

# Actionable Patient Safety Solutions™ (APSS™): Hand-Off Communication

## How to use this guide

This APSS provides evidence-based resources and recommendations for hand-off communication for executives, leaders, clinicians, and performance improvement specialists. This document is intended to be used as a guide for healthcare organizations to examine their own workflows, identify practice gaps, and implement improvements. In it, you will find:

**Best Practice Summary:** A high level summary of evidence-based, clinical best practices. (page 2)

**Executive Summary:** Executives should understand the breadth of the problem and its clinical and financial implications. (page 2)

**Leadership Checklist:** This section is for senior leaders to understand common patient safety problems and their implications related to hand-off communication. Most preventable medical harm occurs due to system defects rather than individual mistakes. Leaders can use this checklist to assess whether best practices are being followed and whether action is needed in their organization around hand-off communication. (page 3)

**Clinical Workflow:** This section includes more specific information around hand-off communication across the continuum of care. Leaders should include the people doing the work in improving the work. This section outlines what should be happening on the frontline. Clinicians can use this section to inform leaders whether there are gaps and variations in current processes. This is presented as an infographic that can be used for display in a clinical area. (page 4)

**Education for Patients and Family Members:** This section outlines what frontline healthcare professionals should be teaching patients and family members about how hand-off communication undermines the most robust clinician recommendations. Clinicians can inform leaders whether there are gaps and variations in current educational processes. (page 7)

**Performance Improvement Plan:** If it has been determined that there are gaps in current processes, this section can be used by organizational teams to guide them through an improvement project. (page 7)

**What We Know about Hand-Off Communication:** This section provides additional detailed information about hand-off communication. (page 10)

**Resources:** This section includes helpful links to free resources from other groups working to improve patient safety. (page 13)

**Endnotes:** This section includes the conflict of interest statement, workgroup member list, and references. (page 14)

**Appendix:** See here for example checklists for some of the most common hand-offs in healthcare. (page 16)

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# Best Practice Summary

- Use the organization's standard method of communication in all interactions, especially hand-offs.
- Identify a quiet place for hand-offs and minimize distractions as much as possible.
- Involve patients and family members in hand-offs, as possible.
- Use communication tools, like checklists, to minimize the likelihood that key information is not discussed.
- Actively participate in hand-offs as both the sender and receiver.
- Leave room for the receiver to repeat back the information from the sender and ask questions.
- Reference a written tool during the hand-off when possible.
- Organize the information in the hand-off in a logical way.
- Include contingency planning statements in the hand-off based on the patient's condition.
- Ask the sender of information to pause or speak slower if needed.

## Executive Summary

### The Problem

Communication is the root cause of most errors because hospitals lack a systematic, universal method to accurately transfer important information ([The Joint Commission, 2017](#)). Adoption of clear and consistent communication strategies, whether using [I-PASS](#), [SBAR](#), or another method, has been shown to reduce ineffective hand-offs by nearly 60% ([Benjamin, Hargrave, & Nether, 2016](#)), reduce readmission rates by almost half ([The Joint Commission](#)), decrease preventable adverse events by 30%, and decrease medical errors by nearly a quarter ([Starmer, et al. 2014](#)). According to a global report by the WHO, nearly twice as many adverse events occur due to breakdowns in the hand-off compared to those linked with inadequate practitioner skills ([WHO, 2007](#)). Our highly complex environment with high distractions necessitates the use of a standard method of communication to ensure information is not compromised in the high risk healthcare environment.

### The Cost

Inadequate hand-offs are often where safety fails first ([Friesen, White, & Byers, 2008](#)). In a decade-long study, poor hand-offs contributed to nearly 80% of adverse events ([Lee, Phan, Dorman, Weaver, & Pronovost, 2016](#)). Nearly 30% of all malpractice claims are due to failures in communication. Over a five year period, inadequate handoffs have contributed to 1,744 deaths and \$1.7 billion in malpractice costs ([The Joint Commission, 2017](#)).

### The Solution

Reduce errors attributable to poor hand-off communication (HOC) across healthcare organizations. This document provides a blueprint that outlines the actionable steps organizations should take to successfully reduce HOC-related errors and summarizes the available evidence-based practice protocols. This document is revised annually and is always available free of charge on our website.

# Leadership Checklist

On a monthly basis, or more frequently if a problem exists, the executive team should review all errors and near misses related to communication breakdowns. Use this checklist as a guide to determine whether current evidence-based guidelines are being followed in your organization:

## Establish a shared expectation for communication across the system.

- Initiate a PI (performance improvement) project. Routinely reassess to identify gaps, and ensure integrity of the data collected.
- Ensure there is a written, readily-accessible policy outlining the organizationally-standardized approach to communication for every interaction for your organization.
- Involve representatives from facilities across the healthcare system to optimize care coordination through shared expectation of communication. See an example in [Appendix A: SBAR Discharge Summary](#) and see the [Care Coordination APSS](#) for more information.
- Optimize settings for adequate hand-offs (e.g., free from distraction, organizing shift structure to ensure clinicians have overlap, etc).
- Identify high risk and high stress environments and audit those working in those environments for typical gaps they face in hand-off communication (e.g., paramedics to emergency departments).

## Consistently reinforce communication method to those on the frontline.

- Align all systems, including policies, protocols, EHR interfaces, care coordination forms, educational modules, [clinical workflows](#), etc to reinforce the method of communication in a way that's easy for the end user. See "6Ps of clinical practice" in the [Creating a Foundation for Safe and Reliable Care APSS](#).
- Define essential content for written templates and organize according to organizational method for communication.
- Ensure adequate training and documentation of hand-off communication competencies and skills, especially for those new to the organization.
- Consider ongoing observation, simulation, role playing, and scenario review as behavior change methods for all within the organization to detect and mitigate drift.
- Clearly define at what point the hand-off (and the transfer of accountability) is completed and ensure clarity of this point for those on the frontline.
- Remain vigilant for those on the frontline who are applying the communication method well and recognize their efforts.

Set the example of and support others in providing Just In Time education while making everyone involved feel safe and supported. For example, when working to educate after a poor hand-off, use a similar personal example of a time you as a leader failed in communication and how you fixed it.

## Measure meaningfully and debrief regularly to sustain efforts.

- Measure and report HOC error rates (Adverse safety events attributable to communication failure/total number of adverse safety events). Note trends in areas with low compliance and high error rates. Routinely reassess outcomes.
- Debrief with multidisciplinary clinicians from multiple facilities on a regular basis to solicit team feedback about barriers to sustained compliance. Adjust the plan quickly

and nimbly as needed.

- Eliminate barriers to making rapid changes to documentation templates and order sets.
- Infuse a mindset of continuous improvement in every individual across the facility. For example, when information is miscommunicated, conduct Just In Time education to determine what was miscommunicated and how to fix it.
- Ensure that leaders have a simple process to oversee HOC improvement work while also considering how it aligns with other initiatives across the organization.

## Clinical Workflow

### Unstructured Handoff

The following bullet points illustrate examples of an unstructured hand-off:

- Exchange is not in a quiet space (e.g., interruptions, noise, pagers).
- Sender is not focused on the handoff.
- Sender doesn't have a clear structure for the patient assessment and communication of information .
- Sender lacks a prioritization of critical information (e.g., patient's UTI).
- Sender's action list isn't organized or concise.
- Sender lacks contingency planning (e.g., if/then statements).
- Sender lacks specific details of patient care ( e.g., "a lot of fluids").
- Sender not engaged with questions being asked by receiver, seems irritated by the interruption.
- Receiver's questions are not answered (due to interruption of pager).
- The receiver does not synthesize information.

### Structured Handoff

Here is an example of a structured hand-off with bullet points below to identify its strengths:



- Exchange is in a dedicated space with no distractions (e.g., no beepers, calls, interruptions).
- Both are focused on handoff task.
- Both are referencing a written tool.
- Both maintain a shared expectation for how the interaction will progress and can anticipate what will be discussed next.
- Sender immediately provides illness severity, with priority given to the sickest patient(s).
- Patient assessment is concise, specific, and well-organized.
- Receiver’s questions are welcomed and answered by the sender.
- Sender provides clear contingency planning statements.
- Sender encourages teach back.
- Receiver’s synthesis/repeat back is organized, concise, and accurate.
- Receiver uses body language and nonverbal indications to signal understanding.
- Receiver clarifies ambiguous or unclear information.

The *content* and information that will be communicated between staff members will be different based upon the circumstance, but the method by which that information is communicated will be standardized whenever possible according to the organization’s guidelines. Two examples of standardized formats are I-PASS and SBAR, shown in the following tables.

I-PASS	DESCRIPTION	EXAMPLE
<b>Illness severity (I)</b>	Clearly identify the patient being handed over as either stable, unstable, or someone to be watched/monitored.	Mr. Smith should be monitored closely for signs of respiratory depression because _____.
<b>Patient summary (P)</b>	Provide: <ul style="list-style-type: none"> <li>• A summary statement</li> <li>• An identification statement, including weight, allergies, code status</li> <li>• A description of events leading to current state</li> <li>• The medical/surgical history</li> <li>• A summary of key events by body system</li> <li>• A summary of patient’s social and cultural background</li> </ul>	55 year old male with tobacco abuse. Hypertension managed with amlodipine now with chest pain, working diagnosis of unstable angina. Presents with 1 week of progressive chest pain on exertion, initially relieved with rest but now with diaphoresis and pallor, no relief with rest. Chest Pain: Initial evaluation in ED P72, BP 162/96. Unremarkable physical exam except mild 3/10 chest pain, improved with nitroglycerin. Cardiac markers, labs and EKG normal. Started aspirin and metoprolol. Planned admission to medicine. Native language is Spanish but can communicate moderately in English. Mentioned that he struggled to get to this primary care physician because he “had to walk for a while to get to the station”.
<b>Action list (A)</b>	Provide key action items that need to be accomplished during the next shift. <ul style="list-style-type: none"> <li>• Specify actions to be completed during the shift which are distinct from the broader hospital plan and contingency plans. Include when they should be completed and describe pending results.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-evaluate blood pressure after metoprolol dose.</li> <li>• Monitor chest pain Q1h.</li> <li>• Monitor BP and for headache.</li> <li>• Repeat cardiac markers and EKG in 6 hours if still in ED</li> <li>• Investigate socioeconomic barriers further.</li> </ul>

<b>Situation awareness &amp; contingency planning (S)</b>	<ul style="list-style-type: none"> <li>• Provide the receiver with specific instructions for what might go wrong.</li> <li>• List interventions that have and have not worked.</li> <li>• Ensure accepting team is prepared to anticipate changes in patient status and respond accordingly.</li> <li>• Identify resources and chain of command.</li> <li>• For stable patients, indicate "I don't anticipate that anything will go wrong."</li> <li>• Develop clear contingency plans and structure with 'If, then' statements.</li> <li>• If caring for a patient who cannot receive visitors, consider including whether the patient's family needs to be updated, at what interval, and/or based on what criteria.</li> </ul>	<p>If chest pain worsens, then send stat markers, EKG, give nitroglycerin 0.4mg SL, Morphine 3mg IV, and oxygen 2 liters and call cath team.</p> <p>If stays hypertensive &gt; 140/90 over next 30 minutes, give additional dose of IV metoprolol 5 mg.</p> <p>If investigation into socioeconomic status reveals further barriers to recovery after discharge, provide non-clinical resources as needed and communicate needs to subsequent outpatient providers.</p>
<b>Synthesis by receiver (S)</b>	<p>Receiver: Summarize what was heard, ask questions, restate key action/to-do items. Provide a brief, condensed, and prioritized summary of the most important elements of the handoff.</p> <p>Sender: Do not interrupt receiver as they are summarizing and encourage questions and discussion after the receiver's read back.</p>	<p>Synthesis by receiver</p>

SBAR	DESCRIPTION	EXAMPLE
<b>Situation (S)</b>	<p>A concise statement of the problem</p>	<p>&lt;Name&gt; is a &lt;age&gt; years old &lt;gender&gt;, admitted on &lt;adm date&gt; for &lt;adm diagnosis&gt; and/or &lt;procedure&gt; by Dr. &lt;admitting physician&gt;. &lt;Provider Names&gt; have been consulted/are consulting. Status is currently &lt;stable/serious/critical&gt; and is on day &lt;LOS&gt; of hospital admission.</p>
<b>Background (B)</b>	<p>Recent events and immediate safety risks. Allergies. Pertinent past medical history, past surgical history, home medications. History since admission.</p>	<p>He/she has been admitted to the hospital twice in the last year for &lt;condition&gt;, which resulted in &lt;result&gt;. It has been &lt;days&gt; since the last admission. In the hours leading up to this admission, &lt;events&gt;.</p>
<b>Assessment (A)</b>	<p>Current problems, root causes, and severity. Objective and subjective assessment data. Diagnostic results.</p>	<p>Current plan of care includes &lt;medications&gt;, &lt;procedures&gt;, &lt;therapies&gt;, &lt;treatments&gt;, &lt;fluids&gt;, &lt;diet&gt;, &lt;activity&gt;, &lt;treatments&gt;, &lt;nursing care&gt;.</p>
<b>Recommendation (R)</b>	<p>Ensure that there is an opportunity for the receiver to ask questions.</p>	<p>Based on this assessment, I would &lt;recommendations&gt;. What questions do you have for me?</p>

# Education for Patients and Family Members

Reinforce the expectation that patients and family members are essential in hand-offs.

- Ensure patients and family members understand that they should always be included in the hand-off whenever possible.
- Explain to patients and family members the importance of their involvement in the hand-off, the purpose of a hand-off, and how they can prepare themselves effectively for the hand-off.
- Ensure patients and family members know when the hand-off is happening and coordinate telephone involvement if the family members cannot be present physically.
- When the hand-off is being conducted, watch the nonverbal expressions from patients and family members and pause to inquire with them further if their facial expressions do not indicate alignment with the clinical team member giving the hand-off.
- See [Healthcare Literacy](#) APSS for strategies to effectively communicate with patients and family members to facilitate their participation, empowerment, and understanding

## Performance Improvement Plan

Follow this checklist if the leadership team has determined that a performance improvement project is necessary:

- Gather the right project team.** Be sure to involve the right people on the team. You'll want two teams: an oversight team that is broad in scope, has 10-15 members, and includes the executive sponsor to validate outcomes, remove barriers, and facilitate spread. The actual project team consists of 5-7 representatives who are most impacted by the process. Whether a discipline should be on the advisory team or the project team depends upon the needs of the organization. Patients and family members should be involved in all improvement projects, as there are many ways they can contribute to safer care.

### Complete this Lean Improvement Activity:



Conduct a [SIPOC](#) analysis to understand the current state and scope of the problem. A SIPOC is a lean improvement tool that helps leaders to carefully consider everyone who may be touched by a process, and therefore, should have input on future process design.

### RECOMMENDED HOC IMPROVEMENT TEAM

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Nurses</li><li>• Physicians</li><li>• Pharmacists</li><li>• Clinical educators</li><li>• Respiratory, physical, occupational, and speech therapists</li><li>• Radiologists, technologists, laboratory specialists</li></ul> | <ul style="list-style-type: none"><li>• Admitting and registration staff</li><li>• Quality and safety specialist</li><li>• Performance improvement specialists</li><li>• Information technologists and data analysts</li><li>• Case managers and social workers</li><li>• Representatives from facilities across the system</li><li>• Students</li></ul> |
|---|--|

Table 1: Understanding the necessary disciplines for a HOC project improvement team. It is essential to include individuals from facilities across the system for coordinated communication.

- **Understand what is currently happening and why.** Reviewing objective data and trends is a good place to start to understand the current state, and teams should spend a good amount of time analyzing data (and validating the sources), but the most important action here is to go to the point of care and observe. Even if team members work in the area daily, examining existing processes from every angle is generally an eye-opening experience. The team should ask questions of the frontline during the observations that allow them to understand each step in the process and identify the people, supplies, or other resources needed to improve patient outcomes.

Create a [process map](#) once the workflows are well understood that illustrates each step and the best practice gaps the team has identified (IHI, 2015). Brainstorm with the advisory team to understand why the gaps exist, using whichever [root cause analysis tool](#) your organization is accustomed to (IHI, 2019). Review the map with the advisory team and invite the frontline to validate accuracy.



#### HOC PROCESSES TO CONSIDER ASSESSING

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Information exchanges at the leadership level</li> <li>• Information exchanges across and within departments</li> <li>• Information exchanges between differing levels of hierarchy</li> <li>• Information exchange in high stress, distracting environments</li> <li>• Information display in EHR (e.g., EHR order sets)</li> <li>• Use of teach back in all interactions with both patients and family members and with clinicians</li> <li>• Use of abbreviations</li> <li>• Information accessibility within the EHR (e.g., how many “clicks” does it take to get to the information you need)</li> <li>• Ease of access to EHR prior to transfer/handoff</li> </ul> | <ul style="list-style-type: none"> <li>• Communication (e.g., digital or otherwise) between EHR systems between hospital, community, and family physician services</li> <li>• EHR entries for each patient (e.g., number, reason for new entries, etc)</li> <li>• Use and style of a ‘warm’ hand-off</li> <li>• Use of closed loop communication</li> <li>• Use of templates and material to facilitate communication</li> <li>• Receiver synthesis</li> <li>• Communication with patients and family members. See Healthcare Literacy APSS.</li> <li>• Information exchange upon transfer/discharge. See Care Coordination APSS for more information.</li> <li>• Interactions with just in time education</li> </ul> |
|---|---|

Table 2: Consider assessing these processes to understand where the barriers contributing to gaps in hand-offs may be in your organization

- **Prioritize the gaps to be addressed and develop an action plan.** Consider the cost effectiveness, time, potential outcomes, and realistic possibilities of each gap identified. Determine which are a priority for the organization to focus on. Be sure that the advisory team supports moving forward with the project plan so they can continue to remove barriers. Design an experiment to be trialed in one small area for a short period of time and create an action plan for implementation.

#### The action plan should include the following:

- Assess the ability of the culture to change and adopt appropriate strategies
- Revise policies and procedures
- Redesign forms and electronic record pages
- Clarify patient and family education sources and content
- Create a plan for changing documentation forms and systems
- Develop the communication plan
- Design the education plan
- Clarify how and when people will be held accountable





## TYPICAL GAPS IDENTIFIED IN HOC

- Expectations for communication are not standardized across all within the organization and system.
- Different abbreviations mean different things by discipline/facility.
- There is no way for the sender to know how the receiver interpreted their communication. Documenting information in the EHR is difficult and time consuming.
- There is no incentive to improve communication.
- There is no template for notes or summary reports.
- Environments are too distracting for effective communication.
- Language barriers hinder effective communication.
- Patients are not aware of the information exchanged about them.
- Healthcare workers assume that other healthcare workers are literate in a specialty other than their own just because they are healthcare workers.
- New team members and students do not understand how to communicate in the standardized way.
- Reminders or checklists are perceived as not needed, condescending, and insulting. Information shared is not relevant to the receiver or the circumstance.
- Checklists are used as 'tick' boxes rather than meaningfully.
- Emergent patient needs interrupt communication.
- Some team members feel as though they are not heard when they try to communicate (e.g., EMS personnel).
- Workers do not feel empowered with just in time education strategies when a hand-off is suboptimal.
- Workers do feel attacked or ashamed when being corrected on a hand-off.

*Table 3: By identifying the gaps in HOC compliance, organizations can tailor their project improvement efforts more effectively. Be sure to examine gaps in communication by patient demographic variables, such as socioeconomic status.*

- Evaluate outcomes, celebrate wins, and adjust the plan when necessary.** Measure both process and outcome metrics. Outcome metrics include the rates outlined in the leadership checklist. Process metrics will depend upon the workflow you are trying to improve and are generally expressed in terms of compliance with workflow changes. Compare your outcomes against other related metrics your organization is tracking.

Routinely review all metrics and trends with both the advisory and project teams and discuss what is going well and what is not. Identify barriers to completion of action plans, and adjust the plan if necessary. Once you have the desired outcomes in the trial area, consider spreading to other areas ([IHI, 2006](#)).

It is important to be nimble and move quickly to keep team momentum going, and so that people can see the results of their labor. At the same time, don't move so quickly that you don't consider the larger, organizational ramifications of a change in your plan. Be sure to have a good understanding of the other, similar improvement projects that are taking place so that your efforts are not duplicated or inefficient.

[Read this paper](#) from the Institute for Healthcare Improvement to understand how small local steps



## HAND-OFF COMMUNICATION METRICS TO CONSIDER ASSESSING

- Adverse safety events attributable to communication failure/total adverse safety events
- Process Metrics:
  - Sender and receiver satisfaction, understanding, and confidence with hand-offs
  - Feeling heard/acknowledged as a sender
  - Time spent on interdepartmental transfer with and without structured hand-offs
  - Intention of the sender and receiver to use the checklist versus actualization of checklist use
  - Involvement of patient and family members in hand-offs
  - Amount of time spent on hand-offs
  - Individuals' perception of covering the 'key facts' and confidence in their hand-off performance
  - Clinician work life balance (e.g., ability to leave work at work without thinking about missed information during a hand-off)
  - Presence of distractors (e.g., mental fatigue, noise, alarms, interruptions, etc.)
  - Institutional incentives (e.g., Good Catch award)
  - Use of technologies for virtual hand-offs
  - Patient judgment of written materials (e.g., understandability, appropriate reading level, use of jargon, etc)
  - Use of templated materials and tools for communication
- Total SSEs
- Near misses
- Routine observation audit results
- Readmission rates
- Execution of procedures
- Staff satisfaction
- Overtime

Table 4: Consider evaluating related metrics to better understand the quality of hand-offs.

# What We Know About Hand-off Communication

## Hand-Offs

A hand-off is considered the transfer and acceptance of patient care from one individual or team to another. A hand-off includes “communication between the change of shift, communication between care providers about patient care, handoff, records, and information tools to assist in communication between care providers about patient care” ([Friesen, White, & Byers, 2008](#)).

## Poor Hand-Offs and Complications

It is estimated that some teaching hospitals may conduct 4,000+ hand-offs in one day ([The Joint Commission](#)). Without a consistent and organized structure guiding the exchange of information, there are more risks for error. AHRQ reports that nearly 50% of hospital staff believe patient information is lost during transfers ([Sorra & Nieva, 2004](#)). Some nursing units may “transfer or discharge 40% to 70% of their patients every day”([Friesen, White, & Byers, 2008](#)).

A study released in 2016 estimated that communication failures in U.S. hospitals and medical practices were responsible at least in part for 30 percent of all malpractice claims, resulting in 1,744 deaths and \$1.7 billion in malpractice costs over five years (The Joint Commission, 2017).

## Organizational Implications:

- The Joint Commission has made standardization of hand-offs a National Patient

Safety Goal.

- The World Health Organization has introduced prevention of hand-off errors as one of the top five patient safety solutions ([Arora & Farnan, 2017](#)).
- The Society for Hospital Medicine has elevated hand-offs as a core competency for practitioners in the hospital ([Arora & Farnan, 2017](#)).

### **Criteria to Constitute a Hand-off Error An improper hand-off occurs when the receiver gets information that is ([PSQH, 2017](#)):**

- Inaccurate
- Not timely
- Incomplete
- Misinterpreted
- Impertinent

### **Successful Hand-Offs and Improved Healthcare: an SBAR Case Study**

The SBAR communication tool supports common language among team members ([Shahid & Thomas, 2018](#)). [Townsend-Gervis](#) and colleagues tested the impact of using the SBAR tool in the context of daily interdisciplinary rounds (IDR) to improve patient outcomes such as patient satisfaction, Foley catheter removal, and patient readmission rates in the medical/surgical units of a hospital. This study showed significant improvement in Foley catheter removal, reduction in readmission rates, and improvement in patient satisfaction. This study's results support the value of using SBAR during IDR to improve situational awareness and to maintain focus on relevant clinical issues. A qualitative case study was conducted by [Vardaman](#) and colleagues, to examine the implementation of the SBAR protocol amongst nurses within a certain facility. Three unique and related concepts, schema development, social capital, and dominant logic, were assessed. The authors revealed that SBAR may help nurses in rapid decision making (schema development), provide social capital and legitimacy for less-tenured nurses, and reinforce a move toward standardization in the nursing profession ([Vardaman, Cornell, Gondo, Amis, Townsend-Gervis, & Thetford, 2012](#)).

### **Successful Hand-Offs and Improved Healthcare: The Evidence for I-PASS**

I-PASS is recognized by Joint Commission, IHI and [AHRQ](#) as another effective communication tool for handoff. The I-PASS handoff methodology is a rigorously developed, evidence-based "bundle" of interventions. This bundle has been researched over a 10-year period, resulting in over 50 publications. A landmark [2014 New England Journal of Medicine](#) publication found that implementing I-PASS in 9 hospitals led to a 30% reduction in medical errors that harmed patients.

Implementation of the I-PASS handoff program was associated with a 23% reduction in medical errors and a 30% reduction in preventable adverse events (harms) to patients. Time motion studies demonstrated that residents spent no additional time performing an I-PASS handoff when compared with their baseline handoff techniques. Embedded process metrics showing improved verbal and written handoffs provided evidence that behavior change had in fact occurred. These data support a true comparative advantage of I-PASS over traditional handoff practices and helped elevate the campaign by providing meaningful evidence of improvements in patient outcomes. The I-PASS signout format is considered the [gold standard](#) for effective signout communication between physicians and has also been shown to improve the quality of [nursing handoffs](#). The components of the I-PASS bundle clinically proven to have

the greatest reduction in patient harms are:

- Training programs
- Integration of the standard structure into computerized handoff tool (e-View) within the electronic medical record
- Structured observations of handoffs in the clinical workplace to facilitate quality improvement initiatives
- Faculty and team development
- Culture change campaigns to support adoption and sustainability

## **A Comparison of SBAR versus I-PASS**

I-PASS and SBAR are the primary framework mnemonics used in High Reliability Organizations to improve communication, enhance patient safety and standardize handoffs. I-PASS was developed in hospital settings specifically to advance the safety of patient handoffs and close gaps in communication between clinical teams. SBAR was created as a mode of communication within the U.S. Navy to escalate concerns up the chain of command and was later adopted in hospitals. SBAR has proven to be very useful in healthcare (as in the military) as a tool for escalating concerns.

I-PASS was designed by clinicians to have a structure that works well for handoffs across disciplines and clinical areas. I-PASS has been adapted for use in a multitude of different care settings for various types of healthcare institutions, and it is also used for communications of clinicians with patients and families. SBAR and I-PASS are both useful tools for improving communication, but whereas SBAR is a tool best used for escalating concerns, I-PASS is a tool for handing off patient care, and organizing routine, day-to-day communications in healthcare settings. We will use these tools where appropriate in our handoff checklists.

## **Technology Available for Communication with Patients and Health Workers**

In the digital age, it is imperative to ensure that the technologies introduced in healthcare improve interactions and follow the universal, agreed upon standard of communication for the hospital, whether it's SBAR, IPASS, or another method. Technologies that can integrate into EHR systems and admission, transfer, and discharge processes, can access clinical results and staffing schedules, and can offer features of telehealth, including live chat and video communication, are desirable for interactions between health workers or for conversations with the patient during and after their stay.

Technology can also prove pivotal for in-patient engagement. Simple technologies, such as visual aids and white boards, along with more complex tools, such as iPads, can be used to quickly convey essential information to both the patient and family and to members of the care team, such as care plan information, most recent vital sign information, and hospital information. When verbal, written, and digital information is consistently displayed in the hospital-wide method of communication, it ensures that the sender conveys the information comprehensively and that the receiver anticipates the order of information appropriately.



## Resources

### For Hand-Off Communication Improvement:

- [NHS Description of how to use SBAR along with a template example](#)
- [IHI SBAR Description, Examples, and Blank Template](#)
- [Implementing SBAR Across a Large, Multihospital Health System](#)
- [I- PASS handover system: a decade of evidence demands action](#)
- [Implementing SBAR from AHA](#)
- [Background, Description, and Example of I-PASS from the I-PASS Institute](#)
- [Hand-off Communication Case Example using both SBAR and I-PASS](#)
- [Systematic Review of Hand-off Mnemonics Literature from the American Journal of Medical Quality](#)
- [I-PASS, a Mnemonic to Standardize Verbal Handoffs](#)
- [Ward Round Checklist Improves Patient Perception of Care](#)
- [Implementation of a Standardized Post-anesthesia Care Handoff Increases Information Transfer Without Increasing Handoff Duration](#)
- [Disseminating Safe Handoffs: Mentored Implementation of I-PASS for Better Handoffs and Safer Care](#)
- [Rates of Medical Errors and Preventable Adverse Events Among Hospitalized Children Following Implementation of a Resident Handoff Bundle](#)
- [Variation in Printed Handoff Documents: Results and Recommendations From a Multicenter Needs Assessment](#)
- [Changes in Medical Errors after Implementation of a Handoff Program](#)
- [Effects of the I-PASS Nursing Handoff Bundle on communication quality and workflow](#)
- [St Judes Case Study: Improving Patient Handoffs and Transitions through Adaptation and Implementation of I-PASS Across Multiple Handoff Settings](#)
- Use patient stories, such as the [story of Jennifer Nibarger](#), wife of Brent Nibarger

### For General Improvement:

- [CMS: Hospital Improvement Innovation Networks](#)
- [IHI: A Framework for the Spread of Innovation](#)
- [The Joint Commission: Leaders Facilitating Change Workshop](#)
- [IHI: Quality Improvement Essentials Toolkit](#)
- [SIPOC Example and Template for Download](#)
- [SIPOC Description and Example](#)

### Resources For Patients and Families:

- [PatientAider: "Questions for your doctor and nurse"](#)
- [Training to Advance Physicians' Communication Skills with Patients](#)
- [Shared Decision Making from AHRQ](#)
- [CMS Toolkit for Making Written Material Clear and Effective](#)
- [Communicating with Patients from MedlinePlus](#)

- [PSMF's example Plan of Care in SBAR format for families and hospitalized patients](#)
- [PSMF's template Plan of Care in SBAR format for families and hospitalized patients](#)
- Use of patient stories, such as the [story of Jennifer Nibarger](#), wife of Brent Nibarger

## Endnotes

### 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. Workgroup members are required to disclose any potential conflicts of interest.

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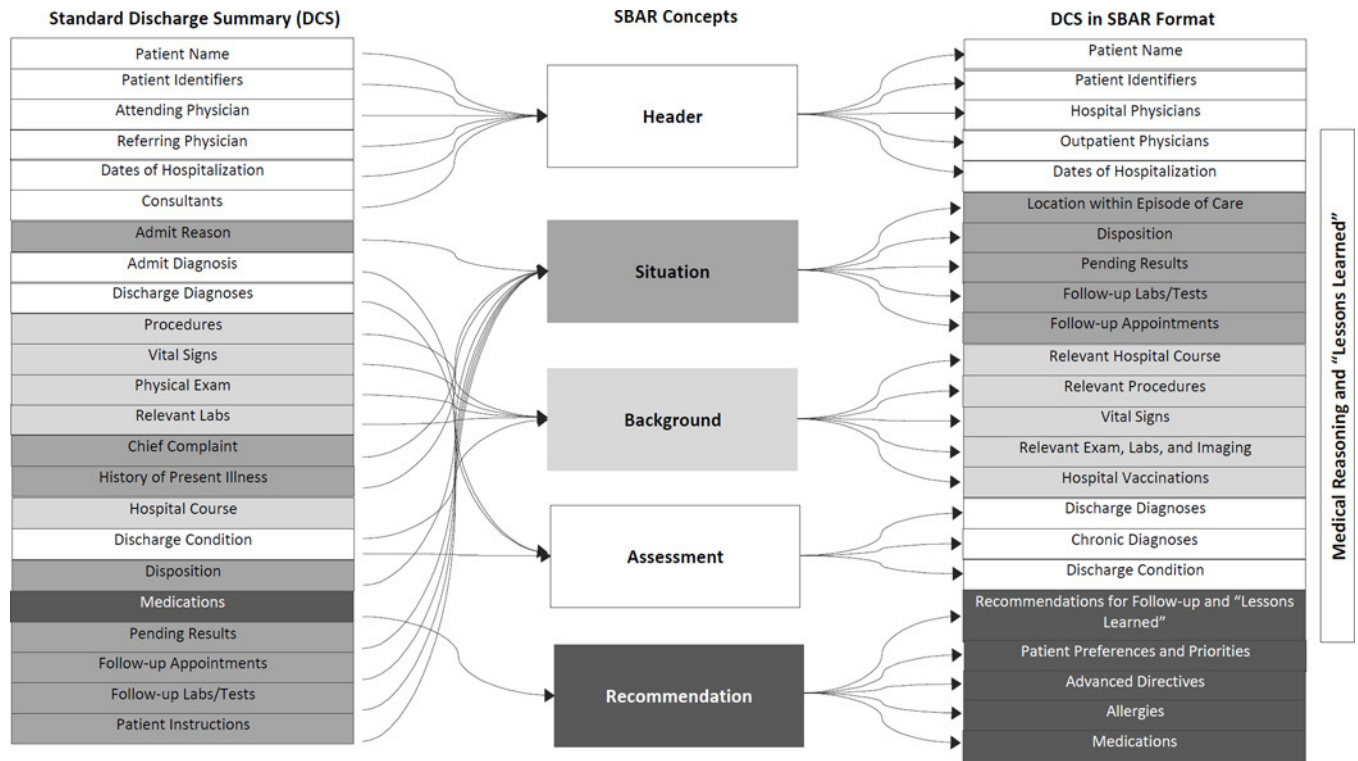
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## Appendices

### Appendix A: Discharge Using SBAR

Image: Discharge summary of key information molded into SBAR format ([Lenert, Sakaguchi, & Weir, 2014](#))



### Appendix B: Hand-Off Communication Checklists

Checklists are a remarkably useful tool in improving safety, but they are not a panacea. As checklists have been more widely implemented, it has become clear that their success depends on appropriately targeting the intervention and utilizing a careful implementation strategy.

An effective checklist also requires consensus regarding required safety behaviors.

When a checklist is appropriate, safety professionals must be aware that implementing a checklist is a complex sociotechnical endeavor, requiring frontline providers to not only change their approach to a specific task but to engage in cultural changes to enhance safety. Successful implementation of a checklist requires extensive preparatory work to maximize safety culture in the unit where checklists are to be used, engage leadership in rolling out and emphasizing the importance of the checklist, and rigorously analyze data to assess use of the checklist and associated clinical outcomes. Failure to engage in appropriate preparatory and monitoring before and after checklist implementation may explain why checklist use in real-world settings is often poor, contributing to disappointing results." ([AHRO, 2019](#)).

#### The Checklist Solution: Adoption from Aviation

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 preparation, 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.

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 below points. Additionally, all checklists should include numbers, instead of bullets, to ensure quick reference to a specific point, and a designated time at the end of the exchange for the receiver to ask questions, clarify points, and acknowledge that the hand-off is complete. All checklists should include the following basic information, tailored to the circumstance:

- 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"

### Key Identified Hand-Offs

18 different interactions that have some form of HOCs have been identified and listed 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.

See [here](#) for a full list of all checklists.

