

Patient Safety

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- Introduction2
- Keeping Patients Safe3
- Specific Steps to Make Patients Safer, Part 14
 - How can we increase patient safety by preventing PAEs?4
 - Use Failure Modes and Effects Analysis (FMEA).....4
 - Implement a Near-Miss Reporting System (NMRS).....5
 - Learn About “Misses-in-Waiting” During the Normal Course of Business.....5
 - Plan for Avoidance of Harm From Errors, or Recovery From Errors.....5
 - Involve Patients6
 - Implement Interventions to Reduce Medication Error6
 - Avoid the Use of Temporary Employees6
 - Design Shifts to Reduce Sleepiness7
 - Reduce the Potential for Interruptions and Distractions During High-Risk, Complex Tasks.....7
 - Reduce or Eliminate the Need for Employees to Rely on Memory to Safely Complete Tasks7
 - Simplify Procedures.....8
 - Standardize Procedures8
 - Insert Forcing Functions in Procedures.....8
 - Use Natural Mapping in Designing Forms and Equipment.....9
 - Train Train Train9
 - Implement Interventions to Ensure Clear Communication Among Team Members9
- Specific Steps to Make Patients Safer, Part 210
 - How can we increase patient safety after PAEs have occurred?..... 10
 - Implement a PAE Reporting System (PAERS) 10
 - Analyze Errors Using Root Cause Analysis 11
 - Close the Loop: Implement Sustainable Fixes to System Flaws.....12
- Specific Steps to Make Patients Safer, Part 3.....12
 - What can I do as an individual to bring patient safety to my correctional facility or organization?.....12
 - Not Much ... Unless You Are the Leader 12
 - Resist the Urge to Appoint a Subordinate Employee as the Director of Patient Safety12
 - Become More Knowledgeable in the Science of Patient Safety12
 - Change Your Organization’s Culture12
 - Adopt a Just Culture Approach.....13
 - Routinely Audit the Degree to Which the Operation Is Patient-Safe13
- Specific Steps to Make Patients Safer, Part 4.....14
 - What can organized correctional medicine do to increase patient safety in the field?.....14
 - Create a Reporting System Similar to the Aviation Safety Reporting System.....14
 - Disseminate Patient Safety Innovations to the Profession 14
- Final Words.....14
- Recommended Reading List14
- Appendix 1: Recruitment/Retention Plan of a State Department of Corrections..... 17
- Appendix 2: Rand Patient Safety Standards23
- Appendix 3: (John Jay) Standards for Patient Safety in Prisons..... 29
- Appendix 4: John Jay Standards Applied to NCCHC Standards 34

Introduction

What is patient safety?

It is brand new, with new vocabulary, new science, and new tools. It's old.

It is complicated, intricate, and confusing. It's simple.

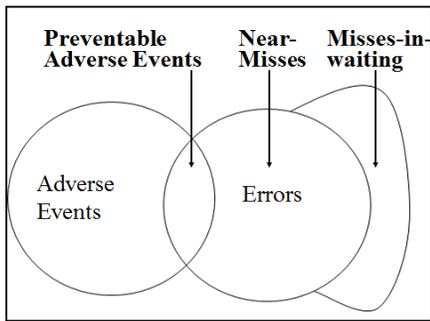
Thought leaders like Avedis Donabedian, James Reason, and Lucian Leape were writing about error and patient safety as early as the 1960s, but the modern era of patient safety began in 2000, the year the Institute of Medicine (IOM) released "To Err is Human: Building a Safer Health System." It launched the burgeoning of patient safety research and science, though gains in actual harm reduction to patients have not been as quick to materialize.

The shortest definition of patient safety comes from the IOM: the absence of accidental injury.¹ Other ways to define it include (1) an attribute of health care systems that minimizes the incidence and impact of adverse events and maximizes recovery from such events²; (2) a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events.² These definitions, though, may not be as helpful as looking at some of patient safety's goals, tools, and typology.

To achieve safe care, we try to eliminate errors in the provision of that care. Errors are classified in a number of ways, such as errors of commission vs. errors of omission and obvious (so-called "sharp") errors vs. latent (so-called "blunt," hidden, or underlying) errors. The most helpful classification for thinking about the activities we perform in health care and their relationship to patient safety may be errors of planning vs. errors of execution. Indeed, most things we do on a daily basis involve either planning how we will take care of a patient (e.g., deciding what antibiotic to order, choosing in what order we will visit living units for medication pass, assessing whether the patient's shortness of breath meets the criteria of the patient's PRN order for nebulizer treatment) or executing the plan (e.g., applying a wound dressing, calculating a dosage of medication, administering a dosage of medication as ordered, listening for an S3 gallop, or scheduling an off-site appointment).

Much of what we have learned about patient safety is built on research and lessons learned in other industries, most notably aviation and aeronautics, nuclear power generation, and manufacturing. Those industries taught us that the likelihood of committing an error depends on the complexity of the operation and the tightness of coupling of various steps within the operation. Complexity refers to how many different steps are in the operation and how nonlinear those steps are. A simple assembly line is linear. A receiving and booking area is nonlinear: People are coming and going, not everyone is processed in the same order, some people are placed in observation cells while others are not, etc. Tightness of coupling refers to how much one step depends on other steps and also how much – or little – time there is between these steps. Resident count and clinic patient flow are tightly coupled: Scheduling patients has to be carefully coordinated with count times, and the moment count starts, clinic grinds to a halt. Health care delivery, in general, is considered a highly complex, highly coupled operation, and therefore at high risk for errors. Correctional health care is arguably more complex because of the added layer of custody and all the coupling of activities that result. Thus, we should expect our operations in corrections to be at higher risk for error, which means that fluency in patient safety science is even more critical for correctional health care managers than for community health care managers.

Another patient safety concept borrowed from other industries is Six Sigma, developed as a manufacturing goal at Motorola in 1986. Sigma is the Greek symbol for statistical standard deviation. The Six Sigma concept is this: Of all the times a process is repeated, errors are tolerated only if they occur beyond six standard deviations from the mean. In simpler terms, operations need to be error-free 99.9997% of the time. Now, contrast this with goals in correctional health care. We often encounter continuous quality improvement (CQI) goals for indicators set at 85% or 90% success. Aiming for 90% compliance means we will accept up to 100,000 errors per million. Would that be acceptable in any other industry? Deming wrote in regard to the unacceptability of health care safety targets, "If we had to live with 99.9%, we would have: 2 unsafe plane landings per day at O'Hare, 16,000 pieces of lost mail every hour, 32,000 bank checks deducted from the wrong bank every hour."³



To understand the concept of errors also requires an understanding of the concept of adverse events. Adverse events are poor patient outcomes (i.e., harm) that result from the provision of health care (as opposed to the natural progression of disease). As shown in the figure, not all adverse events result from medical errors. For example, if a patient pulls out sutures playing basketball, that is an adverse event (because it would not have happened, save for the provision of wound care), but there were no medical errors. Similarly, not all errors result in harm. In simple terms, adverse events are things that *go* wrong, whereas errors are things we *do* wrong. The vast majority of errors do not result in harm to the patient, either because the error never “reaches” the patient or it reaches the

patient but has no effect. These are called near-misses. At the epicenter of patient safety are preventable adverse events (PAE) – events that cause harm and are the result of an error (i.e., preventable). The goal of patient safety is to avoid PAEs. However, near-misses are still very important to study because “today’s near-misses are tomorrow’s PAEs.” Furthermore, near-misses are easier to study than PAEs because they are much more common. A related key concept in patient safety is what I call “misses-in-waiting.” These are not events but rather conditions that could lead to an error (and, therefore, to a PAE). A new officer working in the intake and booking area who has never been trained in how to conduct health screenings is a miss-in-waiting.

There is one more fundamental concept that must be fully embraced for an organization to improve patient safety. Unfortunately, it is one that is heretical for many managers in health care and can be even more heretical in a correctional environment. Traditional management practice views the employee as the source of error. Patient safety science, instead, recognizes that while the employee may be the agent of an error, most errors are the result of problems in the system of care. Leape said it well: “Errors result from faulty systems, not from faulty people, so it is the systems that must be fixed. The biggest mistake we make in health care is that we that we punish people for making mistakes.” It is necessary – but not sufficient – to have smart, well-trained, well-intentioned employees who try hard. There is a limit to how safely these employees can act in the presence of unsafe systems. Furthermore, the cooperation of and partnership with employees is absolutely necessary to find and fix system problems.

So, while the science, and even definitions, can get complicated, the underlying ideas of patient safety are quite simple and will comprise the first two sections of recommended interventions in this report: (1) fix system problems we already know about (“How can we increase patient safety by preventing PAEs?”) and (2) learn about system problems we were unaware of, and fix them, too (“How can we increase patient safety after PAEs have occurred?”).

And, while much of the science of patient safety is new, the idea is not. It’s been around since the beginning of medicine. In his oath for physicians, 2,500 years ago, Hippocrates wrote: “With regard to healing the sick ... I will take care that they suffer no hurt or damage.”

Keeping Patients Safe

In the next four sections, I recommend steps that correctional health care professionals can take to make patient care safer. As with any science, decision making should be based on good quality evidence. The best evidence for decision making comes from randomized clinical trials (RCT). Unfortunately, very little of the evidence base for patient safety comes from such high quality sources. Reasons for this include the relative youth of this field of study and the complexity of implementing placebo-controlled, double-blind experiments on organizational operations. On the positive side, less robust study types, such as observational studies (e.g., before-and-after studies) – and even expert opinion – are still usable evidence, and such reports do exist in the patient safety literature.

Regardless of the study type, we face another challenge. The kinds of scientific studies we want to rely on in the patient safety field almost always involve examining myriad behaviors of multiple individuals within complex organizations (a hospital, an outpatient clinic, etc.). The factors that can affect the success or failure of the intervention are more numerous and complicated than the factors a researcher encounters in a simple drug study comparing drug X to drug Y. Furthermore, while it is easy to apply the results of the drug study (we just give our patient the better drug), replicating a complex operational intervention in exactly the same manner that it was implemented in the research setting (i.e., fidelity) is not easy. At times, it is impossible. Thus, a published patient

safety intervention that worked in community clinic A may not work in community clinic B, no less in prison clinic C and may even cause unintended negative consequences.

Both of the above potential pitfalls of the patient safety scientific literature are illustrated in our experience with computerized practitioner order entry (CPOE). CPOEs are freestanding computer programs, or modules within electronic health records (EHRs), that allow a practitioner to order medications via computer. The order is electronically delivered to the pharmacist without the need for handwritten orders, nurse transcription, or faxing. Some CPOEs are combined with computerized decision support systems (CDSS). A CDSS provides varying degrees of information while the practitioner is composing the order. A very simple CDSS might alert the practitioner that the patient is known to be allergic to the medication being ordered. A more complex CDSS might, after “learning” that the patient’s working diagnosis is “soft tissue infection, possible MRSA,” limit the antibiotic choices it posts on the practitioner’s monitor, based on the antibiotic sensitivities of MRSA cultures from other patients in that jail. Logically, we would expect CPOE and CDSS to improve patient safety and, early in the patient safety era, experts recommended implementation of CPOE and CDSS. However, when higher quality evidence emerged (i.e., prospective studies rather than expert opinion), CPOE (with or without CDSS) produced only modest improvements in patient safety. And at times, CPOE was found to cause unintended negative consequences, such as “alert fatigue” (practitioners started ignoring alerts), and clinicians spending less time interacting with the patient (due to the time required to navigate the electronic record). Such experience led to the publication of the Guide to Reducing Unintended Consequences of Electronic Health Records⁴ and the development of a framework for CDSS implementation that contains a new set of “five rights”: right information, to the right person, in the right format, through the right channel, at the right point in workflow.⁵

Thus, when reading the patient safety interventions below – or any others in the literature– keep two caveats in mind. First, the quality of evidence supporting many of these interventions is not always of the highest level (RCT). Second, even in the face of excellent quality evidence of the success of an intervention described in the literature, the success of that same intervention may be site-specific, and so implementation at another facility may have different and unintended consequences. This latter caveat acknowledged, below I describe a powerful tool – Failure Modes and Effects Analysis – to help avoid unintended consequences.

Specific Steps to Make Patients Safer, Part 1^a How can we increase patient safety by preventing PAEs?

- **Use Failure Modes and Effects Analysis (FMEA)**

FMEA is, very simply, “kicking the tires.” Before implementing a new process, using a new machine (as simple as an EKG machine or as complex as an off-the-shelf EHR), or even printing a new form, an FMEA would ask three questions:

1. In what ways could this new widget not work the way we expect?
2. If one of these failures did happen, how could that affect patient safety (and through what mechanism)?
3. What can we do before we start using the widget to either fix the widget, change related processes so that the ill effects don’t take place, or prepare ourselves for rare failures such that any ill effects are minimal or nil?

Structured approaches to conducting FMEAs have been developed by a number of sources (e.g., the Veterans Administration⁶) and trainings on conducting FMEAs are available. However, the approach is straightforward. Question 1 is best answered by subject matter experts (i.e., frontline staff and supervisors) who brainstorm about all of the ways in which the proposed widget might not work as expected. Questions 2 and 3 can be answered by conducting a root cause analysis (RCA, discussed later), conducted not on an actual adverse event but on an imaginary adverse event.

^a As the science of patient safety burgeons, so have the types of interventions that a health care operation can implement to improve patient safety. What follows is therefore not a comprehensive list, but rather a partial list of interventions chosen based on a combination of factors: the strength of the scientific evidence supporting the intervention, the magnitude of possible benefit, the degree to which other recommended interventions rely upon the intervention, and the appropriateness of the intervention in general correctional practice.

FMEA can, and should, also be applied to existing processes and machines. One way to operationalize this is to link FMEAs to the existing policy review process. For example, a facility might subject a policy to FMEA once every third or fourth cycle of policy review.

- **Implement a Near-Miss Reporting System (NMRS)^b**

The vast majority of errors made by employees never result in significant harm to patients (near-misses are 3 to 300 times more common than PAEs), but those near-miss errors can provide a wealth of information about system weaknesses, and repair of those weakness can prevent PAEs. We also know that 75% of near-miss errors are detected by the employees involved in the error (which is much better than the detection rate using audits or reports by other individuals). So, creating a mechanism by which employees report these errors, and then the errors are analyzed and addressed, is essential to patient safety. To be meaningful and successful, an NMRS should have the following attributes:

1. Managers, from the top down, must truly believe in the foundation described in the paragraph above. (Employees will “see through” an NMRS that was created for show, and it will not work as designed.)
2. Reporting is voluntary.
3. Anyone can report (including patients).
4. Only near-misses (i.e., no harm or minimal harm to the patient) may be reported.
5. The reporter is immune from punishment related to the error.
6. Reports are confidential, but not anonymous. The reason is that it is sometimes necessary to contact the employee to obtain richer detail about the error. The aviation industry accomplished this confidentiality and trust by moving its NMRS⁷ from the FAA (the regulatory agency, empowered to punish) to NASA (with no regulatory authority or ability to sanction, it is viewed by reporters as “safe”). Additionally, once NASA needs no further information from the reporter, it de-identifies the report (NASA actually cuts off and returns to the reporter the top portion of the original report containing the reporter’s identifying information).
7. Reporting must be easy and fast for the employee. Long, time-consuming reports are a barrier to reporting. On the other hand, investigators may contact reporters if further details are required.
8. Employees need to receive feedback about reports and their impact. While individual feedback might be optimal, even feedback to the whole workforce about specific patient safety changes that resulted from reporting can be valuable. Employees need to see that their input makes a difference.

- **Learn About “Misses-in-Waiting” During the Normal Course of Business**

Reporting systems work well for capturing actual errors, but don’t capture “misses-in-waiting.” Some of these will be captured using FMEA. Others can be captured during normal business. For this to happen, managers need to create an environment that encourages employees to report workflow problems to supervisors by:

1. Assuring that supervisors are physically present during at least part of the shift^c
2. Supervisors remaining open to receiving reports of workflow problems (this is messaged, in part, during training)
3. Supervisors role-modeling problem solving when employees bring misses-in-waiting to their attention
4. Supervisors addressing concerns when they are brought, reinforcing that it’s safe and productive to bring misses-in-waiting to their attention.

- **Plan for Avoidance of Harm From Errors, or Recovery From Errors**

Closely linked to FMEA, this is another “kicking the tires” patient safety intervention. The science of complex systems tells us that although we should make every effort to reduce errors, we cannot eliminate them. So a tenet of patient safety is to try to anticipate errors and then (1) design redundancies to catch (and reverse) the error before it reaches the patient or (2) design recovery tools to minimize the error’s effect on the patient. An example of a mechanism to avoid harm can be found in a well-designed practitioner on-call roster. Every jail and prison without 24-hour in-house practitioners has an on-call practitioner. On-call practitioners are human beings, and various human errors could impair their availability to nurses – for example, the practitioner forgot her phone at work, or she went out of cell-tower coverage but failed to check her phone for signal strength. To anticipate such

^b PAE reporting systems are discussed separately.

^c This can be challenging for night and weekend shifts in small correctional facilities. In those settings, a supervisor should be present at least occasionally during the employee’s “shift-in-chief,” not just a few minutes at the beginning or end of the shift.

errors, the roster includes the contact information for all facility practitioners, on-call or not, for the regional and state (or corporate) medical director, and perhaps for the on-call practitioner at a neighboring facility with whom the first facility has a cooperative agreement. An example of a mechanism to recover by minimizing an error's effect on the patient can be found in NCCHC health standard D-01 Pharmaceutical Operations, compliance indicator 9: "An adequate and proper supply of antidotes and other emergency medications (e.g., naloxone, epinephrine) and related information are readily available to the staff," and indicator 10: "The poison control telephone number is posted in areas where overdoses or toxicologic emergencies are likely."

- **Involve Patients**

An obvious intervention in community settings, it is equally important in our setting, as Schoenly reminds us.⁸ Patient involvement can take very proactive and creative forms, such as involving patients in policy FMEAs. But patient involvement can be as simple as providing patient education about medication side effects or responding with an open mind to patient complaints of side effects or of being offered the wrong pills. Involving patients in patient safety is challenging in a correctional environment, however, because patient input is often discounted. Herein lies the importance of culture change, discussed in a later section.

- **Implement Interventions to Reduce Medication Error**

1. Computerized practitioner order entry programs may prevent ordering errors. Some studies have shown 60% to 86% reductions of errors. However, CPOE success is probably context specific – that is, a given CPOE program may reduce errors in one setting but not in another and can even increase errors. Thus, as powerful as CPOE has the potential to be, correctional managers should use caution when implementing a new system, especially one purchased "off the shelf." Conducting an FMEA would be critically important prior to such a purchase.
2. Having pharmacists review drug orders may reduce ordering errors. In most states, pharmacists must review orders when they arrive in the filling pharmacy. However, involving pharmacists earlier – at the point of care – may be even more powerful. In correctional operations, pharmacists could participate in inpatient rounds, or be present during clinic. Unfortunately, the evidence demonstrating increased patient safety (and decreased costs) is of low quality, although there is no evidence of decreased patient safety or increased costs. Thus, this intervention should be implemented with caution. The wisest approach would be to pilot the intervention and measure its effects.
3. Unit dosing^d in community hospital settings is safer than administering medications from stock.
4. An electronic medication administration record (eMAR) with bar-coded medication administration decreases medication errors, including documentation errors.
5. Implement special procedures and written protocols for high-risk (also called "high-alert") medications. For example, to avoid failing to order international normalized ratio (INR) tests for patients on warfarin, a prison implemented a policy whereby nurses automatically draw monthly INRs from any patient on warfarin, unless superseded by a practitioner order. A list of high-alert medications is available online.⁹
6. Do not store concentrated solutions of high-risk intravenous medications on patient care units. This can prevent nurses from confusing them with less concentrated and potent medications that may look similar.
7. Implement a "do not use" list of abbreviations, such as the Joint Commission's "Do Not Use" list¹⁰ or the Institute for Safe Medication Practices' "List of Error-Prone Abbreviations."¹¹

The following patient safety interventions relate to personnel management and job design, including the design of equipment and procedures used in those jobs.

- **Avoid the Use of Temporary Employees**

Temporary employees provide coverage of unfilled staffing positions. Most administrators would contend that – in the short term, at least – use of temporary staff saves money. However, these temporary employees are "less familiar with an organization's information systems, patient care technology, facility layout, critical pathways, interdependency among work components, ways of coordinating and managing its work, and other work elements."¹² Studies show that they are responsible for more errors. Thus, in the long term, they may be more costly. Reducing or eliminating the need for temporary employees may not be simple to accomplish, but it is not impossible. The Washington State Department of Corrections (DOC), for example, relied heavily on contract (temporary) nurses to fill shifts. Through a concerted, cooperative, and multipronged effort between

^d The bubble or blister pack, commonly used in corrections, is considered a unit-dosing packaging system.

the nursing and human resource departments, the DOC was able to recruit full-time employees and nearly eliminate its reliance on contract staff (Appendix 1). When health care is provided by a vendor, use of temporary employees can be limited or prohibited via contract.

- **Design Shifts to Reduce Sleepiness**

Fatigue and sleepiness (and, certainly, outright sleep) have been shown to increase errors. Sleep deprivation is known to result from working too many hours in a shift or too many hours in a week. Sleep deprivation also increases for staff who rotate through night shift and even for staff who work night shift regularly. In health care, accident rates rise after 12 hours on shift – regardless of whether additional hours were mandated or worked voluntarily. The science of fatigue in the workplace has led to the following recommendations:

1. Limit shifts to 12 hours. 12-hour shifts have gained popularity in correctional nursing (and elsewhere) because they simplify scheduling and provide lifestyle benefits for staff. However, when needing to fill an unscheduled absence, 12-hour shifts become problematic. Thus, managers should have plans for covering unscheduled absences that do not require employees to remain at their job beyond 12 hours.
2. Limit employee time at work to no more than 12 hours in a 24-hour period and no more than 60 hours in a 7-day period.
3. When rotating employees through shifts, rotate them in a “clockwise direction.” In a clockwise rotation, an employee works a series of day shifts, then rotates to evening shift, then to night shift, then to day shift, and so forth. Evidence shows that a clockwise rotation is the least disruptive to sleep cycles and therefore results in less sleepiness during night shifts.
4. Schedule short (20- to 30-minute) naps for staff at night. This may sound like heresy, especially in a correctional environment where sleeping on the job is viewed as a serious rule violation; it also may not be easy to arrange. However, evidence is showing that night shift naps reduce errors.¹³
5. Provide caffeine for staff at night. This requires little explanation and is something most correctional night operations already do, though it is comforting to know that it is supported by research evidence. Ensure that work areas have bright lighting during the night. Again, a somewhat intuitive intervention, evidence does confirm that bright lights increase alertness and therefore may decrease errors. Brightening the workspace in an inpatient unit may be challenging because of security concerns if patient rooms are shaded from view. Creative solutions might include moveable window shades or eye shades for patients.
6. Shift job tasks based on their complexity (risk for error) and impact on patients if misperformed. For example, two tasks that correctional staff routinely perform are checking supply inventory and producing monthly MAR forms. The former is simple and, while important, is not likely to result in errors that would reach the patient. Producing MAR forms, on the other hand, is a complex task that requires considerable concentration and attention to detail, and errors are likely to reach the patient and potentially cause serious harm. Patient safety would be best served by assigning MAR form production to day or evening shift employees, and inventory checking to night shift employees.

- **Reduce the Potential for Interruptions and Distractions During High-Risk, Complex Tasks** Competent, conscientious employees make mistakes when interrupted or distracted. Examine employee tasks, look for common interruptions and distractions, and then redesign the workplace to either reduce or eliminate them or reduce their effect on the work product. For example, in a small facility a nurse working the evening or night shift might be responsible for passing medications and for answering calls from living unit officers, which is very distracting. Errors during medication pass can obviously result in patient harm. A system redesign might involve transferring phone responsibilities to another employee during medication pass. Another redesign might be to designate medication pass as a “quiet time” during which custody staff are asked to restrict their phone calls to emergent issues. When addressing this kind of work flow safety issue (and many others), patient safety design experts encourage managers to involve frontline staff. They are the subject matter experts whose expertise is invaluable in identifying risk-prone tasks, as well as in finding creative and effective solutions.

- **Reduce or Eliminate the Need for Employees to Rely on Memory to Safely Complete Tasks**

No amount of policy writing, training, reminders at staff meetings, and email messages can overcome the limits of human memory – even for highly intelligent and educated people. Reliance on memory can be reduced in numerous ways. For complex but relatively standard tasks, checklists (such as those used by flight crews) have been shown to be effective in reducing errors due to memory lapses. Most facilities already use checklists for

activities such as intake screening and discharge planning. Managers should look for other high-risk tasks in which employees must rely on memory and create memory aids. Different information needs will be supported by different types of memory aids. Two examples follow. When we place suicidal patients on 15-minute watches, we expect custody, or other employees, to remember to perform these checks (and to remember to do so at random intervals!). Why not provide portable electronic timers? We also expect practitioners and nurses to remember many rote facts about medications, diseases, etc. Most of this information is readily available on portable media (smart phones, tablets) or the Internet. Yet some facilities restrict access to such resources due to security concerns. Health care managers should help custody managers understand the risks to the facility of *not* providing access to these resources and work collaboratively with them to find solutions that satisfy patient safety and facility safety concerns.

- **Simplify Procedures**

The more complex a procedure, the greater the risk for human error. The following is an example of simplifying a complex procedure. Warfarin is used as an oral anticoagulant. It is frequently associated with errors and severe harm and is therefore listed on the Institute for Safe Medication Practices' website as a "high-alert" medication.⁹ Warfarin pills are available in a number of dosages, some with similar colors. Prescribers change patient dosages often, which can lead to confusion for patients and even staff. A simplification might be to limit warfarin dosage availability to the 5 mg tablet. By using combinations of whole and half pills, and varying daily schedules, almost any level of anticoagulation can be achieved. Limitation of formulary choices – another medication-related intervention – is another simplification tool. It helps ensure that staff (and patients) have greater understanding of the uses, side effects, and appearance of medications. Formulary reductions need to be done as a collaborative effort among practitioners, pharmacists, and nurses to avoid other unintended consequences.

The next example involves simplification (combined with redesign) of a form. Compare the designs of two excerpts from a health screening form used by intake and booking officers at a jail:

Original form

1. Are you feeling well today? yes/no
2. Do you feel like you want to hurt yourself? yes/no
3. Are you currently under a doctor's care? yes/no
4. Do you feel safe in jail? yes/no

Simplified form

- | | | | |
|--|-----------------------|-----------------------|-----|
| 1. Are you feeling well today? | yes | <input type="radio"/> | no |
| 2. Do you feel like you want to hurt yourself? | <input type="radio"/> | no | yes |
| 3. Are you currently under a doctor's care? | <input type="radio"/> | no | yes |
| 4. Do you feel safe in jail? | yes | <input type="radio"/> | no |

The simplified form makes it easier for the next user to read it. Furthermore, by rearranging the "yes" and "no" answers, it's much simpler to identify the worrisome responses (they stand out on the right side); the user is less likely to make an error reading the form.

- **Standardize Procedures**

This recommendation in the patient safety science draws from two lines of reasoning. First, the scientific evidence behind a particular procedure often dictates the best way (or limited ways) to perform the procedure. Health care research has shown that large variations in the way the procedure is performed by different individuals tends to be much more a function of those individuals' preferences and other nonmedical forces (like the availability of equipment and reimbursement rates) than what is best for the patient. Second – and this is most evident when the "procedure" is some form of communication between health care professionals – the more uniform the communication, the less chance there is for an error due to miscommunication. An excellent example of standardization is the SBAR format for oral communication between caregivers (discussed below).

- **Insert Forcing Functions in Procedures**

We'll call this the "Don Corleone" patient safety intervention: "Give them a choice they can't refuse." Forcing functions are designs in a process, form, or machine that make it difficult or impossible for a worker to do something incorrectly. For example, in a car it is impossible to put a car in gear unless the brake pedal is depressed. In health care most examples are found in the EHR. For example, some EHRs restrict the ability to order a medication to which a patient is allergic. Because of the powerful opportunities to improve patient safety

through the EHR, correctional health care managers should carefully inventory clinical procedures that should be prevented (or allowed to proceed only under certain circumstances) and ensure that corresponding forcing functions are incorporated into the EHR.

- **Use Natural Mapping in Designing Forms and Equipment**

Natural mapping is a technique that makes a task simpler to understand or complete (and less prone to error) because it “feels” or “looks” natural or behaves like other familiar things. The fact that turning the steering wheel to the right results in the car going right is natural mapping (in contrast, in an outboard motor with a steering handle, turning the handle to the right makes the boat turn left, which can lead to errors for a new or tired operator). Natural mapping might be applied to form design. For example, we are taught to document in the SOAP format, recording history first, and then objective data. However, in some correctional practices, it is more natural to collect vital signs before delving into history. Redesigning the clinic form with a space for documentation of vital signs at the top more naturally mimics the way employees work. Such a redesign might improve patient safety by (a) reducing the possibility of an employee forgetting to obtain vital signs and (b) reducing the habit of recording the vital signs on a scrap of paper for later transcription (with the accompanying risk of losing the scrap of paper or making a transcription error). Natural mapping might be applied to equipment and supply design.

Consider the layout of an emergency response cart. In a stressful situation, it can be challenging to find the needed material, even for well-trained staff. A natural mapping of the cart might entail arranging the drawers to match the typical order in which employees approach patient assessment. So, for example, since we check airways and breathing first, airway-related supplies and equipment would be placed in the top drawer. Another idea is to attach a sample or photo of the contents of a supply drawer to the outside of the drawer instead of, or in addition to, a verbal label (this serves the same purpose as using transparent drawer fronts). This is natural mapping because some employees think visually, and their natural tendency is to look for pictures, not words.

- **Train Train Train**

Many errors in rote, simple, repetitive tasks can be eliminated by some of the interventions described above. However, other tasks are more complex, requiring thoughtful decisions and rich interactions among team members. For these kinds of tasks, other patient safety interventions are needed. The most critical are good communication (discussed below) and training. Most correctional managers are well aware of the benefits of training. The following three recommendations from the patient safety sciences may be less familiar. First, while some classroom-based training is necessary, training must also include simulations. There are two kinds of simulations – laboratory and real world – and both are helpful. The former were pioneered in correctional health at the Connecticut DOC in collaboration with the University of Connecticut.¹⁴ Simulations are conducted in a dedicated space with each simulation concentrating on a particular clinical issue and on a primary learner. In contrast, real-world simulations are conducted in the facility itself in a location (e.g., living unit, kitchen) where an emergency might occur, though some simulations can be conducted as tabletop exercises. Each simulation concentrates on a scenario (which might have more than a single clinic issue) and on a team of learners. In corrections, this team *must* include custody staff. Second, simulations should be debriefed. Managers who conduct the debriefing should consider the simulation as an opportunity not only for individual learning by the team members, but also for the agency to learn about system flaws. Third, managers should consider video recording simulations and using the recordings as part of the debriefing process.

- **Implement Interventions to Ensure Clear Communication Among Team Members**

Safety research tells us that many errors occur as a result of miscommunication among employees. Many interventions to improve communication are being used; this article will describe three that are particularly relevant to correctional health care.

Situation - background - assessment - recommendation or request for action (SBAR) is a structured format for communication between two team members about a problem. Though commonly recommended as a format for nurses to use when communicating with an on-call practitioner, SBAR is applicable to communication between other dyads, such as a physician assistant and an attending physician, a mental health counselor and a psychiatrist, or even a health services administrator and a shift lieutenant. In fact, SBAR did not originate in health care; it was developed by the Navy as a communication tool on nuclear-powered submarines. SBAR satisfies tenets of patient safety science in that it helps ensure that communication is simple, concise, and organized, with a standardized (therefore predictable) flow of information that bridges the different communication

styles of the two individuals. An SBAR-structured call from a nurse to the on-call practitioner might go something like this:

- (S) Hi Sarah, this is Tom, the night nurse at All's Quiet Correctional Center. I'm calling about Ms. Sally Jones, who's short of breath with chest pain.
- (B) Ms. Jones is a 40-year-old Hispanic woman, with a negative past medical history and on no medications except ibuprofen PRN, who had a laminectomy last week. She was doing well until about 30 minutes ago when she had sudden onset of shortness of breath with chest pain over the right lower rib cage anteriorly when she breathes deeply. Her vital signs are XXXX. She is anxious. Her color is good. Her heart sounds are normal, but I think I may hear a pleural rub over the area that hurts.
- (A) I think she may have had a PE,
- (R) and so, I think we ought to send her to St. Elsewhere by ambulance.
Do you have any questions, Sarah, and what do you think?

It would be reasonable to recommend, if not set as an expectation, that health staff use the SBAR when orally communicating about a problem.

The second intervention is the huddle. Huddles are short (5 to 10 minutes, preferably while standing) conversations among all of the team members at the beginning of their task, for example, at the beginning of clinic. Typical questions that would be answered during the huddle are as follows:

1. What are the patient safety risks on the unit today?
2. Is there a particular patient whom anyone is worried about or who needs close observation?
3. Are there any new medications or equipment that might cause a safety risk?¹⁵

The scientific evidence that conducting huddles reduces error and increases patient safety is not yet strong. However, there are strong theoretical reasons to support this recommendation and little evidence of risk. Chronic care clinic teams in the California Department of Corrections and Rehabilitation have used huddles for several years at the beginning of each chronic care clinic. The UCSF Center for Excellence in Primary Care has an excellent webpage on implementing huddles.¹⁶

The third intervention is not a single intervention but any one of a number of interventions to improve communication during transitions of care. Transitions of care ("handoffs") are high-risk events due to miscommunication, so any steps taken to improve communication during handoffs have the potential to improve patient safety.

Typical handoffs in the correctional environment are transfer of a patient to or from the emergency department, transfer of a patient to or from the medical inpatient unit, change of nursing shift, change of on-call practitioner shift, and interfacility transfers (e.g., jail to prison). Any number of interventions, some of which are discussed elsewhere in this article, may improve communication during handoffs; these include medication reconciliation, standardized oral clinical content (e.g., SBAR), standardized written clinical content (e.g., a perpetual sign-out document maintained within an EHR), standardized form for sending patients to the emergency department, standardized form for evaluation of patients received from the emergency department, assuring that both parties have an opportunity to ask questions before concluding the handoff, and training for staff to underscore the high risk of error during handoffs. The Joint Commission provides helpful recommendations on ensuring patient safety during handoffs.¹⁷

Specific Steps to Make Patients Safer, Part 2

How can we increase patient safety after PAEs have occurred?

- **Implement a PAE Reporting System (PAERS)**

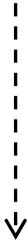
Both a PAERS and an NMRS capture information about errors after they occur. However, the two systems differ in several important ways in terms of the law, personnel, and patient safety. First, because PAEs actually caused harm to the patient, managers *must* find out about them. Thus, employees are mandated to report all PAEs to the PAERS; sanctions should be imposed for failure to report. Second, unless local laws state otherwise, the identity of reporters to the PAERS are typically not kept confidential. Third, immunity is not granted for reporting a PAE. Once reported, errors in the PAERS and NMRS are analyzed using the same tool: root cause analysis (discussed below). However, analysis differs between the two reporting systems. For PAEs, all serious errors

must be analyzed. For near-misses, the manager has more discretion in deciding which ones require analysis. For example, a manager might defer analysis of errors with low risk for serious harm or might wait to see if there is a trend in a certain type of error before conducting an analysis or might decline to do an analysis because a similar error was previously analyzed. After the PAERS RCA is completed, two more steps are almost invariably necessary: (1) The manager must implement – in a sustainable manner – any lessons learned from the analysis, and (2) the manager must decide the most appropriate action to take with the employee(s) involved with the error(s). These two steps are discussed in the Close the Loop and the Adopt a Just Culture sections below.

• **Analyze Errors Using Root Cause Analysis**

RCA is a method of analyzing errors.⁹ RCA courses abound, and there is even a certification for RCA facilitators. RCA guides can be complicated and off-putting. However, at their core, RCAs are quite simple. One assembles a group of employees who were closely involved in the PAE, plus any employees who have relevant expertise in the subject. Starting at the PAE and working backward, the group endeavors to answer the iterative question “Why?” – why did this happen? The analysis is finished when the answer to “Why?” is a fundamental, basic, core operation, for which there is no reasonable further “Why?” to be answered. The following is a very simplified RCA.

- PAE: A nurse administered warfarin 10 mg (two 5 mg tablets) to a patient instead of 2 mg (two 1 mg tablets).
- Why?
- Because the nurse was rushing..... and because the color of the 5 mg tablet (light red) and the 1 mg tablet (light orange) look similar.
- Why?
- Because the other medication nurse called in sick appearing and there was no replacement.
- Why? (Why are we using two similar-dose forms of a high-alert medication?)
- Why?
- Nurses have been calling in sick a lot lately because of increased mandatory overtime.
- Why? (Why is there increased use of overtime?)
- Because the jail is understaffed with nurses.
- Why?
- We have good candidates, but by the time we get through the 2-month-long background check they have taken jobs elsewhere.



In this RCA, the first “Why?” produced two answers. Ordinarily, both lines of questioning would have continued (for simplicity only one is shown here). It is not unusual for RCAs to “branch” and produce multiple root causes. The manager will need to prioritize the root causes and select the most serious ones to address. Then solutions are sought. As this hypothetical RCA shows, an RCA is very different from a typical (nonpatient-safety-oriented) incident investigation. An incident investigation would likely have concluded there was operator or human error on the part of the nurse, who was not being careful enough. A recent report articulates how the two approaches differ: “The usual judgment after an accident is that human error was the cause, a conclusion which often serves as the *stopping* point for the investigation ... In contrast, when the label human error becomes the *starting* point for investigations, we find a deeper, multifaceted story.”¹⁸ By delving past the obvious cause, the team conducting our hypothetical RCA discovered a fundamental or root cause (lengthy background checks), the fix for which was an agreement by the sheriff to award good candidates immediate provisional employment, contingent on subsequent background check.

Finally, while most adverse events are the result of system problems, occasionally the employee’s actions are unacceptable and discipline is appropriate. However, even in those cases, system root causes should be sought and, if found, addressed. For example, a patient might experience a PAE because the physician was intoxicated. The physician should be held accountable and appropriate personnel action taken. However, during the RCA, one must still pursue a line of inquiry as to why an impaired physician was working at the jail. Is there a flaw in the hiring process (the impairment history was missed)? Was the facility desperate (the impairment history was ignored)? Were fellow employees aware of his impairment but failed to report it?

⁹ RCA is also the method to use to examine care delivered to a patient who died (i.e., a mortality review), even if no PAEs were associated with the death. In such cases, the RCA is more similar to an FMEA wherein we are looking for *potential system flaws (misses-in-waiting)*.

- **Close the Loop: Implement Sustainable Fixes to System Flaws**

Even when root causes are found, some correctional managers make repairs to the broken system that are not sustainable. For example, the manager will remind the employee of the correct procedure, post a memo about the correct procedure on the bulletin board, send a reminder email to all employees, and discuss the event and repair at the next staff meeting and CQI meeting. While necessary, these repairs are not sufficient. They do not produce sustainable improvement because after a period of time, employees will forget the instruction (they are human), they will be replaced by new employees, and even the manager may be replaced. At that point, there is a high risk that the error will be repeated. To ensure that system changes are sustainable, the changes must result in modification in one or more of the following documents:

1. Written policy/procedure
2. Printed or computerized forms (e.g., intake screening form)
3. Training curricula
4. Job description
5. Post orders

Specific Steps to Make Patients Safer, Part 3

What can I do as an individual to bring patient safety to my correctional facility or organization?

- **Not Much ... Unless You Are the Leader**

The title of this section is, unfortunately, sobering. Improving patient safety is arguably more core to the mission of a correctional health care operation than anything else. It is a philosophy, a way of thinking, a blueprint for operations. It cannot be accomplished without the wholehearted dedication of the top leaders of the organization. Certainly, individual employees – or even middle managers – can make some modest changes on their own. But wholesale conversion to a patient-safe environment must begin at the top. So, the rest of this section assumes you are the leader (or the leader is 100% committed to patient safety and seeks your help).

- **Resist the Urge to Appoint a Subordinate Employee as the Director of Patient Safety**

Appointing a key employee to be in charge of patient safety is tempting. Patient safety is complicated and time consuming. However, such a title belittles patient safety and sends an unfortunate message to staff. You, as the leader of the organization, are the person in charge of patient safety. It is the core mission. It cannot be delegated.

- **Become More Knowledgeable in the Science of Patient Safety**

This report provides a framework for thinking about patient safety and aims to galvanize you into action. However, further reading is invaluable. The resources listed at the end of this article were chosen because they are basic, widely respected, and some of them are continuously updated as new evidence emerges.

- **Change Your Organization's Culture**

Becoming a patient safety-focused organization requires a fundamental change in the way every employee thinks and acts. Culture changes take time ... and sometimes require changes in personnel. As the organization's role-model-in-chief, you need to verbalize (and live) the following values and philosophies every day:

1. Patient safety is our primary goal.
2. We will learn from our mistakes, not bury them.
3. We will look for the system problem when there is an error.
4. We will stop thinking about errors as faults of individuals and will not punish employees for making errors simply because they are human. (This value is discussed in more detail in the next section, Adopt a Just Culture.)
5. Finally, there is a philosophy that embodies the philosophies above, but for whom the main audience is the director of the jail/prison system and the system's legal advisors. When there are serious PAEs (i.e., those likely to result in litigation due to death or severe harm), the organization must be allowed to analyze the PAE (via RCA) and repair system problems that emerge as a result, even if such analysis and repair results in legally discoverable information that might benefit a plaintiff. To do less may make sense in the short-term by reducing legal exposure for the current case, but it does not make sense in the

long-term because unless the system problems are discovered and repaired, the organization risks making the same errors over and over, which is harmful legally, financially, and most importantly, to the patients.

- **Adopt a Just Culture Approach**

The concept of a just culture within a learning organization was first espoused by James Reason in 1998: “What is needed is a *just culture*, an atmosphere of trust in which people are encouraged, even rewarded, for providing essential safety-related information – but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour.”¹⁹ Reason developed a decision tree for dealing with employee error.²⁰ The details were fleshed out by David Marx in a seminal publication in 2001.²¹ Just culture is a framework to guide managers to deal with employees who err. A very simplified version of the framework is illustrated below:

1. Might any other reasonable employee in this employee’s shoes at the time have made the same mistake? An example is the nurse described in the hypothetical RCA who administered the wrong dose of warfarin. If the answer is yes, this was an *inadvertent* error. Most employees in this situation have likely already “punished themselves,” and so the most valuable action for the manager is to be supportive. Indeed, harsh action against a good employee who has made an inadvertent error is counterproductive: It risks causing the employee to resign out of embarrassment, which in turn poses a risk to patient safety.
2. Was the employee using ill-advised means, but sincerely hoping to get to the right end? Imagine a nurse who was passing medications in the isolation unit. He discovered that a patient was supposed to get a certain medication, but the medication had run out. The nurse was pressed for time and did not have time to return to the health services unit to look for the new supply, but also did not want the patient to receive his medications late. So, he administered a dose of what he thought was the same medication from another patient’s supply. It was not the same medication and caused a PAE. The answer to the question is “yes.” This was a *careless* error. The most appropriate action for the manager is to mentor the employee.
3. Did the employee make an error because he/she did not really care? Imagine another nurse in the isolation unit situation who, when discovering the missing medication, reacted by thinking, “If no one took care of this during day shift, so be it. This is not my problem. It’s not a big deal if he misses one or two doses anyhow.” This employee’s error was *reckless*. The most appropriate action for the manager is to discipline the employee.

The above is a framework, not a prescription. Every situation and employee is different, and thus managing employees who err must be nuanced. One nuancing factor that must be considered is whether the employee has made similar errors in the past.

An important underpinning of just culture is that our response to an employee who errs and causes a PAE should be based on the error, not the outcome. Imagine two psychiatrists who both write orders for haloperidol for their respective patients, both of whose medical records indicate “allergic to haloperidol.” They write the orders because they know allergy to haloperidol is rare and usually incorrect. One patient is not allergic and does well. The other patient has a true allergy and dies. Despite the fact that our tort system would treat these psychiatrists very differently, in a just culture, the manager should treat both the same way. They committed the same error. That the outcomes were different was a matter of luck, and to base a thoughtful patient-safety guided response on luck is illogical.

Finally, analyzing and responding to the error and the employee who erred are two complementary processes; in the interest of patient safety, we need to do both. Regardless of what we do with the employee (support, mentor, discipline), there may still be one or more underlying system problems that we need to fix. We may respond to a reckless error by discharging the employee, but we must still ask how a reckless employee came to be in the position to commit the error in the first place.

- **Routinely Audit the Degree to Which the Operation Is Patient-Safe**

This article has so far described two interventions for assessing patient safety: the RCA, for analyzing errors that have occurred, and the FMEA, for analyzing processes looking for errors that might occur. A third intervention is the routine auditing of the health care operation against national standards. NCCHC has standards for health

services operations in jails and prisons. Though a specific standard explicitly addresses patient safety (B-08), almost all of the other standards address patient safety implicitly (see, for example, the discussion of D-01 above in Plan for Avoidance of Harm From Errors, or Recovery From Errors).

Nationally, auditable standards for patient safety have been promulgated for community health care settings. While health care delivery in the community and in correctional settings has many similarities, there are also differences. For this reason, patient safety standards specific to corrections may be more useful. In fact, two such sets of standards have been promulgated. A team working at the Rand Corporation assembled a group of national correctional health care experts and by a consensus process developed a set of standards²² (a modified version of the Rand standards appears in Appendix 2). The team only entertained standards that were already in use (community or corrections) and did not permit modification of a standard if modification was required to make the standard applicable to the correctional setting. So, for example, if a candidate standard measured the use of telephone calls from patients, it could not be modified to measure health service request forms from patients, and thus the candidate standard was not included in the final set. At around the same time, a team of researchers at the John Jay College of Criminal Justice assembled a different group of national correctional health care experts and developed another set of standards²³ (a modified version of the John Jay standards appears in Appendix 3). This team did not require that candidate standards already be in use, nor did they restrict the modification of existing community standards to make them appropriate for corrections. Though the two teams worked independently, the two sets of standards are complementary: The Rand set is largely centered around specific diseases, whereas the John Jay set is largely centered around health care delivery structure and process.

Finally, for a manager interested in incorporating patient safety-specific standards from these two sets into the framework of NCCHC's more general standards, Appendix 4 lists selected NCCHC standards along with relevant patient safety-specific standards. As the NCCHC standards largely focus on health care delivery structure and process (rather than specific diseases), most of the patient safety-specific standards in the list are drawn from the John Jay standards.

Specific Steps to Make Patients Safer, Part 4

What can organized correctional medicine do to increase patient safety in the field?

- **Create a Reporting System Similar to the Aviation Safety Reporting System**

The obvious strength of a national (or international) reporting system for near-misses is that it affords us the possibility to learn from rare events. Rare events may go unnoticed at an individual facility or system. However, when data are aggregated across hundreds or thousands of facilities, trends may be identified. Because correctional health care systems differ somewhat from those in the community, a reporting system specific to corrections would be valuable.

- **Disseminate Patient Safety Innovations to the Profession**

The patient safety literature is vast and growing. There is a role for an organized approach to disseminating important new findings to the field. These findings would include those from community-based literature as well as conclusions drawn from error analysis in the proposed national correctional reporting system.

Final Words

The science of patient safety is young and developing, but the underlying goal has not changed for centuries. It is befitting to conclude this report with the prescient words of a nursing leader writing about patient care in the early part of the 20th century: "Finally, let us remember that the ordinarily careful and conscientious nurse who makes the mistake has had, in the realization of her act, all the punishment and discipline and suffering which are desirable. What is done beyond that must be of a constructive nature or it had better be left undone."²⁴

Recommended Reading List

- To Err is Human: Building a Safer Health System. Institute of Medicine 2000
- Keeping Patients Safe: Transforming the Work Environment of Nurses. Institute of Medicine 2004
- Preventing Medication Errors. Institute of Medicine 2007
- Correctional Health Care Patient Safety Handbook. L. Schoenly. Enchanted Mountain Press. 2014
- Patient Safety and the "Just Culture." A Primer for Health Care Executives.
- AHRQ. <http://www.ahrq.gov/professionals/quality-patient-safety/index.html>

- Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices. Rockville (MD): Agency for Healthcare Research and Quality (US); 2013 Mar. (Evidence Reports/Technology Assessments, No. 211.) http://www.ncbi.nlm.nih.gov/books/NBK133363/pdf/Bookshelf_NBK133363.pdf
- Institute for Safe Medication Practices. <http://www.ismp.org/>
- Joint Commission. http://www.jointcommission.org/topics/patient_safety.aspx

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- 3 Error in Medicine. LL Leape. JAMA. 1994;272(23):1851-1857
- 4 Guide to Reducing Unintended Consequences of Electronic Health Records, <https://digital.ahrq.gov/sites/default/files/docs/publication/guide-to-reducing-unintended-consequences-of-electronic-health-records.pdf>
- 5 The Five Rights of Clinical Decision Support: CDS Tools Helpful for Meeting Meaningful Use. R Campbell. Journal of AHIMA 84(10), October 2013:42-47. https://library.ahima.org/doc?oid=300027#.Yx_9LXbMJhE
- 6 The Basics of Healthcare Failure Mode and Effect Analysis Videoconference Course, <http://www.patientsafety.va.gov/docs/hfmea/FMEA2.pdf>
- 7 Aviation Safety Reporting System, <http://asrs.arc.nasa.gov/>
- 8 Correctional Health Care Patient Safety Handbook. L Schoenly. Enchanted Mountain Press. 2014, p86-90
- 9 ISMP High-Alert Medications, https://www.ismp.org/resources?field_resource_type_target_id%5B0%5D=13&field_resource_type_target_id%5B1%5D=13&field_resource_type_target_id%5B2%5D=13#resources--resources_list
- 10 Joint Commission Official "Do Not Use" List, http://www.jointcommission.org/facts_about_do_not_use_list
- 11 ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations, <https://www.ismp.org/tools/errorproneabbreviations.pdf>
- 12 Keeping Patients Safe: Transforming the Work Environment of Nurses. Institute of Medicine. 2004
- 13 Morgenthaler TI, et al. Standards of Practice Committee of the American Academy of Sleep Medicine. Practice Parameters for the Clinical Evaluation and Treatment of Circadian Rhythm Sleep Disorders. SLEEP 2007;30(11):1445-1459
- 14 Simulation: Introduction to Correctional Nursing in a Prison Setting. Díaz DA, Panosky DM, Shelton D. J Correct Health Care. 2014 Jun 16;20(3):240-248
- 15 Manning ML. Improving clinical communication through structured conversation. Nursing Economics. 24(5) 268-271
- 16 Healthy Huddles, <http://cepc.ucsf.edu/healthy-huddles>
- 17 Joint Commission Center for Transforming Healthcare Releases Targeted Solutions Tool for Hand-Off Communications, <https://www.semanticscholar.org/paper/Joint-Commission-Center-for-Transforming-Healthcare/f6b652cad7c8adc6843c56c6c78e4fb32fc74d91>
- 18 A Tale of Two Stories: Contrasting Views of Patient Safety Report from a Workshop on Assembling the Scientific Basis for Progress on Patient Safety National Health Care Safety Council of the National Patient Safety Foundation at the AMA. Cook RI, Woods DD, Miller C. 1998, <https://psnet.ahrq.gov/issue/tale-two-stories-contrasting-views-patient-safety>
- 19 Managing the Risks of Organizational Accidents. James Reason. Ashgate (Aldershot UK). 1997 p. 195
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- ²¹ Patient Safety and the “Just Culture:” A Primer for Health Care Executives. Marx D. 2001, <https://psnet.ahrq.gov/issue/patient-safety-and-just-culture-primer-health-care-executives>
- ²² Teleki, Damberg, Shaw, Hiatt, Williams, Hill, Asch. The Current State of Quality of Care Measurement in the California Department of Corrections and Rehabilitation. Journal of Correctional Health Care 2011;17(2):100-21
- ²³ Patient safety: moving the bar in prison health care standards. Stern MF, Greifinger RB, Mellow J. Am J Public Health 2010 Nov;100(11):2103-10
- ²⁴ Margene O. Faddis. The American Journal of Nursing, Vol. 39, No. 11 (Nov. 1939), pp. 1217-1223

Appendix 1: Recruitment/Retention Plan of a State Department of Corrections

This document is taken from an actual working document at the Washington State Department of Corrections (DOC). The DOC described in this document suffered from recruitment and retention problems in a number of disciplines, most notably nursing. These problems included:

- High vacancy rates
- High turnover rates
- High utilization of agency staff
- High personnel costs resulting from the first three problems
- Pockets of low morale due, in part, to the staffing challenges. For example, some employed nurses resented the use of agency staff who they perceived earned more, worked less, were assigned the shifts of their choosing, and were less familiar with operations.

This document represents an excellent summary of the steps taken to remedy the situation. The efforts were eventually successful as evidenced by the replacement of most of the agency positions with lower cost employees, greater job satisfaction, less mandatory overtime, and lower costs.

There are two main values to be derived from review of this document: process and content. It should be clear from the document that making changes to recruitment and retention was a very complex process. It was driven by leadership, supported by the DOC and its human resources department, and required efforts by a multidisciplinary team. In its actual content, the document provides a wealth of ideas of avenues to pursue. Many of these avenues addressed problems and conditions that were specific to this DOC. Your organization may face other problems that will require their own approaches. Nonetheless, the approaches contained in this document may provide some useful ideas and themes.

In this document, the order of the items and their classification according to the four columns is not particularly important.

Explanatory Notes

- Many of the cells in the table are blank because they contained site-specific information or details that are irrelevant here.
- RN1s are entry-level RN positions. In the system described, the position existed on the books, but previously were not used much.
- RN2s are the “grass roots” nursing positions.
- RN3s are specialized nursing positions, such as for infection control or shift supervision.
- RN4s are upper-level specialized nursing positions, but previously were not used much in this system.
- HRC positions are human resources consultants, i.e., internal personnel management support positions.
- E-Recruitment was a statewide (i.e., correctional and noncorrectional) tool for job applicants. Though electronic, it could be cumbersome and slow and thus created some barriers to hiring.

Action Item	Status	Next Steps	Current Status
Marketing Strategies – Outreach			
Recruitment RFP: Consider use of third party for development of marketing plan and ad campaign.	Discuss elements of RFP for modeled after one developed by the California Prison Health Receiver to create a comprehensive recruitment plan for health care vacancies. Retired proposal for RFP to develop comprehensive recruitment plan as result of information provided by CA and discussion on 1/24/08.		
Professional Placement Services RFP: Solicit firms to recruit and place HC professionals into vacant DOC positions. Solicit 2 firms;1 to be paid periodically for recruitment activity and 1 paid as each professional is hired to compare efficiency and effectiveness of each approach.	Expand placement RFP begun 11/07 to include Psychiatrists and Nurses in addition to Physicians.		
RN1 to RN2 In-Training Plan: Expand opportunity for employment of newly graduated nurses while gaining experience to qualify as RN2. Provide mentoring with an In-Training Plan until qualifications met for RN2.		More explicitly market the RN 1 as an option for new nurses.	
Networking with Nursing Schools: Build or enhance relationships with schools of nursing so that graduates know that nursing in the correctional setting is an employment option.	<p>a. DOC has practicum agreements with 3 of 19 schools with licensed practical nursing programs, 3 of 27 associate degree nursing programs, 4 of 8 RN baccalaureate degree nursing programs, 6 of 11 RN to BSN nursing programs in State.</p> <p>b. Nursing students have clinical rotations at X, Y, and Z. Nursing leaders from A, B, and C have made presentations to nursing classes at local colleges and universities.</p> <p>c. Slide presentation for presentation to nursing students developed 11/07.</p> <p>d. Met with the Dean, School of Nursing at XX University about student opportunities.</p> <p>e. Slide presentation developed to present to nursing students at X nursing school and slide presentation developed about correctional nursing for 2007 Forensic Nursing Conference.</p> <p>f. Provide materials to nursing leaders to use when making presentations to nursing schools (videotape, powerpoint, handouts).</p> <p>g. Send letter to all schools of nursing introducing correctional nursing as a practice specialty, offering to make presentations, provide student placements and to inform of job opportunities.</p>	<p>Provide materials to nursing leaders to use when making presentations to schools of nursing (videotape, powerpoint and handouts).</p> <p>Send letter to all schools of nursing introducing correctional nursing as a practice specialty, offering to make presentations, provide student placements and to inform of job opportunities.</p> <p>Discuss positive and negative experiences with nursing schools and develop plan for further action.</p>	<p>List of approved schools compiled and contacted as to person and desire to develop relationships. 5/08</p> <p>Starting to place opportunities on available websites at colleges and receive information of their job fair dates for coming year. May 08</p>

	<p>h. Discuss positive and negative experiences with nursing schools and develop plan for further action.</p> <p>i. X Community College speaking engagement on Opportunities for Nurses in Correctional Health Care</p>		
<p>Networking with Schools and Universities for all other Practice Disciplines: Build or enhance relationships with schools of medicine, dentistry, pharmacy, psychology, social work, etc. so that graduates know that practice in the correctional setting is an employment option.</p>	<p>Discipline directors and other staff have made presentations to classes at local colleges and universities.</p>	<p>Discuss positive and negative experiences with professional schools and develop plan for further action.</p> <p>Develop and provide materials to use when making presentations to schools (videotape, power point and handouts)</p> <p>Send letter to all schools introducing the correctional setting as a practice opportunity, offering to make presentations, provide student placements and to inform of job opportunities.</p> <p>Identify HS staff to develop relationship with colleges for frequent class discussions, possible tours, etc.</p>	
<p>Employee Rewards Referral Program: Outreach and incentive to current employees to recruit for HS careers.</p>	<p>Establish tracking device and implementation/marketing plan</p>		
<p>HS Recruitment Team: Develop internal expertise and capacity to increase success rate for hiring HS professionals.</p>	<p>Provided training to Nursing Leaders from all facilities on recruitment methods and process.</p> <p>Establish tracking device and implementation/marketing plan</p> <p>Established HRC 4 (1st HR position) duty stationed in HS to address system-wide issues such as recruitment/retention.</p> <p>Met with HR Recruitment Manager to learn about DOC goals for Recruitment/Retention this next year.</p> <p>Requested of HR that 1 of the positions on the HQ recruitment team be focused on HS professionals.</p> <p>Added 1 FTE HR Consultant 2 to HS at HQ to enhance recruitment capacity for 4 months</p>	<p>Follow up with HR to identify duties and select person with expertise in HS recruitment in place on HQ Recruitment Team.</p> <p>Develop material and approach to enhance recruitment of HS professionals by other Recruitment Teams in place throughout the state.</p> <p>Monitor results of recruitment</p>	
<p>Recruitment responsibility of HS staff: Accountability of HS management for filling vacancies.</p>	<p>Health Services Director assigned performance expectation for Nursing Director to focus on recruitment.</p> <p>Nursing Leaders given statistics for vacancy rates by facility and recruitment targets set.</p> <p>Recruitment results reviewed quarterly with Nursing Leaders.</p> <p>Clear expectation given to Health Care Managers to fill vacancies.</p>	<p>Provide Health Services Staff with recruitment material that can be tailored for their use in health care recruitment. (Develop a postcard for HS staff to use).</p> <p>Health Care Managers to provide monthly recruitment/vacancy report/review reports in HQ monthly.</p>	

	<p>Managers to track and report efforts to recruit.</p> <p>Monthly report format established to document recruitment activity.</p> <p>Letter sent to Fort X to recruit soldiers. Invited to participate in sessions to provide information about employment opportunities upon return to civilian life.</p> <p>Results: A and B have filled all nursing positions. C and D have reduced nurse vacancy rates. E and F have increased vacancies and G remains the same. Health Care Managers report recruitment activities beginning</p>	<p>Review vacancy rates quarterly.</p>	
<p>Outreach and Open House Events: To invite and create opportunity for health care professionals to visit correctional facilities, meet correctional professionals and observe/talk with health care providers working in the setting.</p>	<p>Tours of facilities provided to interested individuals as part of application process.</p> <p>Interested applicants have also “shadowed” health care providers.</p> <p>A and B regularly have students rotate through as clinical experience.</p> <p>Work with Regional Recruitment Teams to conduct tours, offer open house events at correctional facilities.</p> <p>Offer job application workshops in conjunction with open houses.</p> <p>Explore opportunity to expand student experiences with colleges and universities.</p>	<p>Work with recruitment teams to conduct tours, offer open house events at correctional facilities.</p> <p>Offer job application workshops in conjunction with open houses.</p> <p>Explore opportunity to expand student experiences with colleges and universities.</p>	
Internal Process Improvements			
<p>Review DOC “minimum” vs. “desired” requirements for Health Services positions: so potentially qualified applicants are not eliminated.</p>			
<p>Review current statewide job postings: To better identify openings for candidates.</p>	<p>Identify the “open always” job postings that may not have as high a vacancy rate. Open job posting specific to those facilities that still have vacancies.</p>	<p>Provide HS Directors with current list of job postings. Revise this list to give more specific locations of open job requisitions</p>	
<p>Develop Recruitment Tool Kit: Provide information, materials and tools for HR staff, HCM’s and other leaders to use for recruitment</p>	<p>Developed the following material: Description of benefits 9/07 Loan Repayment Program 9/07 Description of Health Care Program at each Facility w/contact information for each HCM 9/07 Description of Health Services Program with Mission and Vision 9/07 Description of practice in each professional discipline (medicine, nursing, dentistry, pharmacy, behavioral health) 9/07 Video introducing correctional health care and why the state is a good place to live 9/07 Job postings for various positions 9/07 Powerpoint presentation for physicians 2/07 Powerpoint presentation for nurses 11/07</p>		

	<p>Ad copy for newly graduated nurses 6/07</p> <p>Ad copy for multiple HS positions w/emphasis on re-entry 1/08</p> <p>Purchased some recruitment supplies 9/07:</p> <ul style="list-style-type: none"> 1 display board Display photos Folders for information Business cards with HS telephone # Giveaways with logo 		
Convert contract positions to funded FTEs: Align action to DOC commitment to hire "blue badge" employees.	<p>A listing of Contract positions is being developed in order to analyze a need for FTEs</p> <p>All Health Care Managers were given instruction on steps that must be taken to fill positions with employees before a contract will be considered.</p>	Once the # of FTEs needed to convert contract workers to employees are determined, a recruitment plan and strategy for each position/location will be developed.	
Simplify and streamline application process to reduce loss of applicants	<p>Implemented interest-form and accepting resumes in lieu of E-Recruit process 11/07.</p> <p>Nursing Leaders told to reduce time from applicant's statement of interest to offer of position to 48 hours. NL told to schedule interviews w/interested applicants and not be delayed by pulling register 9/28/07 CK</p>	<p>Need to increase staff resources to respond to interests, requires vacancy research, E-Recruiting search, questions and follow up w/ facilities.</p> <p>Fund HRA to assist with startup effort.</p> <p>Have requested additional HR support to reduce application time and effort.</p>	
Multi-Agency Health Services Recruitment: To benefit from partnering with other state agencies in recruitment of HS positions	<p>Meetings took place 10/07 and 1/08</p> <p>Partnered with other agencies in letter to recruit Veterans to DOC. Health Services positions mentioned in letter.</p> <p>Partnered in cost of recruitment booth at Nursing Career Fair at Convention Center</p>	Partnering with State Personnel Dept. & DSHS on reduced rates for use of Health ecareers.com	
Increase flexibility in how work locations are assigned and positions covered to reduce use of contractors.	<p>Increase the use mid-level providers and other healthcare staff for coverage and help at other facilities and eliminate use of contract staff.</p> <p>Currently use contracts to provide coverage</p>	Work with state labor relations office	4 RN4 positions are being created for a float pool along with 2 LPN positions.
Improve Working Conditions so HS professionals will choose among other possibilities to work in DOC facilities.	<p>Some alternative scheduling available for nurses at A summer/07, B summer/07, C spring/07 and D spring/07.</p> <p>Benefits offered to nurses available to work 20 or more hours/per week on call resulting in increase of 3 FTE in on call pool. Summer/07</p> <p>Increase assignment flexibility at E to support staff initiated patient care improvements and reduce complacency and boredom Fall/06</p> <p>Re-design new correctional worker orientation (CWO, 6 week program) and annual in-service to better meet the scheduling and work performance needs of Health Services staff.</p> <p>Participate on Performance Planning Committee 10/07 - ongoing; solicit input from HS staff about CWO and needs of HS staff 11/07; formal survey of HS staff about topic needs for CWO completed 12/07 and presented to HS Directors 1/08.</p>	<p>Continue to expand options for alternative scheduling.</p> <p>Formalize method to fill positions with personnel interested in part-time employment. Make it easier for nurses to work part-time for DOC. Advertise part time employment options.</p> <p>Change bid systems at A, B, C, D, from shift, days off and assignment to match those in place at E, F, G with just shift and days off. Expand capacity to rotate through positions.</p> <p>Obtain approval to move forward with development of relevant training of newly employed HS personnel and same for annual in-service.</p>	Completed—several part-time positions have been created at a variety of facilities to attract candidates.

	Process to request exemption from CWO in place. 11/06	Continue participation in Performance Committee.	
Competitive compensation: HS salaries and benefits are reasonably competitive with the market and applicants will choose DOC over other employers.	<p>Information about salary and non-salary benefits collected for HS positions. HS Directors – ongoing</p> <p>DOC participating on State Personnel Dept. Recruitment Team. 12/07. DOC selected as pilot site for expanded recruitment and retention effort. 12/07</p> <p>Suggest that HS develop non-salary compensation proposals for collective bargaining and internal DOC policy review. 1/07</p> <p>HS Directors select non-salary compensation proposals to submit to DOC and collective bargaining. 1/31/07</p> <p>Assignment pay for recognition as a Correctional Health Professional</p> <p>Assignment pay for supervision and leadership of peers</p> <p>Geographic differential for recruitment difficulty</p> <p>Commute trip reduction to all facilities</p> <p>Accept and incorporate leave accrual rates earned elsewhere</p> <p>Compensation for continued education required for continuing licensure</p> <p>Extend salary ranges for health professionals to reward retention</p> <p>Salary proposal for 09-11 Master Negotiations to increase pay for RNs based upon inability to recruit approved to submit to State Personnel Dept. 2/08</p> <p>Reclassify Pharmacists to Clinical Pharmacists, other compensation changes.</p> <p>Physician assignment pay awarded 10/07</p>	<p>Follow up on ideas, suggestions, and opportunities for HS to implement recruitment and retention initiatives.</p> <p>Present non-salary compensation proposals to collective bargaining team. Cost out each non-salary compensation proposal.</p> <p>Draft pay proposals for dentist & psychiatrist to be submitted to State Personnel Dept.</p> <p>Redraft and revise RN proposal based upon HR Director and Secretary direction.</p>	<p>A RN2 pay proposal submitted to State Personnel Dept for consideration for the 2009-2011 Contract negotiations.</p> <p>Working on finalization of the Dentist 2 AP proposal.</p> <p>Psychiatrist state- wide job posting & requisition needed to be opened before submitted for assignment pay.</p> <p>Completed 3/08</p>
Advertising Strategies:			
Job Fair/Job Booths/ Conferences: to broaden the exposure of HS to potential applicants by outreach	<p>Purchased, located and developed material and equipment to use in recruitment efforts at job fairs, job booths and conferences.</p> <p>Recruitment at:</p> <p>Forensic Nursing 2007 Conference 4/07</p> <p>American Correctional Health Services Conference Oregon Chapter 4/07</p> <p>NCCCHC Clinical Updates Conference 5/07</p> <p>NCCCHC Fall Conference 10/07</p> <p>Intercollegiate College of Nursing Job Fair, 10/18/07</p> <p>University Pharmacy Job Fair 10/31/07</p> <p>NurseWeek Career Fair 11/13/07</p>	<p>Determine State Health Services Job Fairs for the upcoming year. Identify and discuss with State Personnel Dept. and committee useful and partnerships for job fairs</p> <p>2008 Nursing and Health Occupations Career and Job Fair, X College, Y University</p> <p>Health Sciences Career & Job Fair, XX Community College</p> <p>Group Health Job Fair due to closure of A Hospital</p> <p>X Community College Forensic Nursing 2008 Conference</p> <p>NCCCHC Clinical Updates Conference</p>	<p>Continuing to update the job fair calendar. Learning of new opportunities and determining Health Service attendance.</p> <p>Additional job fairs:</p> <p>Attended nursing career fair at B and T Community College in April, 2008.</p> <p>Attending American Society of Health-System Pharmacists career fair June 9-11 in Seattle</p>

		<p>Sponsoring attendance at Nurse Week Career Fair May 15, 2008</p> <p>Sponsoring a career booth at the American College of Physicians National Meeting in Washington DC on May 15-17, 2008.</p> <p>Researching interest and possibility of a career booth at the National Mental Health Conference in Indiana June 23-25, 2008.</p>	<p>Attending career fair for summer meeting at the UW for graduates on June 24, 2008.</p> <p>Consider attending the Association of Family Practitioner career fair in the fall.</p> <p>Consider local chapter meeting of American College of Physicians in November.</p>
<p>Expand advertising/job boards: to broaden the exposure of HS to potential applicants</p>	<p>Put all HS positions on Healthcarecareers.com website 7/07 JW</p> <p>7,000 hits but mostly in technical careers. Running a trial of listing just RN2 positions (3 months) 02/08</p> <p>Sharing reduced pricing with DHHS/State Personnel Dept. for listing and resume sourcing on HealtheCareers.com</p>	<p>Assessment of current websites used for advertisements to determine if they have been worthwhile to continue, develop tracking system</p> <p>Designate staff to research and track use of such advertisements and other website options</p> <p>Recruitment Supervisor at State Personnel Dept. is negotiating prices</p> <p>Research additional websites to use, consult with State Personnel Dept. and other facilities on successes and failures.</p>	<p>Discontinued use of healthcarecareer.com due to the lack of interested candidates in hard-to-fill positions and inability to source specific resumes through the website.</p> <p>Will look at other websites to advertise with to include health careers.</p> <p>Expanded ads to univ, Worksource, college websites.</p> <p>Recruitment team reviewing</p>
<p>Expand print advertising: to broaden the exposure of HS to potential applicants</p>	<p>A and B facilities coordinated advertising in several large newspapers to combine efforts for HS vacancies. 05/07</p>	<p>Develop advertising templates for facilities to use when vacancies occur.</p> <p>On a statewide level coordinate newspaper advertisements for more than one facility at a time based on needs and vacancies</p> <p>Research health services journals, regional publishings, school job boards for use of advertisements</p> <p>Work with Recruitment Manager on overall DOC advertising, i.e. posters in stadiums, bench seats, strategize on large announcement options</p>	<p>Gathering information on vacancies and needs per facility.</p>

Appendix 2: Rand Patient Safety Standards

Modified from original version: Teleki SS, Damberg CL, Shaw R, Hiatt L, Williams B, Hill TE, Asch SM. (2011). The Current State of Quality of Care Measurement in the California Department of Corrections and Rehabilitation. *Journal of Correctional Health Care*, 17:100-121.

Administration

1.2 Numerator: Number of prisoners from the denominator who were seen by a primary care physician on the next calendar day; Denominator: Total number of prisoners prioritized as urgent during a face-to-face encounter

1.3 Numerator: Number of prisoners from the denominator who were seen within 14 days; Denominator: Total number of prisoners referred to sick call as routine

1.5 Numerator: Number of prisoners from the denominator who had at least one physical exam in the reporting year; Denominator: Total number of prisoners age 55 or older or enrolled in a chronic care clinic who were continuously incarcerated during the reporting year

1.6 Numerator: Number of prisoners from the denominator who received access to urgent high priority specialty services within 14 days; Denominator: Total number of prisoners who were referred to specialty care as urgent

1.7 Numerator: Number of Level I medical grievances filed in a month (Level I medical grievance definition: Grievances that are handled at the facility level); Denominator: Average daily population x 1,000

1.8 Numerator: Number of prisoner grievances related to health care services found in favor of the prisoner in the past 12 months; Denominator: Number of evaluated prisoner grievances related to health care services in the past 12 months

Cardiovascular

2.1 Numerator: Number of prisoners from the Denominator who were prescribed warfarin during the 12-month reporting period; Denominator: Total number of prisoners age 18 and older with a diagnosis of nonvalvular AF or atrial flutter at high risk for thromboembolism

2.2 Numerator: Number of calendar months during the reporting period during which the Denominator population had at least one INR measurement; Denominator: Total number of calendar months during the reporting period in which prisoners aged 18 years and older with a diagnosis of nonvalvular AF or atrial flutter received warfarin therapy

2.3 Numerator: Number of prisoners from the Denominator who were prescribed antiplatelet therapy; Denominator: Total number of prisoners with CAD

2.4 Numerator: Number of prisoners from the Denominator who were prescribed beta-blocker therapy; Denominator: Total number of prisoners 18 or older with a diagnosis of CAD and prior MI

2.5 Numerator: Number of prisoners from the Denominator who were prescribed aspirin at arrival (return) to the facility in the reporting year; Denominator: Total number of prisoners having a principal diagnosis of AMI in the reporting year and who were not identified as having a contraindication to aspirin

2.6 Numerator: Number of prisoners from the Denominator with medical record documentation for characterization of ventricular dysfunction as systolic or diastolic; Denominator: Total number of prisoners with heart failure

2.7 Numerator: Number of prisoners from the Denominator who were prescribed beta-blocker therapy; Denominator: Total number of prisoners with heart failure who also have LVSD

2.8 Numerator: Number of prisoners from the Denominator who were prescribed ACE inhibitor or ARB therapy; Denominator: Total number of prisoners with heart failure who also have LVSD

2.9 Numerator: Number of prisoners from the Denominator who had a blood pressure measurement during the last office visit; Denominator: Number of prisoners aged 18 years and older with a diagnosis of CAD

7.1 Numerator: Number of prisoners from the Denominator with a SBP > 140 or DBP > 90mmHg; Denominator: Total number of prisoners with hypertension who have been continuously incarcerated for more than 6 months

7.2 Numerator: Number of prisoners from the Denominator whose most recent blood pressure reading was lower than 130/80; Denominator: Total number of prisoners with diabetes, cardiovascular disease, chronic kidney disease who have been continuously incarcerated for 6 months

7.3 Numerator: Number of prisoners from the Denominator who have a fasting lipid profile; Denominator: Total number of prisoners with diabetes, hypertension, or coronary artery disease who have been continuously incarcerated for 6 months

7.4 Numerator: Number of prisoners from the Denominator whose most recent LDL was less than 100 mg/dL; Denominator: Total number of prisoners with diabetes or chronic kidney disease continuously incarcerated for 6 months

7.5 Numerator: Number of prisoners from the Denominator having LDL < 100 on or between 60 and 365 days after discharge for an acute cardiovascular event; Denominator: Total number of prisoners age 18 to 75 years as of 12/31 of the reporting year who were discharged alive in the year before the reporting year for acute myocardial infarction

7.6 Numerator: Number of prisoners from the Denominator with a LDL level < 100 mg; Denominator: Total number of prisoners on lipid reduction medication for a minimum of 6 months, with a history of cardiovascular risk or two cardiac risk factors, who have lipids measured this reporting quarter

13.4 Numerator: Number of prisoners from the Denominator for whom an EKG was obtained and reviewed; Denominator: Total number of prisoners with chest pain

13.5 Numerator: Number of prisoners from the Denominator for whom providers ordered aspirin 162 to 325 mg; Denominator: Total number of prisoners with chest pain determined to have preliminary diagnosis of cardiac origin

Mental Health

3.1a Numerator: Number of prisoners from the Denominator who receive a mental health evaluation within 24 hours of prison admission; Denominator: Total number of prisoners ages 18 years or older admitted during the measurement period

3.1 b Numerator: Number of prisoners from the Denominator with documentation of follow-up if current psychiatric symptoms are endorsed; Denominator: Total number of prisoners ages 18 years or older admitted during the measurement period

3.2 Numerator: Number of prisoners from the Denominator who met the DSM-IV criteria for MDD during the visit in which the new or recurrent episode was identified; Denominator: Number of prisoners ages 18 or older with a new or recurrent episode of MDD

3.3 Numerator: Number of prisoners from the Denominator who remained on an antidepressant during the entire 84-day acute treatment phase during the measurement period; Denominator: Number of prisoners ages 18 and older who are diagnosed with new episode MDD and treated with an antidepressant medication during the measurement period

3.4 Numerator: Number of prisoners from the Denominator who remained on an antidepressant for at least 180 days during the measurement period; Denominator: Number of prisoners ages 18 and older who are diagnosed with new episode MDD and treated with an antidepressant medication during the measurement period

3.5 Numerator: Number of prisoners from the Denominator who had at least three follow-up (or visit) contacts with a practitioner during the 84-day acute treatment phase during the measurement period;

Denominator: Number of prisoners ages 18 and older who are diagnosed with new episode MDD and treated with an antidepressant medication during the measurement period

3.6 Numerator: Number of prisoners from the Denominator who have evidence of use of a mood stabilizing or antimanic agent during the first 12 weeks of pharmacotherapy treatment during the measurement period; Denominator: Number of prisoners ages 18 or older, with bipolar I disorder with symptoms of episodes that involve depression during the measurement period

3.7 Numerator: Number of prisoners from the Denominator with a documented lithium levels in the therapeutic range within the previous 6 months during the measurement period; Denominator: Total number of prisoners with bipolar I disorder who are on lithium therapy during the measurement period

3.8 Numerator: Number of prisoners from the Denominator with a record of serum creatinine and TSH in the preceding 15 months during the measurement period; Denominator: Total number of prisoners with bipolar I disorder who are on lithium therapy during the measurement period

3.9 Numerator: Number of prisoners from the Denominator who were assessed, prior to the initiation of treatment, for the presence of prior or current symptoms and/or behaviors associated with mania or hypomania; Denominator: Number of prisoners presenting with depression

4.2 Numerator: Number of prisoners from the Denominator who received at least two different drugs to be avoided in the elderly in the measurement year; Denominator: Total number of prisoners age 65 years and older

4.3 Numerator: Number of prisoners from the Denominator with a history of falls who had a plan of care for falls documented within 12 months; Denominator: Total number of prisoners age 65 years and older with a history of falls

10.1 Numerator: Number of prisoners from the Denominator who received antipsychotic medication between 300 and 600 CPZ equivalents per day; Denominator: Total number of prisoners age 18 and older with a diagnosis of schizophrenia receiving an antipsychotic

10.2 Numerator: Number of prisoners from the Denominator whose medical record of the preceding 6 months provides documentation for the dosage used; Denominator: Total number of prisoners age 18 or older with a diagnosis of schizophrenia who are receiving antipsychotic medication at a dosage that is outside the recommended range (300 and 1,000 CPZ equivalents) at a specified point in time

10.6 Numerator: Number of prisoner suicides in the past 12 months; Denominator: Average daily prison population

Infectious Disease

5.1 Numerator: Number of prisoners from the Denominator who had HCV RNA testing ordered or previously performed; Denominator: Total number of prisoners age 18 and older with a diagnosis of hepatitis C who were seen for an initial evaluation

5.2 Numerator: Number of prisoners from the Denominator who are receiving antiviral treatment for whom HCV genotype testing was performed prior to initiation of treatment; Denominator: Total number of prisoners age 18 and older with a diagnosis of hepatitis C who are receiving antiviral treatment

5.3 Numerator: Number of prisoners from the Denominator for whom quantitative HCV RNA was performed within 6 months prior to initiation of treatment; Denominator: Total number of prisoners age 18 and older with a diagnosis of hepatitis C who are receiving antiviral treatment

5.4 Numerator: Number of prisoners from the Denominator for whom quantitative HCV RNA testing was performed at 12 weeks after the initiation of antiviral treatment; Denominator: Total number of prisoners age 18 and older with a diagnosis of hepatitis C who are receiving antiviral treatment

5.6 Numerator: Number of prisoners from the Denominator who were prescribed potent antiretroviral therapy; Denominator: Total number of prisoners age 13 and older with a diagnosis of HIV/AIDS who have a history of a nadir CD4+ cell count below 350/mm³ or who have a history of an AIDS-defining condition, regardless of CD4+ cell count; or who are pregnant, regardless of CD4+

5.7 Numerator: Number of prisoners from the Denominator who were prescribed PCP prophylaxis within 3 months of low CD4+ cell count; Denominator: Total number of prisoners with a diagnosis of HIV/AIDS and CD4+ cell count < 200 cells/mm³

5.9 Numerator: Number of prisoners from the Denominator for whom a CD4+ cell count or CD4+ cell percentage was performed at least once in the previous 6 months; Denominator: Total number of prisoners with a diagnosis of HIV/AIDS

12.1 Numerator: Number of prisoners from the Denominator who had TB screening status documented and consistent with guideline requirements each year; Denominator: Total number of new prisoners entering the prison system each year

Drug Monitoring

6.1 Numerator: Number of prisoners from the Denominator who received at least one serum potassium and either a serum creatinine (Cr) or a blood urea nitrogen (BUN) therapeutic monitoring test in the measurement year; Denominator: Total number of prisoners who received at least a 180-day supply of ACEIs, ARBs, or diuretics during the measurement year

Diabetes Management

7.7 Numerator: Number of prisoners from the Denominator at a given point in time who are under treatment for at least 6 months with a HbA1c level measuring more than 9%; Denominator: Total number of prisoners with diabetes who were continuously incarcerated for 6 months

7.9 Numerator: Number of prisoners from the Denominator who received yearly (retinal) exam; Denominator: Total number of prisoners with diabetes mellitus age 18 to 75 years as of 12/31 of the year preceding the reporting year who were continuously incarcerated during the reporting year

7.10 Numerator: Number of prisoners from the Denominator who have had a microalbuminuria screening in the past 12 months; Denominator: Total number of prisoners age 12 to 70 years with diabetes who have been continuously incarcerated for 12 months who are not already on angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB)

7.11 Numerator: Number of prisoners from the Denominator who were referred for AV fistula at least one time during the 12-month reporting period; Denominator: Total number of prisoners age 18 and older with a diagnosis of advanced chronic kidney disease stage 4 and 5 not receiving renal replacement therapy, who were incarcerated for at least 12 months

Pregnancy

12.5 Numerator: Number of prisoners from the Denominator who were tested for pregnancy; Denominator: Total number of premenopausal female intakes

8.1 Numerator: Number of pregnant prisoners who received all prenatal screening tests (CBC, urinalysis, VDRL/RPR, Rubella titers, Rh antibodies, HIV); Denominator: Number of prisoners receiving prenatal care

8.2 Numerator: Number of prisoners seen by an OB provider within 7 calendar days of determination of pregnancy and whose encounter was documented on a Hollister Maternal/Newborn Record System form or equivalent; Denominator: Number of pregnant prisoners

8.3 Numerator: Number of prisoners who had orders submitted within 7 calendar days of determination of pregnancy for prenatal vitamins, iron, folic acid, and an extra carton of milk daily; Denominator: Number of pregnant prisoners

Preventive Health

9.1 Numerator: Number of prisoners from the Denominator who had one Pap smear test done in the reporting year or 2 years before the reporting year; Denominator: Total number of female prisoners age 18-64 as of 12/31 of the reporting year who were incarcerated during the reporting year and the preceding 2 years

9.2 Numerator: Number of prisoners from the Denominator who had one or more mammograms during the measurement year or the year prior to the measurement year; Denominator: Total number of female prisoners age 41 to 69

9.3 Numerator: Number of prisoners from the Denominator who had a biopsy within 14 days; Denominator: Total number of female prisoners age 41 to 69 with an abnormal mammogram (class 4 or 5)

9.4 Numerator: Number of prisoners from the Denominator who received the appropriate colorectal cancer screening; Denominator: Total number of prisoners age 51 to 70
9.5 Numerator: Number of prisoners from the Denominator who received an influenza vaccination September through December of the year; Denominator: Number of prisoners with diabetes, chronic kidney disease, asthma, COPD, HIV on immunosuppressant medications, and those age 50 and older

9.6 Numerator: Number of prisoners from the Denominator who received a pneumococcus immunization; Denominator: Total number of prisoners with diabetes, HIV, COPD, CKD on immunosuppressant medications, and those age 65 and older

9.7 Numerator: Number of prisoners from the Denominator who received at least one injection of hepatitis B vaccine or who have documented immunity to hepatitis B; Denominator: Number of prisoners age 18 and older with a diagnosis of hepatitis C or HIV infection

9.8 Numerator: Number of prisoners from the Denominator who received a Pap smear in compliance with policy; Denominator: Female prisoners age 41 to 64

Asthma/COPD

11.2 Numerator: Number of prisoners from the Denominator who were assessed for frequency of symptoms; Denominator: Total number of prisoners up to age 40 with a diagnosis of asthma who were seen for at least one office visit in the reporting year

11.5 Numerator: Number of prisoners from the Denominator who were prescribed equal to or greater than 40 mg prednisone equivalents by IV or PO for 5 days; Denominator: Total number of prisoners with acute severe asthma exacerbation

11.6 Numerator: Number of prisoners from the Denominator who were prescribed a course of oral steroids; Denominator: Total number of prisoners seen in an urgent or emergent setting for an asthma exacerbation

11.7 Numerator: Number of prisoners from the Denominator who were evaluated by the primary care provider within the designated follow-up time frames based on their classification of severity and degree of control; Denominator: Total number of prisoners with asthma

11.8 Numerator: Number of prisoners from the Denominator who were referred to an outside facility or emergency department for asthma; Denominator: Total number of prisoners age 18 and older as of January 1 of the reporting year with persistent asthma in the reporting year

11.9 Numerator: Number of prisoners from the Denominator who had spirometry results documented; Denominator: Total number of prisoners age 18 and older with a diagnosis of COPD

11.10 Numerator: Number of prisoners from the Denominator who were prescribed an inhaled bronchodilator; Denominator: Total number of prisoners with a diagnosis of COPD who have FEV1/FVC < 70% and have symptoms

11.12 Numerator: Number of prisoners from the Denominator who have an oxygen saturation assessed annually; Denominator: Total number of prisoners with a diagnosis of COPD and an FEV1 < 40%

11.13 Numerator: Number of prisoners from the Denominator who were prescribed long-term oxygen therapy; Denominator: Total number of prisoners with a diagnosis of COPD and an oxygen saturation \leq 88% or a PaO₂ \leq 55 mm Hg

11.14 Numerator: Number of prisoners from the Denominator who were assessed for COPD symptoms at least annually; Denominator: Total number of prisoners with a diagnosis of COPD

Misc.

13.2 Numerator: Number of medical emergency responders from the Denominator who arrive at the location of the medical emergency within 5 minutes of initial notification each year; Denominator: Total number of medical emergency responders who receive a notification to respond to a medical emergency each year

13.6 Numerator: Number of patient visits for; Denominator-eligible prisoners without a prescription or recommendation to use wet to dry dressings; Denominator: Total number of patient visits for prisoners age 18 and older with a diagnosis of chronic skin ulcer

13.7 Numerator: Number of prisoners from the Denominator who were prescribed an appropriate method of offloading (pressure relief) within the 12 month reporting period; Denominator: Total number of prisoners age 18 and older with a diagnosis of diabetes and foot ulcer

13.8 Numerator: Number of prisoners from the Denominator who had back pain and function assessed during the initial visit to the clinician for the episode of back pain; Denominator: Total number of prisoners age 18 to 79 with a diagnosis of back pain or undergoing back surgery

13.9 Numerator: Number of prisoners from the Denominator with documentation the physician conducted reassessment of both pain and functional status; Denominator: Total number of prisoners age 18 to 79 with a diagnosis of back pain or undergoing back surgery

13.10 Numerator: Number of prisoners from the Denominator who are assessed for function and pain; Denominator: Total number of prisoners age 21 and older with a diagnosis of OA

Appendix 3: (John Jay) Standards for Patient Safety in Prisons

Modified from original version: Stern MF, Greifinger RB, Mellow J. (2010). Patient Safety: Moving the Bar in Prison Health Care Standards. *American Journal of Public Health*, 100:2103-2110.

TIER 1	
Measures the expert panel felt should be implemented first	
Short Title	Proposed Safety Measure
Access to and availability of prenatal care	
Access to prenatal care	Pregnant females receive prenatal care within 14 days of incarceration.
Access to postpartum care	Postpartum females receive care within 7 weeks of delivery, absent specific indicators for sooner follow up.
Culture of safety	
Culture of safety from the top	Practice has a written statement in appropriate governing document emphasizing patient safety as a priority.
Active safety leadership by chief pharmacist and chief nurse	Chief pharmacist and chief nurse have active role on administrative leadership team and are accountable for medication management systems performance and patient safety related to nursing, respectively.
Preventable adverse event reporting	System is in place for reporting of all preventable adverse events (events in which a preventable error led to patient harm). Examples include (but are not limited to) patient receiving wrong medication resulting in an adverse reaction; development of a pressure sore in an infirmary patient; invasive procedure performed on wrong patient; patient sustaining a preventable fall.
Action taken on all reported errors (preventable adverse events and near misses)	System is in place to analyze and address all reported errors.
Shift from employee remediation to system improvement	System is in place to assure that when a preventable adverse event is discovered, practice addresses it in a framework (e.g., Just Culture ²¹) that seeks first to discover and fix what is wrong, not who is wrong; personnel discipline is reserved for instances of willful carelessness or recklessness. System includes appropriate policies, staff training, and executive monitoring of staff sanctions.
Grievance response and review	All healthcare grievances, formal and informal, are addressed by health care personnel. System is in place to analyze and address system issues.
Personnel	
Staff trained on patient safety	Human factors and key principles of error reduction (e.g., standardization, use of constraints, redundancy) are reviewed with all health staff during orientation and during each performance evaluation.
Patient safety is everyone's job	Organization has written statements in the documents appropriate to that organization (e.g., governing documents, mission statement, ethics statement, job description, post orders) reflecting, for both health and custody personnel, each staff member's responsibility in patient safety, including roles in team, error reporting, etc.
Staff fatigue and burnout	System is in place to monitor unscheduled leave use.
Staff vacancy	System is in place to monitor ease of recruitment and retention statistical data (e.g., turnover rate, vacancy rate, agency use to fill positions).

Adequate nursing staffing	A staffing plan is in place sufficient to safely care for all patients (as measured by achieving goal safety levels).
Annual competency assessment of nonpractitioners	Practice maintains system to annually assess nursing and support staff competency appropriate for services and procedures performed, including devices and associated protocols/guidelines. Competency is verified before staff is permitted to perform associated care function or train others.
Annual competency assessment of practitioners	Identical to previous standard, but applicable to physicians, nurse practitioners, and physician assistants.
Medication management	
Up-to-date medication list	Complete medication history (including over-the-counter medications) is obtained and documented on every patient upon: change in medication, change of primary practitioner, or change in level of care (e.g., to and from infirmary or community hospital).
Medication list available	Medication list is available to all professional staff caring for patient at time of care.
Medication references	Up-to-date, standardized medication reference resource is available to all prescribers at the point of prescribing.
Medications in pregnancy	All female patients of childbearing age have documented negative pregnancy test or other notation before medications known to have significant teratogenic risk or contraindicated in pregnancy are prescribed.
Computerized practitioner order entry system	Prison has this system.
Medication properly labeled	All medications kept by patients on their person show patient name and identification number, prescriber, medication name, strength, dose, frequency, number of pills or time frame, lot number, date dispensed, expiration date.
Medication list to patient on release	Patients are provided up-to-date list of all medications they are receiving on release. (NCCHC standards include this requirement, among others, for safe discharge planning.)
Handling of medications for external use	Topical medications (e.g., benzoin, podophylline) are labeled "For External Use Only" and are separated from internal-use medications in all storage areas.
Handling of multidose injectables	All opened multiple-dose vials of injectable medications (e.g., lidocaine, dexamethasone, prochlorperazine, vitamin B12) labeled with date opened and include date on which unused product should be discarded (no later than 30 d after opening).
Check expiration dates	All medications, reagents, and other products that expire are routinely checked (at least quarterly) by designated staff member and are appropriately discarded once expired
Transitions and communication	
Critical info read back	For verbal or telephone orders or for telephonic reporting of critical test results, communication is verified by having receiving person record and read back completely.
Dangerous abbreviations	Staff may not use abbreviations on list of prohibited abbreviations, acronyms, symbols, and dose designations. (See references 10 and 11 in the main article for two such published lists.)
Correct patient name on tests	Standardized policies, processes, and systems are in place to ensure accurate labeling of radiographs, laboratory specimens, and other diagnostic studies, so that the right study is labeled for the right patient at the right time.

Specialist consultation timeliness	Internal and external consultations with specialists (employee or contractor, on-site or off-site) are completed within time frame ordered. Note: if the primary care practitioner modifies date needed, new date determines whether consultation is completed on time.
Specialist consultation followed	Consultant recommendations are followed or a documented clinical rationale from primary care practitioner exists for an alternative, medically appropriate plan of care.
Test and consultation tracking	Tests are tracked (what sent, where, when, when expected back, action taken if results are overdue); when results are received, they seen by appropriate clinician and posted to medical record. Mechanism exists to report critical results, even in absence of requestor (e.g., vacation, after hours).
Nonmedication reconciliation	Nonmedication information (e.g., allergies, mobility limitations, language or communication limitations, and other disabilities) is reconciled whenever patient transitions from 1 primary provider or health care setting to another (e.g., infirmary to general population, prison to community, prison to hospital, prison to another prison).
Patient involvement	
Informed consent	When written informed consent is obtained, it is by a clinician credentialed to order the intervention and contains explanation of risks and alternatives and patient describing back to the clinician key information he or she heard, in his or her own words. For facilities that do certain interventions with enough frequency, it might be reasonable for a non-practitioner to be trained to obtain informed consent for these interventions.
Informed refusal	Any written refusal of treatment is an informed refusal and is only obtained (at a time interval appropriate to the intervention) by clinicians privileged to order or refer for the intervention. For facilities where certain procedures are refused with enough frequency, it might be reasonable for a non-practitioner to be trained to obtain informed refusal for these interventions. Note: This standard does not apply to noncritical single refusals of staff-administered medications.
Patient-tailored decisions	Care plans take patient's cultural and social environment (e.g., work, release plan) into account.
Health-adjusted correctional environment	Correctional environment is adjusted to special health needs of resident(e.g., adding air conditioning).
Interpreters	Interpretation services are available for clinical encounters; interpreters should be qualified/certified; should not be custody staff or other prisoners except in emergencies.
Patient notification of results	Results of tests are communicated to patient within 2 weeks of receipt; practice confirms and documents that patient received results.
Obtain advance directives	Practitioners seek advance directives for patients admitted to an infirmary who do not already have such directives.
Advance directives available	For those with advance directives, written documentation of patient's preferences are prominently displayed in medical record.
Specific conditions	
Chronic disease registry	Practice maintains chronic disease registry, either free standing or within an electronic health record.
Access to care after acute mental health problem	During a recent period (can be any relevant period chosen by the system, typically a year), percentage of patients discharged from a prison acute mental health care bed getting follow-up visit with mental health staff within 1 day of discharge. ^a
Hand hygiene	Organization complies with category I recommendations in the CDC's hand hygiene guidelines.

Chronic disease monitoring	The following nationally accepted guidelines or resources are followed for chronic disease management: (1) resources published by NCCHC; (2) correctional consensus psychiatric guidelines; (3) all patients receiving certain high-risk medications for ≥ 180 days receive appropriate lab test monitoring annually (or more often if clinically indicated). ^b
Warfarin monitoring	All patients on warfarin are tracked for appropriate international normalized ratio levels.
Pressure sore prevention	Written protocols are in place for prevention and management of pressure sores among nonambulatory patients.
Pregnancy methadone	Patients admitted who are pregnant and opioid dependent, including those on methadone maintenance, will receive adequate opioid dosing to prevent withdrawal during pregnancy.
	a The panel chose not to prescribe the threshold percentage that systems should achieve. Rather, at this early point in the use of patient safety standards in corrections, members felt systems should be at liberty to establish their own thresholds. They hoped that over time systems would gradually raise their own threshold or that as this standard was adopted by accreditation or professional organizations, these organizations would set a threshold.
	b For patients taking angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, digoxin, or diuretics, the following are monitored: serum potassium, serum creatinine, and blood urea nitrogen; for patients taking carbamazepine, phenobarbital, phenytoin, or valproic acid, the serum concentration of the drug is monitored.
Tier 2 Measures the expert panel felt were important but less urgent than those in Tier 1	
Short Title	Proposed Safety Measure
Patient Involvement	
Patient satisfaction	The practice periodically gathers and analyzes data from patients regarding their safety concerns.
Patient instructions	Patients are asked to describe back to the clinician key information they heard, in their own words, to help the clinician clarify and rectify any mis-information.
Culture of safety	
Employee support after errors	A system is in place to ensure that after serious harm caused by system failure or unintentional human error, the involved caregivers (clinical providers, staff, and administrators) receive just treatment, respect, compassion, supportive emotional care, and the opportunity to fully participate in event investigation risk identification, and mitigation activities that will prevent future events.
Near-miss reporting	A system is in place for voluntary, anonymous reporting of all near misses (i.e., errors which did not result in any patient harm) and for analysis and implementation of changes as appropriate.
Personnel	
List of permitted procedures	Up-to-date list of permitted procedures is maintained and is accessible to all staff.
List of privileged operators	A list of who may perform what procedures is compiled and is updated annually.
Staff surveyed on patient safety	A survey (core items should be standardized nationally) of health care staff is conducted annually to measure the penetration of patient safety concepts into the culture and is reported to leadership.

Staff trained on team-based care	Leadership and care delivery personnel receive ongoing training on how to function as a team (including members of the custody staff) in activities closely related to patient safety, (e.g., functioning in an emergency and suicide prevention).
Staff trained on health literacy	All health care staff interacting with patients are trained to recognize and manage health literacy issues.
Medication management	
Vaccine log	All vaccines are documented in a log that contains the name of the vaccine, lot number, expiration date, patient name, dose, and date administered.
Medication device maintenance	All devices used in medication delivery (e.g., nebulizer, glucometer, intravenous pump) are standardized, maintained annually, and covered by protocols for use.
Medication information translation	Up-to-date, useful written information about medications and vaccines is available to non-English-speaking patients in a language in which they are literate.
New medication in-service	When a new medication is added to the prison formulary, prescribers are educated about its use from reliable, unbiased sources.

Appendix 4: John Jay Standards Applied to NCCHC Standards

This appendix takes many of the correctional health care patient safety standards that were recommended by a national panel of correctional health care experts (“John Jay Standards,” Appendix 3) and shows how they might be used to enhance an NCCHC standards-based health care operation. Thus the John Jay Standards have been grouped together under the NCCHC 2018 standards with which they are closely associated. This document does not modify or interpret NCCHC standards. Rather it is intended to provide a tool for patient-safety focused correctional health care professionals to enhance their programs by building on an existing (NCCHC) framework.

NCCHC STANDARDS: SECTION A – GOVERNANCE AND ADMINISTRATION

A-08 Health Records

- Staff may not use abbreviations on list of prohibited abbreviations, acronyms, symbols, and dose designations.
- Medication list is available to all professional staff caring for patient at time of care.

NCCHC STANDARDS: SECTION B – SAFETY

B-02 Infectious Disease Prevention and Control

- Facility complies with category I recommendations in the CDC’s hand hygiene guidelines.

B-08 Patient Safety

- Facility has a written statement in appropriate governing document (e.g., governing documents, mission statement, ethics statement, job description, post orders) emphasizing patient safety as a priority for both health and custody personnel, including delineating each staff member’s responsibility in patient safety such as roles in team, error reporting, etc.
- Chief nurse has active role on administrative leadership team and is accountable for patient safety related to nursing.
- Chief pharmacist has active role on administrative leadership team and is accountable for medication management systems performance.
- System is in place to analyze and address all reported errors. (In other words, the patient safety system needs to be tied into the CQI system. The existing standard requires a reporting system. The next step is to require that the reported errors are analyzed and fixed.)
- The system in place to analyze and address reported errors should always seek to discover first *what* is wrong, not *who* is wrong. Punishment is reserved for instances of individual willfulness or neglect. Even when an individual requires punishment, any underlying system problem that may have contributed should be addressed. For example, if the employee is a “bad apple,” is there a flaw in the recruiting/hiring/supervising process?
- Human factors and key principles of error reduction (e.g., standardization, use of constraints, redundancy) are reviewed with all health staff during orientation and during each performance evaluation.
- A survey of health care staff is conducted annually to measure the penetration of patient safety concepts into the culture and is reported to leadership.

NCCHC STANDARDS: SECTION C - PERSONNEL AND TRAINING

C-01 Credentials

- Up-to-date list of permitted procedures is maintained and is accessible to all staff.
- A list of who may perform what procedures is compiled and is updated annually.

C-02 Clinical Performance Enhancement

- System is in place to monitor unscheduled leave use.
- System is in place to monitor ease of recruitment and retention statistical data (e.g., turnover rate, vacancy rate, agency use to fill positions).

- Practice maintains system to annually assess physicians, nurse practitioners, physician assistants, nursing, and support staff competency appropriate for services and procedures performed, including devices and associated protocols/guidelines. Competency is verified before staff is permitted to perform associated care function or train others.

NCCHC STANDARDS: SECTION D - HEALTH CARE SERVICES AND SUPPORT

D-01 Pharmaceutical Operations

- Facility employees a computerized practitioner order entry system (CPOE).
- All opened multiple-dose vials of injectable medications (e.g., lidocaine, dexamethasone, prochlorperazine, vitamin B12) are labeled with date opened and include date on which unused product should be discarded (no later than 30 days after opening).
- All medications, reagents, and other products that expire are routinely checked (at least quarterly) by designated staff member and are appropriately discarded once expired.

D-02 Medication Services

- Complete medication history (including over-the-counter medications) is obtained and documented on every patient upon change in medication, change of primary practitioner, or change in level of care (e.g., to and from infirmary or community hospital).
- Up-to-date, standardized medication reference resource is available to all prescribers at the point of prescribing.
- All female patients of childbearing age have documented negative pregnancy test or other notation before medications known to have significant teratogenic risk or contraindicated in pregnancy are prescribed.
- All medications kept by patients on their person show patient name and identification number, prescriber, medication name, strength, dose, frequency, number of pills or time frame, lot number, date dispensed, expiration date.
- For verbal or telephone orders, communication is verified by having receiving person record and read back completely.

D-04 On-Site Diagnostic Services

- Standardized policies, processes, and systems are in place to ensure accurate labeling of radiographs, laboratory specimens, and other diagnostic studies, so that the right study is labeled for the right patient at the right time.

NCCHC STANDARDS: SECTION E – PATIENT CARE AND TREATMENT

E-09 Continuity, Coordination, Quality of Care During Incarceration

Tests are tracked (what sent, where, when, when expected back, action taken if results are overdue); when results are received, they are seen by appropriate clinician and posted to medical record. Mechanism exists to report critical results, even in absence of requestor (e.g., vacation, after hours).

- Results of tests are communicated to patient within 2 weeks of receipt; practice confirms and documents that patient received results.
- All patients receiving certain high-risk medications for ≥ 180 days receive appropriate lab test monitoring annually (or more often if clinically indicated).
- For telephonic reporting of critical test results, communication is verified by having receiving person record and read back completely.

NCCHC STANDARDS: SECTION F - SPECIAL NEEDS AND SERVICES

F-02 Infirmary-Level Care

- Written protocols are in place for prevention and management of pressure sores among nonambulatory patients.

F-03 Mental Health Services

- Patients discharged from an acute mental health care bed receive a follow-up visit with mental health staff within 1 day of discharge.

F-04 Medically Supervised Withdrawal and Treatment

- Patients admitted who are pregnant and opioid dependent, including those on methadone maintenance, will receive adequate opioid dosing to prevent withdrawal during pregnancy.

F-05 Counseling and Care of the Pregnant Inmate

- Pregnant females receive prenatal care within 14 days of incarceration.
- Postpartum females receive care within 7 weeks of delivery absent specific indicators for sooner follow up.

NCCHC STANDARDS: SECTION G - MEDICAL-LEGAL ISSUES**G-05 Informed Consent and Right to Refuse**

- When written informed consent is obtained, it is by a clinician credentialed to order the intervention and contains explanation of risks and alternatives and patient describing back to the clinician key information he or she heard, in his or her own words. For facilities that do certain interventions with enough frequency, it might be reasonable for a nonpractitioner to be trained to obtain informed consent for these interventions.
- Any written refusal of treatment is an informed refusal and is obtained (at a time interval appropriate to the intervention) only by clinicians privileged to order or refer for the intervention. For facilities where certain procedures are refused with enough frequency, it might be reasonable for a nonpractitioner to be trained to obtain informed refusal for these interventions. Note: This standard does not apply to noncritical single refusals of staff-administered medications.