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**JCI Accreditation Standards for Hospitals and Academic Medical
Centers (AMC), 8th Edition**
Draft Standards for Field Review
Proposed New Standards and Requirements

Note: This document does not include all standards for Hospitals and Academic Medical Centers (AMC), 8th Edition. The standards in this document are the proposed requirements in the new Global Health Impact (GHI) chapter focused on environmental sustainability in healthcare. This chapter is developed through a collaboration between International Hospital Federation (IHF)'s Geneva Sustainability Centre and Joint Commission International (JCI) to develop environmental sustainability standards for international hospitals outside of the United States. More information on this collaboration is available through <https://ihf-fih.org/press-and-media/jci-and-the-ihfs-geneva-sustainability-centre-on-international-environmental-sustainability-standards-for-hospitals/>

To participate in the field review of other chapters of the hospital and AMC standards, please refer back to the JCI website. Unlike all other chapters where JCI had to identify new standards in RED FONT, all standards in the GHI chapter are new.

Field Review Questionnaire: To participate in the field review of this chapter, please complete the survey below:

<https://www.surveymonkey.com/r/JD89D9Z>

Field Review Period: **October 23- November 13, 2023**

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Global Health Impact (GHI)

Standards

The following is a list of all standards for this function. They are presented here for your convenience without their intent statements or measurable elements. For more information about these standards, please see the next section in this chapter, Standards, Intents, and Measurable Elements.

Governance, tracking, and reporting

GHI.1 Hospital leadership ensures that environmental and climate strategies are formally included and acted upon as part of the organization's priorities and governance.

Employee Engagement and Empowerment

GHI.2 Hospital leadership establishes mechanisms to raise awareness, engage, and train employees on climate change and health across the organization.

Use of Environmental resources, green operations, and process

GHI.3 Hospital leadership develops and starts to implement a plan to measure and reduce the use of materials and environmental resources, including energy, water, and emissions.

Procurement and Supply Chain

GHI.4 Hospital leadership implements actions to reduce the environmental impact of the supply chain across all operations and identifies areas to reduce the unnecessary use of supplies within the hospital.

Infrastructure and Service Resilience

GHI.5 Hospital leadership assesses the environmental risks and scenarios that may affect service delivery, hospital operations, and patient populations, with plans to comply with local emergency preparedness recommendations and rules, including those required by property insurance coverage.

Standards, Intents, Guidance, and Measurable Elements

Governance, tracking, and reporting

Standard GHI.1

Hospital leadership ensures that environmental and climate strategies are formally included and acted upon as part of the organization's priorities and governance.

Intent of GHI.1

To decarbonize and increase the resilience of a hospital, actions must be taken at all levels of the organization. This requires an effective strategy, stewardship, accountability, and leadership at the hospital and board levels. This will allow the organization to:

- Identify the priorities;

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- Inspire and support an organizational culture that takes environmental sustainability into account, and create a sense of ownership and shared goal by regularly communicating about it across the hospital.
- Engage all stakeholders in the process and clearly communicate what their specific role is, how it impacts their daily work and practices, and which positive outcomes are expected.
- Involve hospital governing bodies to ensure reporting, monitoring and improvement of the strategies.

Guidance for GHI.1

Growing evidence demonstrates the impact of climate change and disruptive climate events on health and delivery of healthcare. Therefore, it is part of hospitals' mission to fight adverse effects of climate change, and work towards more sustainable services by addressing it as an integral part of healthcare delivery. In addition to decarbonizing the sector and making it more resilient, many co-benefits have been identified, including positive impacts on health, patient experience, and operational performance. The type of interventions, impacts and benefits will depend on the hospital's size, setting and interventions already in place.

A large scope of actions and processes can be implemented at the hospital leadership and board levels to drive this process forward. For example:

- Formally include environmental-sustainability goals in official and publicly available documents, including the organization's mission statement, values, charters, and other governance documents. This reinforces accountability and creates a sense of a shared goal throughout the organization.
- Adopting a set of indicators to measure, track and report on progress through existing frameworks in order to monitor and adjust over time.
- Increase the efficiency and active accountability and engagement of top management through the appointment of a dedicated person or group of people to oversee the process.

Beyond designating these people, it is essential to support them in their work and set targets incorporating environmental regulations to ensure an effective strategy. Their role is to develop a plan of action including short-, medium- and long-term objectives; to identify the required resources; to oversee the development, implementation and evaluation of the strategy and to work and communicate with relevant stakeholders. This person should have relevant educational and/or professional experience to assume such a role.

Measurable Elements of GHI.1

1. Hospital leadership includes environmental sustainability and low-carbon and resilient care on their board agenda to discuss at least twice a year, with reporting of progress and assessment of the implementation of the strategies. Minutes reflect actions taken and any follow-up on those actions.
2. Progress on environmental and climate strategies is included in the organization's annual report for wider public visibility and accountability to the community and other stakeholders.
3. Hospital leadership appoints or designates, and annually evaluates the performance of a person as lead role that reports to the Board (e.g. Chief Sustainability Officer) to ensure environmental and climate strategies are part of the organization's priorities and are effectively implemented in tracking and governance processes.
4. The person appointed or designated as lead role is responsible for the following:
 - a) Defining the hospitals' sustainability plan, strategies and goals, in consultation with relevant stakeholders.
 - b) Overseeing the implementation of processes related to environmental sustainability.
 - c) Reporting to the hospital leadership and board to present the progress made and take action on resulting discussion points.
 - d) Producing reports and communications pieces for relevant stakeholders.

Employee Engagement and Empowerment

Standard GHI.2

Hospital leadership establishes mechanisms to raise awareness, engage, and train employees on climate change and health across the organization.

Intent of GHI.2

Employees have a role to play in the transition to low-carbon, resilient and sustainable healthcare. In order to support their staff to implement new or different practices and regulations, hospital leaders must provide the knowledge and tools to facilitate ownership and make them agents of change.

Guidance for GHI.2

Two key mechanisms can be used for engaging organization staff on climate change initiatives:

- A favorable and engaging organizational culture: an organization culture represents the “mindsets, beliefs and values that members of the organization share in common, and which shape the behaviours [and] practices of the organization” (Prajogo and McDermott, 2005). Good leadership and focus on the customer (patient) are essential components to engage employees and rally them towards a common objective. Therefore, hospital leadership should emphasize that the strategy towards environmentally sustainable healthcare is a collective effort and that it can contribute to improved health outcomes and patient experience. This can be achieved through relevant and regular communications from the hospital leadership to the staff, and mechanisms to allow the staff to share ideas and actively contribute to the sustainability strategy. The hospital setting being a complex and unpredictable environment, flexibility and a focus on relationships are key competencies to maintain a fruitful organizational culture.
- Training and education is key to provide the knowledge, tools, competencies and guidance to the employees. Some content will be the same for all staff, such as basic knowledge about climate and health, and how this is included in hospital objectives. Those training courses should include content related to the hospital’s setting, including the local or regional climate impacts and related health outcomes, potential environmental scenarios for the hospital, and vulnerabilities identified in the hospital’s patient population. Some training courses may be more targeted to focus on specific roles and practices to adjust or implement. For example:
 - Clinical staff will learn about alternatives to products generating a lot of waste (e.g., non-surgical gloves) or to anesthetic gases with high carbon emission intensity (e.g., desflurane).
 - Department managers will learn specific leadership competencies to support them and their teams to reduce waste and include sustainable behaviors in their daily practice.
 - Cleaning employees will learn about the health and environmental impact of chemicals used in cleaning products and about the efficacy of alternatives.

“Green training” and engagement can have other beneficial outcomes for the organization, including:

- Providing a sense of challenge, which motivates employees to engage;
- Greater satisfaction in jobs, when supported by the employer;
- Satisfying professional experience for employees;
- Respond to younger professionals need to know their organization is positively engaged in these issues and help with workforce retention.

Therefore, they can boost company morale, lower turnover rates, and increase the organization’s overall performance and quality of service.

Measurable Elements of GHI.2

1. All clinical and non-clinical staff across the hospital undergo training sessions lasting a minimum of four hours per year, aimed at providing basic knowledge about climate change and good practices for environmentally sustainable and resilient healthcare.
2. Hospital leadership communicates to employees about environmental sustainability and the organization's low-carbon and resilient care goals and activities.
3. A mechanism is implemented for collecting staff ideas which are reviewed by the lead person for sustainability to identify potential new initiatives and priorities.
4. A module on climate change, environmental sustainability and low-carbon and resilient care is included in new employee orientation/onboarding.

Use of environmental resources, green operations and processes

Standard GHI.3

Hospital leadership develops and starts to implement a plan to measure and reduce the use of materials and environmental resources, including energy, water, and emissions.

Intent of GHI.3

Hospitals must work across all emission scopes to address decarbonization and increased resilience and environmental sustainability. It is also essential to consider the use of natural resources as well as of materials. To this end, one of the primary tasks of the designated lead person for environmental sustainability should be to define a plan. This can be achieved through the following steps:

- Establishing and understanding the baseline for the scope of assessment and action;
- Defining and prioritizing short- and long-term interventions;
- Developing a plan for action and improvement;
- Measuring, tracking, evaluating and reporting the improvements towards the defined targets.

Guidance for GHI.3

For any hospital, the origins of carbon dioxide emissions, or greenhouse gas (GHG) emissions, can be classified into three scopes:

- Scope 1 emissions are from sources directly owned or controlled by an organization (for example, onsite fuel combustion in boilers, furnaces, vehicles).
- Scope 2 are from purchases and use of electricity, steam, heating and cooling generated elsewhere. By using the energy, an organization is indirectly responsible for the release of these GHG emissions.
- Scope 3 emissions include indirect emissions caused by an organization's value chain, in the upstream and downstream activities of an organization. Among others, this includes purchased goods and services, transportation and distribution (upstream and downstream) as well as waste disposal.

Hospitals can conduct a carbon footprint assessment to identify emission "hotspots" that require deeper decarbonization actions. Several carbon footprint calculation tools exist for the healthcare sector, for hospital in low- to high- income countries. Collecting the data and completing the full process may take several months. Therefore, it is highly recommended to implement measures that will accelerate engagement and decarbonization before finalising the carbon footprint assessment.

Key areas of resource management are presented below:

Power generation and electricity are essential to run any healthcare facilities and to provide safe and quality care. However, climate change (including through disruptive climate events) will negatively impact access to electricity, and forces organisations to consider the way energy is being produced and used. Good planning and interventions can make hospitals more resilient to such events while reducing their carbon emissions:

- Some facilities invest in onsite power generation, rather than purchasing that energy through the grid. Common benefits of on-site power generation are the reduction of energy cost, reduction of greenhouse gas emissions (especially in the case of renewable energy generation), and improved reliability of supply.
- All organizations should aim to consume and produce energy from renewable energy sources. Renewable energy is derived from natural sources that are replenished at a higher rate than they are consumed. Common sources of renewable energy are sunlight, wind, geothermal energy, hydropower, ocean energy and bioenergy. On the other hand, fossil fuels (coal, oil and gas), are non-renewable resources that take hundreds of millions of years to form and that can cause harmful greenhouse gas emissions, such as carbon dioxide.
- Rethinking buildings and infrastructure, including architecture, service designs and space utilization, will also highly contribute to optimizing the use of energy while making the hospital more resilient and sustainable.

Climate change is accelerating water-related hazards and scarcity. Although some areas may be more impacted than others, organizations around the globe must implement solutions to conserve it. Healthcare facilities are directly concerned by water-safety issues as they will impact healthcare delivery, hygiene and sanitation within the organization. Therefore, hospitals are recommended to measure their water consumption and implement solutions to optimize its supply and conservation. Good sewerage infrastructure and safe use of wastewater must also be managed as they can increase the hospital's resilience while contributing to water, sanitation and hygiene (WASH) targets.

Carbon reduction can also occur during healthcare delivery. A low-carbon model of care is a form of care delivery that is less carbon intensive than alternatives available. It means that the carbon emissions impact of care delivery has been estimated in order to explicitly favour services or interventions that are less energy/carbon intensive. A low-carbon model of care provision will be better at preventing illness, give greater responsibility to patients in managing their health, be leaner in service design and delivery, and promote the use of lower carbon technologies (e.g., telehealth, app-based). This carbon reduction also applies to pharmaceuticals, inhalers and anaesthetic gases. For instance, in March 2023, Desflurane has been banned in Scotland for environmental reasons. In addition, reducing the use of avoidable medical devices or pharmaceuticals will also lead to financial savings.

Supplies, and therefore, waste and emissions from pharmaceuticals and other chemicals used for treatments should also decrease through prescribing practices. It involves giving information to patients and clinical staff on the best treatment, with the use of the lowest effective dose for the shortest period of time, including drugs that have the smallest carbon footprint. Optimizing medications also involves addressing unnecessary prescribing, which reduces errors. Low-carbon prescriptions also include the use of alternatives such as psychotherapy, green prescribing, social prescribing and lifestyle prescriptions.

Soft facility management, including cleaning practices, linen and laundry services, and waste management, also present many opportunities to reduce the use and waste of materials, energy and chemicals. For example: cleaning can become chemical-free by using innovative microfibre mops and an adapted cleaning technique. This method can be fully applied or partially applied depending on the area of the hospital and safety-related issues. Benefits include cost saving, carbon reduction, decreased toxicity of wastewater, and improved health and well-being of patients and employees due to the reduction of respiratory diseases caused by chemical products.

For all of the above, alternatives keep emerging and innovative approaches will be necessary to continue this effort.

Measurable Elements of GHI.3

1. Hospital leadership and relevant managers develop a plan including targets to reduce waste, carbon emissions and the use of environmental resources.
2. The percentage of renewable energy (bought or self-produced) compared to the total energy consumption is identified and reported to the board on a yearly basis.
3. Hospital leadership implements actions to optimize water conservation and report the amount of water conserved to the board on a yearly basis.
4. Hospital leadership and relevant managers can demonstrate yearly progress regarding the reduction of carbon emissions or negative environmental impacts of operations in at least two of the following soft facilities management areas:
 - a) Waste management
 - b) Cleaning practices
 - c) Linen and laundry services
5. Hospital leadership and relevant managers contribute to reducing the carbon intensity of food and catering supplies, by sourcing at least 50% of locally produced food and by providing plant-based options on a daily basis.
6. The use of Desflurane is reduced by 90% compared to the baseline amount, using a lower carbon alternative.

Procurement and Supply Chain

Standard GHI.4

Hospital leadership implements actions to reduce the environmental impact of the supply chain across all operations and identifies areas to reduce the unnecessary use of supplies within the hospital.

Intent of GHI.4

It is estimated that medicines, medical equipment and other supply chain can represent between 60% and 80% of a hospital's carbon footprint. This includes production, transport, use and disposal of goods and services. However, despite those emissions being indirect, hospitals can play an active role in decreasing them. For instance, this can be achieved by enhancing the way resources are used (e.g., reduce, reuse, or even avoid), substituting for low-carbon and/or reusable initiatives, sourcing locally, working with suppliers to set targets, and leveraging their purchasing power to demand more sustainable products.

Guidance for GHI.4

A growing number of international initiatives aim to promote sustainable procurement in the healthcare sector and guide hospitals to adopt sustainable practices and processes. These initiatives, illustrated by various examples and case studies, identify areas to:

- reduce their use of avoidable resources: for example, reducing the use of non-surgical gloves where these are not necessary for infection control purposes.
- improve and optimize the use of their current equipment: for example, conducting life cycle assessment or analysis to optimize the long-term use of imaging systems and other treatment devices.

Life cycle assessments can also support decision making when comparing the environmental impact of single-use items and reusable items, as well as associated cost savings.

The identification of unnecessary and avoidable supplies can take various forms and should demonstrate credible efforts. For example, identification efforts can be demonstrated through related audits and assessment, discussions as noted in minutes of meeting, and research on similar initiatives in other hospitals or organizations. Identification should lead to prioritization and translated into actions for implementation. In addition to decarbonization, this can lead to improved patient experience and financial savings.

Measurable Elements of GHI.4

1. Climate- and environmental sustainability-criteria are included in the hospital procurement guidelines.
2. For any new contract with suppliers or vendors, department managers select suppliers and vendors that have sustainability and carbon emission reduction objectives in place.
3. Hospital leadership and department managers identify opportunities to optimize processes within the hospital by identifying unnecessary and/or avoidable supplies, in at least three of the following areas:
 - a) Pharmaceuticals and other chemicals used for treatments;
 - b) Chemicals used for sterilizing, disinfecting and cleaning purposes;
 - c) Food and agricultural products;
 - d) Medical devices;
 - e) Hospital equipment and instruments.
4. Hospital leadership and department managers implement actions to assess the benefits of reusable items instead of single-use materials in clinical and non-clinical areas.

Infrastructure and Service Resilience

Standard GHI.5

Hospital leadership assesses the environmental risks and scenarios that may affect service delivery, hospital operations, and patient populations, with plans to comply with local emergency preparedness recommendations and rules, including those required by property insurance coverage.

Intent of GHI.5

The climate crisis has been recognized as the greatest threat to human health in the 21st century. It causes an increase in non-communicable and infectious diseases, negatively impacts social and environmental determinants of health, and causes disruptive climate events (e.g., floods, wildfires, landslides, strong winds) which can directly impact the healthcare delivery when and where they occur. For example, consequences may include:

- a sudden increase in the demand for healthcare services if the surrounding community is directly affected;
- damages to the infrastructure and facilities of the hospital;
- power cuts;
- disruption in the supply chain.

Hospitals play a unique and essential role for their communities when facing those hazards and need to be able to provide uninterrupted care in those emergency situations.

Guidance for GHI.5

Based on existing frameworks, hospitals should consider the following five areas to plan for all scenarios, adapt their infrastructures and services, and strengthen their resilience:

- Climate risks and community vulnerability assessment;
- Land use, building design, and regulatory context;
- Infrastructure protection and resilience planning;
- Essential clinical care service delivery planning;
- Environmental protection and ecosystem adaptations.

A hospital's risk register, or equivalent document, records all risks that threatens the organization and its objectives. They may include or need to comply with local emergency preparedness guidelines or property insurance coverage. Due to the global nature of climate change impacts, environmental disruptive events should be included in all hospitals' risk registers.

These disruptive climate events are foreseen to become more frequent, and in locations where they didn't previously. Therefore, the risks and scenarios should be reassessed every three years to adjust and plan accordingly.

Measurable Elements of GHI.5

1. Climate change impacts are included in the hospital's risk register or equivalent document.
2. Hospital leadership develops a plan of adaptive actions to mitigate current and future climate-related hazards and risks based on recent (i.e., within the last three years) information, and progresses towards the organization's agreed targets.
3. An assessment of the environmental risks, scenarios, and vulnerabilities within the communities is conducted every three years. The results are presented in a report and inform the plan of adaptive actions which is updated accordingly.
4. Hospital leadership develops preparedness plans and protocols for adverse weather scenarios and disruptive events. The preparedness plan is updated every three years and includes measures taken to train the employees to respond to these scenarios.

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