimen in the process of The Final Check. Learn.

6. **Visit www.thefinalcheck.org.** Look to what your peers are doing, what has worked for them, and what has not worked.



A THANK YOU

SHELLEY RORIE

LORRI GIBBONS

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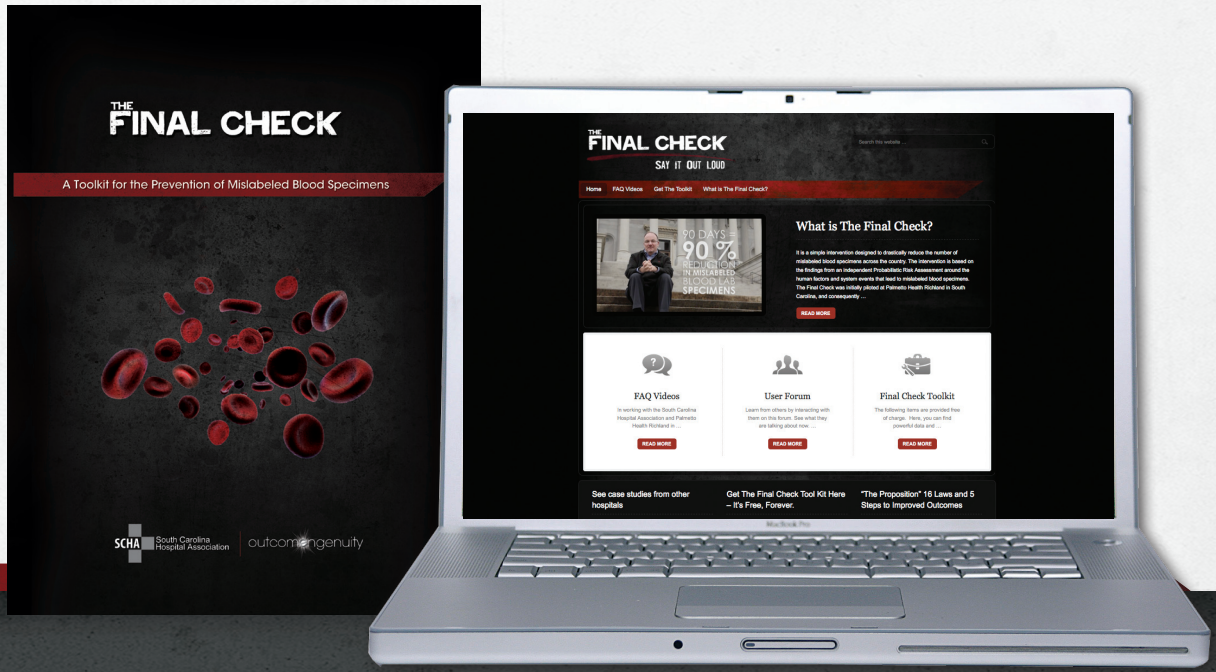
A GIFT FOR YOU

Download your free toolkit on www.thefinalcheck.org




Three Numbers
Can Save My Life
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SAY IT OUT LOUD