Committee for Accreditation of
Healthcare Simulation Programs

Systems Integration Accreditation Standards Companion Document

2021 Standards Revisions

This Companion Document has been designed to help you with becoming accredited. Primarily it serves these purposes:

1. Provide insight and information for applicant programs.
2. Explain and describe the types of evidence expected to meet each of the Standards.
3. Ensure clarity for what is provided prior to the site visit as part of the accreditation packet.

IMPORTANT: the descriptions and evidence provided are NOT prescriptive. The SSH Accreditation Standards are designed to allow Simulation Programs in any setting to apply. It is recognized that there are many ways to achieve outcomes as well. As such, any evidence listed is representative of the types of information that has been acceptable. This companion document should not be considered a prescriptive list of items all Programs must complete, but rather a tool to help each Program identify how to best meet each standard. Should you have any questions about any of the Standards or criteria, or feel that they do not fit your Program for any reason (e.g., cultural), please contact the SSH Accreditation Program at accreditation@ssih.org.

DOCUMENT ELEMENTS

The standards for each area of Accreditation are broken into different elements:

<table>
<tr><td colspan="2">▪ Standard Area Description (in the dark blue area)
– High-level description of the overall content in the area of accreditation (Core-ARTSF)</td></tr>
<tr><td colspan="2">1. Section header (boldfaced type with a number in the light blue area)
– The title for the section that groups items together, each area of accreditation has its number of sections.</td></tr>
<tr><td colspan="2">a. Standard statement (italicized with a lower-case letter in the light blue area)
– This is the standard. Evidence should be provided based on the criteria in the subsections below.</td></tr>
<tr><td>i. Criterion (items listed in the white area in the left column of the table)
– These are the items that must be provided to demonstrate meeting the standard.</td><td>▪ The column (in the white area) to the right side of the Criterion in the companion document is where the Program can find information about the intent of specific criteria; and examples, clarifications, and descriptive information that will help the Program respond to each standard and criterion.</td></tr>
</table>

TERMINOLOGY

- **DEMONSTRATE**: This term is consistently used for overall Standards statements. "Demonstrate" means the Program must show how the standard is met (through the criterion). There are often many ways to demonstrate meeting individual criterion.
- **DESCRIBE**: This term is used to indicate that a narrative is sufficient as evidence to meet a particular criterion. If documentation is requested in addition to the description, the criterion will specify with the following phrase: "*Describe and provide supporting documentation*."
- **DOCUMENT**: This term is used to indicate that some form of documentation must be provided as evidence to meet a particular criterion. Examples of this could include providing a list of items such as equipment, a policy, and procedure, a floorplan, simulation design forms, etc. If a description is required in addition to the documentation requested, the criterion will specify the following phrase: *"Describe and provide supporting documentation."*
- **PROGRAM:** The term "Program" refers to the simulation center or organization that is applying for accreditation. The Program could refer to a stand-alone facility, a collaborative simulation consortium, or the Program could be part of an overarching organization.
- **PROGRAM DIRECTOR***:* All SSH Standards and Criteria use the term "Program Director" to describe the person with primary authority for the Simulation Program. The person in this role, however, does not need to have the official title of "Program Director."
- **BI-DIRECTIONAL FEEDBACK:** Bi-directional Feedback is the term used to describe the process of collaboration between the Simulation Program and a group of individuals from the organization who provide oversight to their systems integration function. This would include the collaboration between the Program and the oversight group to identify a problem, concern, or hazard and work together to implement a simulation-based approach to prevent, mitigate, or improve the identified concern. The goal is that there is a clear feedback loop established between the Program and the oversight group in which the simulation-based interventions address the concern for the ultimate goal of improving patient care.
- **SYSTEMS ENGINEERING**: Systems Engineering is defined as the process of bringing one or more subsystems together to function as one system. In healthcare, the ability to improve quality of care and patient outcomes through re-engineering of care delivery processes.
- **HUMAN FACTORS ENGINEERING:** Human Factors Engineering is defined as the process of studying the interaction between humans, systems, and technology in an effort to mitigate potential threats to an organization or system.

SYSTEMS INTEGRATION STANDARDS AND CRITERIA

Accreditation in the area of System Integration is limited to those Programs that demonstrate regular and recurring, intentional, bi-directional interaction with clinical partner(s) and expertise in the development, implementation, and validation of system improvement activities.

There are three types of programs that typically apply for accreditation in Systems Integration, listed below and specifically addressed in the criteria:

- Hospital Based: A simulation program situated within a hospital or health system.
- Stand Alone: A simulation program that is independent from, but works closely with a hospital or health system. This may include medical and nursing programs as examples.
- Other: A simulation program with direct application to healthcare, that uses various systems modeling and simulation to support the delivery of healthcare. Examples include: Engineering, Business, or Information Technology Programs

If there are questions on whether or not your Program meets the criteria for an organization that complies with Systems Integration, please contact the Director of Accreditation. The two sections of Systems Integration Standards are:

(1) Mission & Scope and (2) Integration Activities.

1. MISSION AND SCOPE *a. The Program's simulation activities are driven by the strategic needs of a clinical facility and/or healthcare system to improve the quality of healthcare.* – This is the standard. Evidence should be provided based on the criteria in the subsections below.	
i. Describe and provide supporting documentation for how the Program links its system integration activities to the mission and/or vision, goals, and strategic planning.	▪ The premise of this criterion is that any program applying for accreditation in Systems Integration should have a specific mention of Systems Integration activities such as improving healthcare delivery at an organizational level in its mission and/or vision statement. ▪ The response to Core Standard Criterion 1.a.*i* may be referenced here. For this criterion, the reviewers will be looking specifically for a mention of Systems Integration. ▪ The exact words "Systems Integration" are not required, but the concept must be expressed (e.g., improvements impacting or enhancing healthcare systems, patient safety, organizational improvement, or healthcare outcomes, etc.) in the mission and/or vision. ▪ The inclusion of Systems Integration in the Program's goals and strategic planning provides evidence of the consistency, planning, collaboration, integration, and iteration

	of the Program's intention towards improvement in the quality of care.
ii. Describe and provide supporting documentation for how the Program has been used as a resource by quality, patient safety, risk management, and/or similar groups for the improvement of healthcare systems in the past 24 months. This should include a demonstration of bi-directional feedback.	▪ The response to this criterion should outline the process by which Quality, Patient Safety and/or Risk departments involve simulation to address a systems issue. For example, outline how a problem is identified at the microsystem, system, or organizational level, how it is communicated to the Simulation Program, how the Simulation Program responds, plans, and implements, and then how outcomes/success of simulation intervention is communicated back to the Quality, Patient Safety and Risk Management departments (i.e., bi-directional feedback). ▪ The Program should document and describe the participation in Quality, Patient Safety, Risk Management, or other committees or programs. This may include examples of how simulation is integrated into root cause analysis, failure mode effects analysis, or other similar systems processes. ▪ An example of bi-directional feedback may be the identification of a problem, concern, or hazard by an oversight group (such as Quality or Patient Safety; at a microsystem, committee, or organizational level). This is followed by participation of simulation in efforts to prevent, mitigate or improve the applicable conditions. Finally, efforts should include a report back from the Program to the oversight group, and potential modification of the oversight group's subsequent recommendations or initiatives. ▪ Conversely, this process could also include the Program identifying a problem, concern, or hazard which may affect multiple patient care areas or processes or may have organizational or system-wide implications. In this case, the Program presents the problem or concern at hand, to the Quality, Patient Safety, Risk Management, or other appropriate high-level committees. The committee then responds by implementing or directing interventions or improvement processes that may include simulation. ▪ The goal is to go beyond the one-way process of a Program by which guidance is secured by an oversight group but to also use information or insight generated by the Program to impact the activities or decisions of the oversight group. This thereby showcases a bi-directional cycle of improvement.

iii. Document: Provide a letter (2 pages maximum) from organizational quality, patient safety, risk management, or comparable leadership group which supports the Program's role in achieving organizational quality, patient safety, and risk management and/or value goals.	▪ The letter provided for this criterion should be different from the letter requested as part of the overall application process. ▪ This letter should specifically address simulation's role in Quality/Patient Safety/Risk Management activities. ▪ The letter typically comes from a key leader in Quality/Safety/Risk Management. This may be one of the following (but not limited to): – Chief Executive Officer – Chief Medical Officer – Chief Nursing Officer – Director of Patient Safety – Chief Quality Officer – Or Similar ▪ The letter should include (but not limited to) a discussion on the past, present, and future impact.

2. SYSTEMS INTEGRATION ACTIVITIES *a. The Simulation Program participates in organizational quality management system improvement activities, including measurement of outcomes for the purpose of improvement.* – This is the standard. Evidence should be provided based on the criteria in the subsections below.	
i. Describe and provide supporting documentation for three (3) examples of simulation activities used by the program that demonstrates the integration of the Simulation Program to facilitate quality, patient safety, risk management, organization improvement, and/or quality outcomes projects.	▪ Response to this criterion should be three specific examples where simulation was used to affect and/or implement Quality/Patient Safety/Risk Management initiatives. ▪ Examples may include but are not limited to, situations such as: – Quality: A quality committee may identify that a specific process is not occurring in a timely manner and engages the Program in developing or implementing improvements to that process, possibly in an iterative manner. The Program would then provide the results of their exploration or intervention to the Quality Committee. – Patient Safety: The Program identifies inherent patient safety threats, through the use of simulation-based testing. The Program would provide the Patient Safety group a report of the identified threat, which may be identified in multiple care areas. In addition to reporting, the Program may monitor, or test improvements based on the recommendations or interventions of that committee. – Risk Management: The Program may identify a system issue that involves a group of healthcare workers who have not met current standards of practice and reports this potential threat to the Risk Management group. As a result, the Risk Management group invites the Program to provide continuing situational monitoring to ensure this threat has been successfully mitigated. – Organizational improvement: A deficient flow was identified in patient processing within an outpatient clinic. The Process Engineering group invites the Program to utilize simulation to uncover barriers and potential areas of improvement for this process. – Quality outcomes project: The organization invites the Program to use simulation to ensure the transfer of knowledge into the practice of mandatory protocol implementation education to all nursing and provider staff. The Program provides quality outcome data back to the organization to determine the effectiveness of the education. ▪ Each example must describe how the Program was utilized in the last 24 months and include bi-directional feedback.

	▪ The Program should include supporting documentation for each project/activity.
ii. Describe and provide supporting documentation for a system or human factors engineering or other systematic approach used to solve or mitigate an organization-defined safety, quality, or value concern, including bi-directional accountability for the activity/project.	▪ Systems Engineering is defined as the process of bringing one or more subsystems together to function as one system. In healthcare, the ability to improve quality of care and patient outcomes through re-engineering of care delivery processes. ▪ Human Factors Engineering is defined as the process of studying the interaction between humans, systems, and technology in an effort to mitigate potential threats to an organization or system. ▪ Identifying a specific engineering process (i.e., LEAN or Six Sigma, charter, A3, Specific Engineering Process (SEIPS), process improvement map, root cause analysis, cycles of improvement, etc.). ▪ Generally, the improvement process would include at the least, the identification of a problem, then develop a solution, test the solution, and evaluate the proposed solution. ▪ Bi-directional feedback is an essential component of this criterion. Please refer to the definition above under Terminology. ▪ Examples of this approach may include (but not limited to): – The identification of an equipment issue that leads to a potential latent safety threat discovered during a code blue simulation drill. This leads to the Program reaching out to several groups within the organization to mitigate the identified issue. Through this process, it is revealed that the root cause of the problem is a lack of standardization amongst clinical units. The organization incorporates a LEAN approach to solve the inconsistencies amongst the clinical units, which includes ongoing simulation drills to ensure this threat has been successfully abated throughout the organization.

iii. Describe and provide supporting documentation of reports provided to organizational leadership related to system-based initiatives that are impacted by simulation activities.	▪ There is no requirement for a standard method of reporting findings to organizational leadership. Methods vary from institution to institution, or within an institution. ▪ Depending on the activity, results may address structures, processes, and/or outcomes at the patient level (such as morbidity, mortality) or organizational level (such as cost). ▪ Sensitive components of these documents may be redacted (blacked out) as required to maintain confidentiality. ▪ An example of documentation of findings that are reported to organizational leadership may include, but not limited to the following: – Root cause analysis documentation that is utilized for the Safety Event identified by the organization with sensitive components redacted. – Simulation outcomes were reported with key data rendered in a presentation to organizational leadership. – An after-simulation designed report that is submitted to key stakeholders includes simulation outcomes and evaluations.
iv. Describe and provide supporting documentation of ongoing evaluation of simulation-based systems integration programs.	▪ The Program should demonstrate how they are continually assessing each simulation-based systems integration program. This should include evidence of how the program is being evaluated and modified to uphold quality assurance and to yield improved outcomes. ▪ This should include the bi-directional interaction between the Program and organizational leadership related to the outcomes. ▪ There should be evidence of leadership's ongoing assessment of outcome metrics, which may be evidenced by (but not limited to) meeting minutes, special reports, or other means. ▪ Examples of the process of ongoing program evaluation may include (but not limited to): – Evaluation data from simulation-based, systems integration programs as well as documentation of how programming is refined or amended as a result. ▪ For continuous programming, include documentation of yearly organizational improvements made through the use of simulation-based offerings.

b. The Simulation Program has clear evidence of participation by Simulation Program leadership in the design and processes of quality management system improvement activities at the organizational level. – This is the standard. Evidence should be provided based on the criteria in the subsections below.	
i. Document: Provide documentation of ongoing involvement of Simulation Program leadership in the design and process of performance improvement activities at the organizational level over the last 24 months.	▪ At least one person from the Simulation Program should be involved with a Quality, Patient Safety, Risk Management, Performance Improvement, or comparable committee or group (e.g., a member or consultant). ▪ Minutes (or similar documentation) should be provided that demonstrate the involvement of the person from the Simulation Program in the activities of the committee within the last 24 months. ▪ The person's involvement in the committee should be specific to simulation activity. – For example, a MICU Medical Director (who is also a simulation educator is a member of the Performance Improvement Committee) would only satisfy this criterion if minutes demonstrate the MICU Medical Director specifically communicates simulation-related content to and from the committee. ▪ Sensitive information is not required to be submitted at the time of the application. If minutes contain sensitive information and are not provided with the application, they are expected to be available for the onsite review. Sensitive portions of these documents may be redacted (blacked out) as required by the institution.

c. *The Simulation Program has access to appropriate qualified human factors, systems engineering, psychometric, informatics, and/or other appropriate support or resources.* – This is the standard. Evidence should be provided based on the criteria in the subsections below.	
i. Describe and provide supporting documentation that the Program has access to appropriate qualified systems engineering, human factors, psychometric, informatics, and/or other appropriate support or resources for systems integration activities.	▪ Qualified Systems Integration support is usually provided by a partnership with individuals who have expertise in human factors, psychometrics, systems engineering, or similar qualifications. ▪ Systems Engineering and Human Factors are defined in the Terminology section at the beginning of these standards. ▪ Psychometricians are individuals who construct tests and interpret results from assessment instruments. ▪ Informatics involves how the data, information, and knowledge are used to improve human health and the delivery of health care services. ▪ Though content experts are often useful in systems integration activity, they do not have to hold human factors, psychometric, and systems engineering expertise necessary to meet this criterion. ▪ The Program does not have to provide salary support to individuals. The Program needs to demonstrate the following: – The program has access to the aforementioned individuals ▪ The qualified support persons identified should, at a minimum, be available for consultation as needed for activities related to the Program.

Example of Systems Integration Activity

The example below is merely a possible activity that may be used to illustrate the steps in a systems integration process. (The appendices are not included).

1. The Patient Safety Committee for our hospital noted that there was an improvement opportunity to decrease the rate of Central Line-Associated Bloodstream Infections (CLABSIs). The Simulation Program Director sits on the Patient Safety Committee and suggested that simulation be considered as an intervention tool to help address this problem.

2. A multidisciplinary team of Lean Six Sigma trained clinicians and the Simulation Program Director utilized the Lean/Six Sigma process improvement model to discover the causes of and solutions to prevent CLABSIs, plan process improvements, and develop a plan for sustaining the improvements over time. A copy of the Lean/Six Sigma approach to CLABSIs is included in *Appendix I* and includes a simulation-based training program for CVL insertions that is required of all physicians who perform the procedure.

3. After 6 months of a simulation-based training program, CLABSI rates had decreased significantly. These results were reported to the Patient Safety Committee (minutes attached as *Appendix II*). The results were also communicated to institutional leadership (Chief Executive Officer, Chief Medical Officer, Chief Nursing Officer) via a memo from the Patient Safety Committee (letter attached as *Appendix III*).

4. Prior to the project, the combined CLABSI rate for the MICU was 2.5/1000 device days. After incorporating the project for 6 months, the rate decreased to 1.7/1000 device days. This rate was sustained for the following 12-month period. Rates by month can be found in *Appendix IV*.

5. As the simulation-based training program continues, the Patient Safety Committee and Institutional leadership (Chief Executive Officer, Chief Medical Officer, Chief Nursing Officer, Chief Quality Officer) are updated quarterly on the rate of training completion as well as the rate of CLABSIs per unit. The last 4 quarterly reports can be found in *Appendix V.*