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Actionable Patient Safety Solutions (APSS) #6: Hand-off Communications

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Actionable Patient Safety Solutions (APSS) #6:

Hand-off communications

How to use this guide

This guide gives actions and resources for creating and sustaining safe practices for hand-off communications. In it, you'll find:

Patient Safety
MOVEMENT

Executive summary checklist

Hand-off communications (HOCs) must happen whenever care of a patient is transferred from one individual or care team to another. Accurate, effective, and complete HOCs are vital for patient safety. Serious patient harm can occur when HOC information is absent, incomplete, erroneous, or delayed.

Use this checklist to help prioritize your actions and measure your organization's progress in each area.

- ☐ Educate all hospital staff on these principles and requirements for effective HOC:
    - ☐ Recognize that each HOC involves a "sender" and "receiver"
    - ☐ HOC failures occur when:
        1. The sender omits vital patient information from their report
        2. The receiver fails to understand or properly record vital information given by the sender
        3. The sender and/or receiver fails to understand or manage the subject information in a complete, accurate, and timely manner
- ☐ Establish an HOC core team that includes:
    - ☐ A strong sponsor (senior clinical and administrative leadership is strongly encouraged), physician champion, nursing champion, and project leader
    - ☐ Other members include practicing physicians, nurses, pharmacists, therapists, technicians, and information technology experts
- ☐ Measure the effectiveness of current HOC processes and create performance goals from this baseline
- ☐ Define the exact roles of the sender and receiver for each type of HOC at your institution
- ☐ Develop and use checklists (both written and electronic) for effective HOCs that ensure accurate, complete, and timely communication among healthcare providers and caregivers
    - ☐ See proposed checklists in Appendix A
    - ☐ Consider an existing structure for HOCs such as:
        - ☐ IPASS (Illness, Patient Summary, Action Item, Situation Awareness & Contingency Planning, Synthesis by Receiver)
        - ☐ SBAR (Situation, Background, Assessment, Recommendation)
- ☐ Train all hospital staff on the principles and requirements for effective HOCs

We've identified 18 different HOCs that commonly happen in healthcare institutions and include 10 example checklists in **Appendix A**.

What we know about hand-off communications (HOCs)

The risks of HOC mistakes

HOCs introduce mistakes when clinicians don't communicate patient-specific medical care and treatment information (e.g. patient's condition, therapies and treatment plans, or any special considerations) in a complete, accurate, and timely manner.

The Agency for Healthcare Research and Quality (AHRQ) reports that nearly half of hospital staff believe patient information is lost during transfers across hospital units or during shift changes (Sorra and Nieva, 2004).

Breakdowns in communication were the leading cause of sentinel events (death or serious harm to a patient that requires further review) reported to The Joint Commission between 1995 and 2006 (The Joint Commission, 2013).

Preventing HOC mistakes

The most common mistakes with HOCs are that the sender omits vital data, or the receiver doesn't understand or record it. These problems aren't unique to medicine – these are also common in other industries, such as aviation. Their solution to these communication mistakes is a system of checklists for each major task, such as takeoff, landing, and emergency management. They identify 3 issues that make checklists mandatory: workload stress, distractors, and increasing levels of complexity.

While each checklist needs to be tailored to the sender and receiver of each HOC, they must all contain the vital information needed by the receiving caregiver/team to provide the best care of the patient. That information must include (but is not limited to) the following:
- The reason the patient is in the hospital
- All medical problems for the patient, even if not relevant to this admission
- Patient treatment and physical history, including relevant parts of review of systems
- Results from labs and other tests
- A patient's medications and treatments – both current and planned
- I and O's (patient Intake and Output, such as catheters or blood draws)
- Hospital course, progress, and/or complications
- The discharge plan for the patient or final hand-off
- Recommendations: "Here is what I [the caregiver] think and suggest"

While checklists are vital, there is no "one-size-fits-all" approach to addressing HOCs, and they should never take the place of creative problem solving when needed. HOCs require a data-driven approach to find the contributing factors unique to the specific transition of care and the proper targeted solutions.

The Joint Commission Center for Transforming Healthcare's Targeted Solutions Tool (TST) gives healthcare institutions a comprehensive, step-by-step approach that improves HOCs and helps organizations:
- Accurately measure actual performance
- Identify barriers to excellent performance
- Direct them to proven solutions tailored to their particular barriers related to HOCs

The evidence for effective HOCs

The TST reports healthcare institutions that have used their approach have an increase in patient and family satisfaction, staff satisfaction, and successful transfers of patients. One healthcare organization reduced their readmissions by 50% and another reduced the time it takes to move a patient from the emergency department to an inpatient unit by 33%.

Healthcare institutions have been able to complete their HOC project in approximately 4 months, using minimal resources. By using targeted solutions for your organization's specific root causes of poor HOCs, you can begin to see results within 16-21 weeks.

Leadership plan

To prioritize effective HOCs, leaders must take these actions:
- Hospital governance and senior administrative leadership must commit to becoming aware of this major performance gap in their own organization
- Hospital governance, senior administrative leadership, and clinical/safety leadership must close this performance gap by implementing a comprehensive approach to HOCs
- Healthcare leadership must reinforce their commitment by taking an active role in championing process improvement, giving their time and attention, removing barriers, and providing necessary resources
- All leadership must show their commitment and support by shaping a vision of the future, clearly defining goals, supporting staff as they work through improvement initiatives, measuring results, and communicating progress towards goals:
  - As role models, leadership must 'walk the walk' when it comes to supporting process improvement across an organization
  - There are many types of leaders within a healthcare organization and in order for process improvement to be successful, leadership commitment and action are required at all levels
  - The Board, the C-Suite, senior leadership, physicians, directors, managers, and unit leaders all have important roles and must be engaged
- Use patient stories – in written and video form – to identify gaps and inspire change in your staff, such as the story of Jennifer Nibarger, wife of Brent Nibarger: **https://youtu.be/ssWSoN00yxI**

Managing change

Change management is a critical element that must be included to sustain improvements. Recognizing the needs and ideas of the people who are part of the process – and who are charged with implementing and sustaining a new solution – is critical in building acceptance and accountability for change. A technical solution without acceptance of the proposed changes will not succeed. Building a strategy for acceptance and accountability of a change initiative increases the opportunity for success and sustainability of improvements.

"Facilitating Change," the change management model developed by The Joint Commission, contains 4 key elements to consider while working through a change initiative for hand-off communications:
- **Plan the project**
  - At the outset of the project, build a strong foundation for change by assessing the culture for change, defining the change, building a strategy, engaging the right

people, and painting a vision of the future

- **Inspire people**
  - o Solicit support and active involvement in the plan to improve HOCs, obtain buy-in and build accountability for the outcomes
  - o Identify a leader for the HOC initiative, which is critical to the success of the project
  - o Understand all possible sources of resistance
  - o Develop an action plan or strategy to work through any resistance
- **Launch the initiative**
  - o Align operations and ensure the organization has the capacity to change, not just the ability to change
  - o Launch the HOC initiative with a designated champion and a clearly communicated vision by leadership
- **Support the change**
  - o All leaders within the organization must be a visible part of the hand-off communication initiative
  - o Communicate frequently regarding all aspects of the hand-off communication initiative in order to enhance the initiative
  - o Celebrate success as it relates to hand-off communication
  - o Identify resistance to the hand-off communication initiative as soon as it happens

Action plan

- Set effective HOCs as an organizational priority and performance expectation
- Establish an HOC core team with:
  - o A strong sponsor (we strongly encouraged senior leadership for this role)
  - o A nurse leader and a physician leader
  - o A project leader/manager with a relevant background
  - o Other team members, including practicing physicians, nurses, pharmacists, therapists, technicians, and information technology experts
- The team should include a strong sponsor (senior leadership is recommended for this role), physician champion, nursing champion, and project leader:
  - o The project leader will facilitate meetings and help gain buy-in from stakeholders
  - o We recommend that the project leader has operational understanding of the project's areas
- Identify and consider the project stakeholders, such as with a stakeholder analysis, to help your HOC team identify roles or people who are key to the success of your project
- Define effective HOCs and the roles of the sender and receiver for every HOC
- Measure the effectiveness of current HOC processes:
  - o Define failure condition for HOCs
  - o Review the analysis of the collected data to identify the top contributing factors
  - o Share the baseline data results within your institution, such as posting the data in staff areas and scheduling meetings with all staff to review the data, find ways to improve, and perform training as needed

- Implement solutions targeting the top contributing factors identified at your organization:
  - o Describe each solution with actions to implement
  - o Identify who will lead each action
  - o Examples of specific contributing factors and targeted solutions:
    Contributing factor: Receiver unable to focus
    Solution: Create environment for successful hand-off communications
    Contributing factor: Unable to contact receiver
    Solution: Formalize how to establish contact
- Measure progress and the effectiveness of change:
  - o Measure progress and effectiveness by using the same data collection and analysis tools utilized to calculate baseline performance
  - o Share the results of the project
- Implement a plan with the process owner to ensure that process and gains are sustainable. See applicable Joint Commission standards in **Appendix B**.

Technology plan

These suggested practices and technologies have shown proven benefit or, in some cases, are the only known technologies for certain tasks. If you know of other options not listed here, please complete the form for the PSMF Technology Vetting Workgroup to consider: **https:// patientsafetymovement.org/actionable-solutions/apss-workgroups/technology-vetting/**

The technologies you use should focus on ensuring that, at the point of hand-off, the sender communicates all data critical to the care of the patient and the receiver applies them in real-time. This ensures that the teams carry out the required care in an accurate and timely manner.

Consider implementing the following technologies:

System or practice	Available technologies
ONC Meaningful Use Certified EHR system Electronic Health Record (EHR) System with the following capabilities: Computerized Physician Order Entry (CPOE) Drug-drug interaction check Drug-allergy interaction check Clinical Decision Support tools (CDS) Workflow customization Incorporation of hand-off checklists	
Support the efficient utilization and data capture of the checklist methods	CareInSync Carebook iPatient SignOut by Fluent Medical
Support clinician communication	Vocera Hand-Off Communications Vocera Care Transitions Doctella*

Support the ability for clinicians to detail specific information regarding emergent or new-onset conditions that may have happened during the previous shift or in the previous care environment	
Use a reliable IT platform that minimizes dependence on staff expertise	
Encourage patient and family engagement with communication	PatientAider

*Company has signed some form of the Open Data Pledge. More information can be found on the Patient Safety Movement Foundation website: **https://patientsafetymovement.org/partners/open-data-pledges/view-all-open-data-pledges/**

Conflicts of interest disclosure

The Patient Safety Movement Foundation partners with as many stakeholders as possible to focus on how to address patient safety challenges. The recommendations in the APSS are developed by workgroups that may include patient safety experts, healthcare technology professionals, hospital leaders, patient advocates, and medical technology industry volunteers. Some of the APSSs recommend technologies that are offered by companies involved in the Patient Safety Movement Foundation. The workgroups have concluded, based on available evidence, that these technologies work to address APSS patient safety issues. Workgroup members are required to disclose any potential conflicts of interest.

Workgroup

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References

Alder, K., Bloink, J. (2013). Transitional Care Management Services: New Codes, New Requirements. *Family Practice Management, 20*(3), 12-17.

Bloink, J. and Adler, K. G. (2013). Transitional Care Management Services: New Codes, New Requirements. *Family Practice Management, 20*(3), 12–17.

The Joint Commission. (2013). Sentinel Events (SE). Retrieved from https://www.jointcommission.org/assets/1/6/CAMH_2012_Update2_24_SE.pdf

Schick, L. & Windle, P. (2016). Discharge Criteria, Education and Postprocedure Care. PeriAnesthesia Nursing Core Curriculum. 1281-1282.

Sorra, J. and Nieva, V. F. (2004). *Hospital Survey on Patient Safety Culture*. Agency for Healthcare Research and Quality.

Starmer, A. J., Spector, N. D., Srivastava, R., West, D. C., Rosenbluth, G., Allen, A. D., … Landrigan, C. P. (2014). Changes in Medical Errors after Implementation of a Handoff Program. *New England Journal of Medicine, 371*(19), 1803–1812. doi:10.1056/nejmsa1405556.

Tews, M. C., Liu, J. M. and Treat, R. (2012). Situation-background-assessment-recommendation (SBAR) and Emergency Medicine Residents' Learning of Case Presentation Skills. *Journal of Graduate Medical Education, 4*(3), 370–373.

Appendix A: Hand-off communications (HOC) checklists

The Checklist Solution

The most common failures of HOCs are that the sender omits vital data from their presentation, or the receiver fails to understand or record it. This has been a very common source of errors in aviation, and their approach is to use a system of checklists for each major task, such as preflight, takeoff, emergency management, and landing.

The checklist is not a fixed recipe for flying the airplane – it is not intended to prevent creative problem solving. Its purpose is to prevent an overloaded and stressed flight crew from forgetting things. The same logic applies to the use of checklists in the field of medicine. This has been recognized by Dr. Atul Gawande, among others, in his creation of a "Checklist Manifesto" for use by surgeons in the operating room (reference: "The Checklist Manifesto").

Three issues that make checklists mandatory in aviation are: (1) workload stress, (2) distractors, and (3) increased levels of complexity. These 3 problems are abundant in the clinical settings in which handoff communications must happen. For example:

- **Workload stress**
  - o Patient is very ill and may even be an emergency situation
  - o Fatigue is very common: "I was up all night on-call"
  - o Multiple priorities: "This is not my only patient!"
- **Distractors**
  - o Noise and hallway traffic during rounds
  - o Pagers going off during hand-off communication
  - o Emergency arises on a different patient
- **Increased level of complexity**
  - o Electronic Medical Record (EMR) requirements
  - o Compliance documentation
  - o More complex monitors and other devices

All of these factors have increased significantly in recent years, making the use of checklists obligatory in clinical medicine today. HOC is a key application for medical checklists, because the most common errors in HOC are omissions of vital facts or data.

Items to include in every checklist

While each checklist will be different, there are a few elements that you should include in all HOC checklists to ensure best patient care. These elements include, but are not limited to:

- The reason the patient is in the hospital
- All medical problems for the patient, even if not relevant to this admission
- Patient treatment and physical history, including relevant parts of review of systems
- Results from labs and other tests
- A patient's medications and treatments – both current and planned
- I and O's (patient Intake and Output, such as catheters or blood draws)
- Hospital course, progress, and/or complications

- The discharge plan for the patient or final hand-off
- Recommendations: "Here is what I [the caregiver] think and suggest"

List of identified HOCs

We identified 18 different interactions that have some form of HOCs and listed them below. Each of these will require its own specific checklist. Your institution may have fewer or a greater number of HOCs. For each HOC, your institution should have a checklist that includes guidelines for both the **sender** and **receiver**.

This appendix include an example checklist for lists below that are marked with an *.

From emergency department to:
1. Hospital ward team
2. Operating room*
3. Anesthesiology team
4. Surgery team*
5. Critical care unit*
6. Testing unit (radiology, etc.)

From hospital unit (ward or ICU) to:
7. Operating room
8. Outpatient clinic*
9. Long-term care unit
10. Testing unit (radiology, etc.)
11. Home (discharge instructions) *
12. Within same unit:
    Shift changes*
    Medications management during transitions*

From operating room to:
13. Post-anesthesia care unit (PACU)
14. Hospital unit (ward or ICU)*
15. Home (ambulance or surgery)*

From paramedics to:
16. Emergency department*
17. Hospital unit (ward, ICU)
18. Long-term care unit

Emergency department to operating room checklist

Chief complaints
- ☐ Why is patient coming to OR?
- ☐ What made it an emergency?
- ☐ If a chronic disease, what are its history, treatments, complications, prognosis?

Surgical plan
- ☐ Exactly what surgery will happen?
- ☐ Major known surgical risks?

Special anesthesia needs
- ☐ Patient position, paralysis, or lack thereof, anticipated blood loss, etc.

Cervical spine status
- ☐ "Cleared"? If so, how?
- ☐ History of neck disease or injury?

Other acute disease or injury
- ☐ Other known acute disease, other than the reason for emergency surgery?
- ☐ If trauma, other injuries not related to surgery?

Medical/surgical history
- ☐ To extent known, and as time allows. Review of systems if available.

Physical exam findings: Positive findings only. Include ABC's
- ☐ Airway: Patent? Assistance required?
- ☐ Breathing: Status of ventilation and oxygenation
- ☐ Circulation: Vital signs, including BP and other findings re circulation

Blood loss & fluid status
- ☐ Estimated blood loss from current injury or disease
- ☐ IV fluids given: type, amount route
- ☐ Other I and O: recent oral intake, urine output, vomiting, drainage

Patient lines & access
- ☐ All intravenous lines – size and location.
- ☐ All other patient cannulas, including central line, chest tube, Foley catheter, arterial etc.

Labs and studies
- ☐ Current lab results and relevant older lab results
- ☐ Results of X-rays, CT, MRI, other studies

Drugs
- ☐ Analgesia given by any route, past 24 h. Opiates?
- ☐ All other meds usually taken by patient
- ☐ Any other meds given since current problem began. Dose, frequency, response?

Special instructions or findings
- ☐ Anything unusual or remarkable, not covered by above?
- ☐ Any special instructions or restrictions? (For example: patient refuses blood products for religious reasons)

Hospital unit to home (discharge) checklist (Bloink, 2013)

Initial transitional care contact
- ☐ Patient name
- ☐ Date of contact

Sources of information
- ☐ Patient, family member, or caregiver
- ☐ Hospital discharge summary
- ☐ Hospital fax
- ☐ List of recent hospitalizations or ED visits
- ☐ Other
  - ☐ Discharged from (location)
  - ☐ Discharged on (date)
  - ☐ Diagnosis/problem:
  - ☐ Medication changes (yes/no)
- ☐ Medication list updated (yes/no)
- ☐ Needs referral (yes/no)
- ☐ Needs lab (yes/no)
- ☐ Needs follow-up appointment
- ☐ Within seven days (highly complex visit)
- ☐ Within 14 days of discharge (moderately complex visit)
- ☐ Appointment made for (date)
- ☐ Appointment with (physician name)
- ☐ Additional information needed and requested (yes/no)
- ☐ Face-to-Face transitional care visit documentation (for use in plan section of visit note)

Medication reconciliation
- ☐ Medication list updated
- ☐ New medication list given to patient

Referrals
- ☐ None needed
- ☐ Referrals made

Community resources identified for patient/family
- ☐ None needed
- ☐ Home health agency
- ☐ Assisted living
- ☐ Hospice
- ☐ Support group
- ☐ Education program

Durable medical equipment ordered
- ☐ None needed
- ☐ DME ordered

Additional communication delivered or planned
- ☐ Family/caregiver
- ☐ Specialists
- ☐ Other

Patient education
- ☐ Topics discussed
- ☐ Handouts given
- ☐ Date initial transitional care contact was made

SBAR Shift change checklist

The following technique called the Situation, Background, Assessment and Recommendation (SBAR) is the industry's best practice for standardized communication between caregivers (Schick and Windle, 2016). The SBAR technique was developed by the United States Navy for use on nuclear submarines. SBAR was introduced into healthcare in the late 1990's. It is recognized as a simple and effective way to standardize communication between caregivers in hospitals across the world.

S (Situation)
- ☐ Reason for admission
- ☐ Contact information
- ☐ Allergies
- ☐ Current attending/resident

B (Background)
- ☐ Status of advanced directives/code status
- ☐ Pertinent medical history
- ☐ Labs: abnormals this shift and pending or to do next shift
- ☐ Tests/Procedures: current shift and expected for next shift
- ☐ Current Problems: medical and nursing

A (Assessment)
- ☐ VS/pain past 24 hours/shift
- ☐ Neuro
- ☐ CV
- ☐ Respiratory
- ☐ GI/GU (include I and O)
- ☐ Skin
- ☐ Mobility
- ☐ Patient safety issues: current and anticipated
- ☐ Medication concerns and updates

R (Recommendation)
- ☐ Pending/anticipated tests and procedures
- ☐ Other concerns
- ☐ Current and anticipated family issues
- ☐ Status of current shift goals/problems
- ☐ Anticipated Goals/problems for next shift
- ☐ Other TO Dos/Do you have any questions?
- ☐ Patient/Nurse introduction
- ☐ Joint review of lines/drips, neuro check, etc.

Operating room to hospital unit checklist

Team
- ☐ Patient Name, sex & MRN
- ☐ Attending anesthesiologist
- ☐ Anesthesia resident/Fellow/CRNA
- ☐ Surgeon

Pre-op
- ☐ Age
- ☐ ASA
- ☐ Weight
- ☐ Height
- ☐ Guardianship
- ☐ Surrogate
- ☐ Advance directives
- ☐ DNR status
- ☐ Allergies
- Pre-op vital signs:
  - ☐ BP
  - ☐ HR
  - ☐ SpO2
  - ☐ Temp
  - ☐ RR
- ☐ Current medications
- ☐ Past medical history
- ☐ Past surgical history
- ☐ Past anesthesia history
- ☐ Pertinent pre-op labs and studies
- ☐ Pre-op mental status and primary language
- ☐ NPO status
- ☐ Blood/bloodless status

Intra-op events
- ☐ Surgical procedure performed
- ☐ Anesthetic technique & airway management
- IV sites:
  - ☐ Fluid
  - ☐ Location
  - ☐ Difficult access
- Fluid status:
  - ☐ Intake
  - ☐ Output
  - ☐ EBL
  - ☐ Blood products
- ☐ Medications given (including antibiotics)
- ☐ Complications / interventions

Post-op
- ☐ Surgical procedure performed
- ☐ Anesthetic technique & airway management
- Post-op vital signs:
  - ☐ BP
  - ☐ HR
  - ☐ SpO2
  - ☐ Temp
  - ☐ RR
- Assessment:
  - ☐ Respiratory
  - ☐ CV
  - ☐ Neuro
  - ☐ GU
  - ☐ Skin
- ☐ Post-op pain management plan
- ☐ Recent labs
- ☐ Pending labs
- ☐ Medications
- ☐ Special instructions & concerns
- ☐ Questions from receiving provider

Operating room to home checklist (Bloink, 2013)

- ☐ Responsible adult to stay with patient for 24 hours
- ☐ Patient understands they may not drive or make major decisions for 24 hours
- ☐ Patient understands precautions after anesthesia:
    - ☐ Drowsiness, impaired judgment and slower reaction time, sore throat, muscle aches
    - ☐ Sensory block understanding:
        - ☐ May not be able to feel sharp pain, hot or cold at the involved site
        - ☐ Understanding to begin pain medication before block wears off
- ☐ Instruct patient on expected activity levels:
    - ☐ Rest the remainder of the day
    - ☐ Move slowly when changing positions (dizziness is normal)
    - ☐ Gradually do a little more each day
    - ☐ Follow the surgeon's instructions for return to normal activities
    - ☐ For best outcomes:
        - ☐ It is important to walk often, change positions and move legs if resting in a lying or sitting position
        - ☐ Take 10 deep breaths and cough every hour or two while awake
        - ☐ Remember to hold a small pillow or towel over your incision while doing your deep breathing and coughing exercises
- ☐ Review medications:
    - ☐ Medications will be reviewed and when to resume and take them
    - ☐ Follow directions on the label
    - ☐ Pain medication should be taken before the pain is severe during the first 2–3 days after surgery:
        - ☐ Medications like Percocet and Vicodin contain acetaminophen (Tylenol), so do not take plain Tylenol when using these medications
    - ☐ Pain medication can cause constipation and nausea:
        - ☐ Remember to follow instructions for taking a laxative, if needed
        - ☐ Use a post-op nausea information sheet with suggestions for treating these side effects
- ☐ Review diet and elimination:
    - ☐ Progress to regular diet as tolerated
    - ☐ Begin with comfort foods such as soup, crackers, jello, juices
    - ☐ Stay away from food that may increase the chance of nausea and vomiting, such as spicy or greasy foods
    - ☐ If you have trouble voiding (burning or urgency while peeing), call your surgeon
    - ☐ If you are unable to urinate when you get home, have someone bring you to the emergency room
    - ☐ No alcoholic beverages, marijuana, or other drugs for 24 hours or while taking pain medications
- ☐ Importance of handwashing to prevent infection:
    - ☐ Keep dressing dry and protect dressing, incisions, and casts

- ☐ When you can take a shower or bath, depending on the procedure
- ☐ Review special equipment (if applicable, based on the procedure):
  - ☐ Incision care and when to remove dressing
  - ☐ Drain instructions
  - ☐ Foley care instruction
  - ☐ Crutch walking
  - ☐ Incentive spirometer
- ☐ Instruct patient when it's appropriate to call their surgeon:
  - ☐ Pain is not relieved with the pain medication
  - ☐ Bleeding
  - ☐ Fever over 101°F
  - ☐ Continuous nausea and unable to keep fluids down
  - ☐ Redness and swelling around the surgical wound or drainage that changes to yellow or green
  - ☐ Intravenous site with signs of redness or drainage
  - ☐ If unable to get physician come to the emergency department
- ☐ Instruct patient to call 911 if they have breathing problems or chest pain

Hospital unit to outside care unit checklist

Chief complaint
- ☐ Why was patient admitted to hospital?
- ☐ If the result of a chronic disease, what are its history, treatments, complications, prognosis?

Hospital course
- ☐ Duration of stay in each hospital unit
- ☐ Therapeutic procedures done: indications and results
- ☐ Medications while in hospital. Effectiveness? Complications?
- ☐ General condition at discharge

Diet
- ☐ Current diet as well as any restrictions and preferences

Allergies
- ☐ To medications as well as anything else. Include specific type of reaction (skin, pulmonary, anaphylaxis, etc.), severity, type of exposure for trigger (enteric, topical, inhaled).

Activity
- ☐ Amount, type, frequency of exercise
- ☐ Activity restrictions?
- ☐ Bathroom privileges

Hygiene
- ☐ Bathing and any other: frequency and assistance/supervision required

Mental status
- ☐ Ability to communicate and understand instructions, such as other language. Sleep habits.

Other known diseases or injuries
- ☐ All diseases requiring continuing treatment or precautions
- ☐ Current status of each: chronic, recurrent, cured?

Hospital/surgical history
- ☐ Hospitalizations: reasons, treatments, outcomes
- ☐ Surgeries: procedures, dates, indications, outcomes

Physical exam findings
- ☐ Positive findings only

I's & O's (Intakes and Outputs)
- ☐ Patient lines and access: intravenous lines – size and location. All other patient cannulas, including any drains, Foley catheter.
- ☐ Daily intake/output of each site, including oral, wound drainage, etc.

Labs and studies
- ☐ Current lab results, note all abnormal values
- ☐ Relevant older lab results
- ☐ Results of recent X-rays, CT, MRI, other studies

Drugs
- ☐ Daily analgesia required? Opiates?
    - ☐ If so, how is respiration being monitored?
- ☐ All other meds taken by patient: dose, route (oral or other?), frequency
- ☐ Any other meds given since current problem began. Dose, frequency, response?

Social
- ☐ Family and/or friends contact information and visiting needs

Special instructions or findings
- ☐ Anything unusual or remarkable, not covered by above?
- ☐ Any special instructions or restrictions?

Emergency department to surgery checklist

The following technique called the Situation, Background, Assessment and Recommendation (SBAR) is the industry's best practice for standardized communication between caregivers (Schick and Windle, 2016). The SBAR technique was developed by the United States Navy for use on nuclear submarines. SBAR was introduced into healthcare in the late 1990's. It is recognized as a simple and effective way to standardize communication between caregivers in hospitals across the world.

S (Situation)
- ☐ Introduction of person- name, age, and baseline physiology
- ☐ Chief complaint on arrival
- ☐ Advanced Directives
- ☐ Allergies
- ☐ Admitting diagnosis and provider

B (Background)
- ☐ Past medical history – chronic and relevant acute conditions, home medications
- ☐ Diagnostics – abnormal and relevant lab and imaging information
- ☐ Diagnostics awaiting results
- ☐ Current condition/problems: self-management goal, medical and nursing

A (Assessment)
- ☐ Current status – any change from presenting condition
- ☐ Neurological status
- ☐ Vital signs
- ☐ Assessment of condition related to admitting diagnosis
- ☐ Any abnormal findings (skin, wound)
- ☐ Health literacy initiation

R (Recommendation)
- ☐ Interventions needed within next 2 hours
- ☐ Current and anticipated person and family concerns and needs
- ☐ Review of problems and plan of care
- ☐ Review of self-management goal
- ☐ My-story

Face-to-face
- ☐ Person, family, RN actively participate in transitions to Med/Surg location

Emergency department to critical care unit checklist

Illness severity
- ☐ Unstable/Watch/Stable/Discharging (structured)

Findings
- ☐ Chief complaint
- ☐ Vitals:
    - ☐ HR (beats/min)
    - ☐ BP (sys/Dis; mL Mercury)
    - ☐ PulseOx (O2Sat)
    - ☐ Temperature (C/F)
    - ☐ Respiratory rate (breaths/min)
    - ☐ Current pain threshold (Universal Pain Scale, 1-10)
- ☐ Pertinent findings:
    - ☐ Is systolic BP <110?
    - ☐ RALES or evidence of CHF
    - ☐ Any evidence ischemia on electrocardiogram (ECG/EKG)?
    - ☐ Significant toxin of infectious agent exposure
    - ☐ MDRO to consider
- ☐ What did you find?
- ☐ Key results?
- ☐ Pending results and timing?

Action list
- • What diagnoses, confirmed or in the differential, need follow-up investigations in the next 12 hours?
- ☐ List out appropriate action items:
    - ☐ Has a radiologist reviewed all neuroimaging as correct?
    - ☐ Are there any services this patient may need in the next 48 hours that are both life-threatening and cannot be arranged quickly for inpatients?
    - ☐ What procedures need to be done in the next 48 hours to care for this patient?
    - ☐ Additional action items (list out)

Situational awareness/contingency planning
- • Has there been, or could there be, any hemodynamics instability (pulse <55 or >110, MAP<70, SBP>150)?
    - ☐ If so, what is the plan to manage this?
- ☐ What cardioactive substances were administered in the ED?
    - ☐ What is the continuation plan for each of them?
- ☐ In what way could this patient's condition get worse in the next 48 hours? (not yet present)
- ☐ What IV's, central lines, other access ports and indwelling devices (foley, implants) has this patient had in the last 2 weeks?

Synthesis (Teach-back)
- ☐ Teach-back

Paramedics to emergency department checklist

- [ ] Is patient awake and alert now?
  - [ ] Was there any loss of consciousness?
- [ ] Presumed diagnosis? (very short version – less than 50 words)
- [ ] Establish A-B-C-D (Airway – Breathing – Circulation – Drugs)

  A = Airway
  - [ ] Is the airway open and patent, or obstructed?

  B = Breathing
  - [ ] Is patient breathing?
  - [ ] Breath sounds heard in both lungs?

  C = Circulation
  - [ ] Blood pressure; Peripheral pulses; Skin color; Mental status
  - [ ] End-tidal CO2 if intubated

  D = Drugs
  - [ ] What drugs given by paramedics?
  - [ ] What recreational drugs has patient taken? What medications is patient taking?
- [ ] Patient history:
  - [ ] Chief complaint:
    - [ ] Why is the patient in an ambulance?
    - [ ] What led to a 911 call?
  - [ ] What is the history of this illness?
    - [ ] Details of diagnosis
    - [ ] Differential diagnosis
  - [ ] What other illnesses or medical problems in past?
- [ ] Physical exam:
  - [ ] Abnormal findings on general exam?
  - [ ] Specific findings related to present illness
- [ ] Discuss treatment plan with patient (have a 2-way discussion!):
  - [ ] What treatments and interventions have been done? (include IV catheters)
  - [ ] What immediate treatments are needed?
    - [ ] Risks/benefits?
  - [ ] What additional diagnostics or studies needed?
  - [ ] Family members or others who should be contacted for information and consent?
  - [ ] Known patient preferences or restrictions (e.g., living will, DNR)?

Medication management during transitions of care checklist

This checklist was created to set up the process of medication management during transitions of care. Once your institution imbeds it in their workflow, it is not necessary to use as a traditional checklist. While this list focuses on aspects important for hospital discharge, your organization should apply the principles of medication reconciliation in this list during all hand-offs. Roles may vary by institution, but it is important to clearly define the roles for who takes ownership of these activities.

Ensure medication reconciliation is completed in EHR by physician
- [ ] Reconciliation of full medication list including prior to admission, as an inpatient, and at discharge
  - [ ] Evaluate for appropriate indication, dosing, frequency, and route
  - [ ] Identify and resolve errors of omission, duplication, drug interactions, and incorrect dosing
  - [ ] Update medications based on changes to patient health status and appropriate labs
- [ ] Prescriptions ordered to preferred pharmacy

Ensure collaboration between pharmacist, nursing, and care management
- [ ] Screen for and identify high risk patients requiring medication review and education
- [ ] Plan for discharge:
  - [ ] Identify time and date of discharge
  - [ ] Coordinate with co-learners if indicated
  - [ ] Identify and address barriers to medication use

Ensure patient can access medications
- [ ] Identify financial barriers
  - [ ] Resolve prior authorizations
  - [ ] Switch to cheaper alternatives when available
  - [ ] Coordinate social work and care management if patient doesn't have insurance
- [ ] Identify and resolve barriers to medication access
  - [ ] Ensure stock of medication
  - [ ] Coordinate compounding when indicated
  - [ ] Comply with prescribing requirements (REMS)
  - [ ] Arrange transportation or medication delivery to bedside when indicated
  - [ ] Order appropriate medical equipment
- [ ] Provide patient education about medications
  - [ ] Address language barriers, such as using interpreter, patient educational resources
  - [ ] Coordinate with caregiver and co-learner
  - [ ] Reinforce teaching around high-risk medications and educational deficits
  - [ ] Use "Teach-back" method

Ensure follow-up and monitoring
- [ ] Schedule appropriate follow up visits
- [ ] Schedule labs and monitoring
- [ ] Coordinate home health care when indicated

I-PASS hand-off checklist and components

I	Illness severity	• Stable, "watcher," unstable
P	**Patient summary**	• Summary statement • Events leading up to admission • Hospital course • Ongoing assessment • Plan
A	**Action list**	• To do list • Timeline and ownership
S	**Situation awareness and contingency planning**	• Know what's going on • Plan for what might happen
S	**Synthesis by receiver**	• Receiver summarizes what was heard • Asks questions • Restates key action/to do items

Appendix B: Joint commission standards

Following the rationale described in the "Leadership Plan" section above, this HOC APSS:

- Incorporates the applicable "Standards" and their included "Elements of Performance" from The Joint Commission's documented hospital accreditation standards (cited above) as its Action Plan foundation

- Does not originate HOC mistake mitigation Practice Plan standards and practices in addition to, and potentially inconsistent with, those stipulated by The Joint Commission

In fact, the standards that apply to patient safety are specified by the Commission and are listed in the current edition of the Commission's hospital accreditation manual, in an appendix to the Patient Safety Systems chapter (The Joint Commission. "Appendix K. Key Patient Safety Requirements," Comprehensive Accreditation Manual for Hospitals, 2017 (Joint Commission Resources, Oak Brook Terrace, IL, USA, 2012), pp. PS-23 - PS-50 (**http://bit.ly/2eNCrLK**)).

We list the Joint Commission's standard statements below, grouped by critical HOC elements. Note that some standards apply to multiple HOC elements.

Standards that apply to timely detection of the potentially problematic clinical events:

IC.01.03.01	The hospital identifies risks for acquiring and transmitting infections
LD.03.02.01	The hospital uses data and information to guide decisions and to understand variation in the performance of processes supporting safety and quality
EC.04.01.01	The hospital collects information to monitor conditions in the environment
LD.03.03.01	Leaders use hospital-wide planning to establish structures and processes that focus on safety and quality
MM.07.01.03	The hospital responds to actual or potential adverse drug events, significant adverse drug reactions, and medication errors
MS.08.01.01	The organized medical staff defines the circumstances requiring monitoring and evaluation of a practitioner's professional performance
PI.01.01.01	The hospital collects data to monitor its performance
PI.02.01.01	The hospital compiles and analyzes data
PI.03.01.01	The hospital improves performance on an ongoing basis

Standards that apply to the prompt execution of the appropriate corrective action(s):

APR.09.02.01	Any individual who provides care, treatment, and services can report concerns about safety or the quality of care to The Joint Commission without retaliatory action from the hospital
LD.02.04.01	The hospital manages conflict between leadership groups to protect the quality and safety of care
LD.03.04.01	The hospital communicates information related to safety and quality to those who need it, including staff, licensed independent practitioners, patients, families, and external interested parties
LD.03.06.01	Those who work in the hospital are focused on improving safety and quality
LD.04.04.05	The hospital has an organization-wide, integrated patient safety program within its performance improvement activities
MM.08.01.01	The hospital evaluates the effectiveness of its medication management system

MS.09.01.01   The organized medical staff, pursuant to the medical staff bylaws, evaluates and acts on reported concerns regarding a privileged practitioner's clinical practice and/or competence

NR.02.01.01   The nurse executive directs the hospital's nursing services

Standards that apply to comprehensive enforcement of administrative and clinical process standards and practices:

APR.09.01.01   The hospital notifies the public it serves about how to contact its hospital management and The Joint Commission to report concerns about patient safety and quality of care

LD.02.01.01   The mission, vision, and goals of the hospital support the safety and quality of care, treatment, and services

LD.03.01.01   Leaders create and maintain a culture of safety and quality throughout the hospital

LD.03.05.01   Leaders implement changes in existing processes to improve the performance of the hospital

LD.04.01.01   The hospital complies with law and regulation

LD.04.01.05   The hospital effectively manages its programs, services, sites, or departments

LD.04.04.01   Leaders establish priorities for performance improvement (refer to the "Performance Improvement" [PI] chapter)

LD.04.04.05   The hospital has an organization-wide, integrated patient safety program within its performance improvement activities

PI.01.01.01   The hospital collects data to monitor its performance

RI.01.01.01   The hospital respects, protects, and promotes patient rights

RI.01.01.03   The hospital respects the patient's right to receive information in a manner he or she understands

RI.01.02.01   The hospital respects the patient's right to participate in decisions about his or her care, treatment, and services

RI.01.03.01   The hospital honors the patient's right to give or withhold informed consent

RI.01.05.01   The hospital addresses patient decisions about care, treatment, and services received at the end of life

RI.02.01.01   The hospital informs the patient about his or her responsibilities related to his or her care, treatment, and services

The remainder of this section details an HOC mistake mitigation practice plan with these characteristics:

- Addresses the 3 HoC mistake mitigation requirements: completeness, accuracy, and timeliness
- Incorporates by reference and is compatible with the applicable Patient Safety System (PS) Standards of The Joint Commission cited above in this section
- Includes activities to buy or to build an IT solution that adhere to generally accepted management standards for IT solution development and management:
  o Modeled on content published by Online Resource Center, Villanova University. "The Processes of Project Management," Project Management, Copyright 2017, viewed July 26, 2017 (http://bit.ly/2w1c6xe)

- Includes optional but strongly recommended activities for conducting an APSS HOC project in the context of comparative effectiveness research (CER) [Agency for Healthcare Research & Quality, USA DHHS, "What is the [Comparative Effectiveness] Research Process?," viewed 7/29/2017 (http://bit.ly/2uI5LJv)], in order to substantiate the expected positive transformation from HoC per current standards of care, assumed to be best practice, to IT-enabled HOC accomplished per the guidance in this HOC APSS