Building Climate Resilient Health Systems in the Americas for Health Sector Decision Makers

Climate Resilient Health Infrastructure in Brazil and the Americas

October 2023

hospitaissaudaveis.org
About PHS

The Healthy Hospitals Project is a non-profit organization that proposes and participates in the transformation of the Brazilian health sector, encouraging efficient, fair, ethical and sustainable management of the sector's resources and operations. It promotes initiatives with a climate lens and advocates for policies for public and environmental health.
PHS is the focal point of Health Care Without Harm and coordinates the activities of Global Green and Health Hospitals Network in Brazil.
In 2008, a group of healthcare professionals came together to promote waste management, mercury elimination and sustainability in the Brazilian health sector, creating a focal point to promote HCWH’s values and initiatives.

Currently, the PHS is a mix of a Think Tank, Advocacy Movement and Community of Practice that brings together practitioners, managers, researches and leaders from the health sector and composes an extensive network of relationships with other health and environmental organizations.
1,733 members in 81 countries

Representing the interests of 68,265000 hospitals and health centers

Source: www.greenhospitals.org | updated 24/01/2023
Global Green and Healthy Hospitals in Brasil

321 Institutional Members
(hospitals and other healthcare facilities)

21 Health Systems
Representing 311 hospitals and another 900 non-hospital units

1600+ Individual Members
Healthcare professionals, practitioners, researchers, activists, etc.

9 Individual Hospitals and 2 Brazilian Health Systems (including 120 more healthcare facilities) participating in RtZ

Updated in 24/01/2023
Launched in 2011, it is a guideline for hospitals and health systems around the world to operate in a more sustainable way aimed at environmental health and the strengthening of health systems globally.
PHS Challenges

**Climate Challenge**
Launched in 2015

- Self-assessment, Management and Control Tools

**Waste Challenge**
Launched in 2017

- National and global awards, Guidelines, Case Studies and Reports

**Energy Challenge**
Launched in 2020

- Virtual Communities, Technical Support, Workshops, Seminars

**Procurement Challenge**
Launched in 2021

- Performance Indicators, Dashboards and Benchmarking
<table>
<thead>
<tr>
<th>Year</th>
<th>Healthcare Challenge</th>
<th>Waste Challenge</th>
<th>Energy Challenge</th>
<th>Sustainable Procurement Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015/2016</td>
<td>31</td>
<td>30</td>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td>2016/2017</td>
<td>27</td>
<td>45</td>
<td>53</td>
<td>20</td>
</tr>
<tr>
<td>2017/2018</td>
<td>46</td>
<td>119</td>
<td>54</td>
<td>12</td>
</tr>
<tr>
<td>2018/2019</td>
<td>76</td>
<td>131</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>2019/2020</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020/2021</td>
<td>107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021/2022</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: PHS 2023
Health Care Climate Challenge

- Guidance, support and training reach all regions of the country and all types and sizes of health services
- Inventory of GHG emissions through partnership with the Brazilian GHG Protocol Program. Standardized methodology for healthcare emission inventory and database for scopes 1, 2 and 3
- Tools specially developed for estimating emissions from healthcare operations: anesthetic gases, waste and hospital effluents
- Dissemination of Race to Zero, management of emission reduction targets and resilience plans for health organizations in Brazil
- Guidance for high-impact interventions to reduce emissions and build resilience and adaptive capacity
Supply chain represents 71% of total emissions in health sector, a strategy that integrates social and environmental criteria in purchasing decision is essential to reducing its impacts.

- **Less toxic and safer products for the environment and people** (free of Bisphenol A (BPA), compounds based on bromine and chlorine, phthalates, polyvinyl chloride (PVC), bioaccumulative and toxic non-halogenated flame retardants, metals (mercury, lead, cadmium, etc.).

- Acquisition of **products and services with a lower carbon footprint**

- **Investment in zero-emission facilities and infrastructure**

- **Energy efficiency measures and 100% clean and renewable electricity**

- **Healthy sustainably grown food** and support for climate-resilient agriculture

- **Transition to sustainable, zero-emission transport and travel**

- Encourage **circular health services, re-design of products** (composition, packaging, reciclability, disposal), **total cost of ownership, extended producer liability**

- Attention to human rights throughout the supply chain
Green marketing is a practice whereby companies seek to go above and beyond traditional.

Sustainable Health in Procurement Project - SHiPP is an UNDP initiative in collaboration with HCWH and funded by the Swedish Agency for International Development (SIDA), with the aim of reducing harm to people and the environment caused by the manufacture, use and disposal of products used in health care and the implementation of health programs.
After identifying opportunities for improvement in the internal logistics of detergent distribution, the hospitality team consulted the supplier about the possibility of developing “detergent capsules” to replace 5-liter gallons. The supplier confirmed the viability of the proposed change in the product packaging. There was no change in the formulation of the product, whose composition is biodegradable with 96% of origin from natural sources.

Results:

- Transformation of the supply chain: project developed jointly with supplier
- Product innovation: packaging redesign, reducing the amount of plastic used
- Circular economy: detergent capsules are collected and sent to the supplier for reprocessing and reuse in the production process
- Operational improvement: standardization of product dilution, maintaining quality and reducing waste
- Reduction of emissions: reduction in the number of deliveries that used to be weekly and became monthly
- Economic benefit: better inventory management and greater productivity of the operational team, which began to dilute the products directly and transfer professionals to other activities in the hospital

To access the full publication, access the link: [Hospitais Saudáveis (hospitaissaudaveis.org)](http://hospitaissaudaveis.org)
PHS organized product factsheets for HVAC and refrigeration equipment addressing energy efficiency, low GWP refrigerant and other Kygali Amendment related issues, like contracting services for disposal of equipment and refrigerant gases.

Next steps, assessment of energy efficiency methodology and product fact sheets for diagnostic imaging equipment (such as CT scanner and ultrasound).
It simulates the potential for converting organic waste into useful energy. Inspired by the relationship with the Center for Analysis, Planning and Development of Energy Resources (Institute of Energy and Environment of the University of São Paulo – IEE/USP)
Santa Casa de Misericórdia da Bahia - Santa Izabel Hospital

• 9,350 fluorescent light bulbs replaced for LED;
• Installation of 119 solar panels for water heating;
• Chillers Retrofit;
• Software for energy monitoring;
• Installation of two Photovoltaic Systems (e 56.7 kW and 11.4 kW).

1 Hospitales que curan el planeta. Red Global de Hospitales Verdes y Saludables en América Latina

Source: http://tourvirtual.hospitalsantaizabel.org.br/
Energy Challenge – CLiC Project - 2022

The Clean Lighting Coalition (CLiC) organized efforts worldwide to produce and provide arguments for the COP4 of the Minamata Convention. In Brazil this project is designated as a Mercury-Free Lighting in Healthcare and the initiative selected two health facilities\(^2\) at the Medical School of Botucatu (HCFMB) for a LED retrofit.

<table>
<thead>
<tr>
<th>MION</th>
<th>HEBO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saved Energy [kWh/year]</td>
<td>45,327.4</td>
</tr>
<tr>
<td>% Saved energy compared to fluorescent</td>
<td>49%</td>
</tr>
<tr>
<td>Saved Emissions [ton/year] - Normal year</td>
<td>2.800</td>
</tr>
<tr>
<td>Saved Emissions [ton/year] - Dry year</td>
<td>5.729</td>
</tr>
<tr>
<td>Mercury avoided in 20 years [g]</td>
<td>46.24</td>
</tr>
</tbody>
</table>

\(^2\) i) a specific area of the hospital, which is an ambulatory designated as Materno, Infantil, Ortopedia e Neonatal (MION) and ii) Hospital Estadual de Botucatu (HEBO)
### Informações sobre os itens adquiridos

<table>
<thead>
<tr>
<th>Setor inventário</th>
<th>ID</th>
<th>Categoria</th>
<th>Descrição do item</th>
<th>Consumo anual (A)</th>
<th>Unidade</th>
<th>Quantidade de itens em unidade</th>
<th>Peso de uma unidade (g)</th>
<th>Peso total pós consumo (g)</th>
<th>(A) * (B)</th>
<th>Este item é de uso único? (Descartável)</th>
<th>Tipo de material</th>
<th>Item contém Bisfenol A (BPA)?</th>
<th>O item contém DEHP?</th>
<th>Fornecedor/Marca</th>
</tr>
</thead>
</table>

### Informações sobre as embalagens

<table>
<thead>
<tr>
<th>Tipo de material da embalagem</th>
<th>Camadas (Selecione uma opção na coluna)</th>
<th>A embalagem é de uso único?</th>
<th>Total de embalagens a serem descartadas (unidades)</th>
<th>Peso da embalagem (g)</th>
<th>Tipo de material do rótulo</th>
<th>Total de rótulos a serem descartados</th>
<th>Tipo de material das tampas</th>
<th>Total de tampas a serem descartadas</th>
</tr>
</thead>
</table>

### Informações Pós consumo

<table>
<thead>
<tr>
<th>Total de Resíduos gerados no descarte das embalagens (g)</th>
<th>Total de Resíduos gerados pelo descarte dos itens pós consumo em Kg</th>
<th>Tipo de descarte das embalagens</th>
<th>Tipo de descarte dos itens pós consumo</th>
</tr>
</thead>
</table>

### Ações de redução no uso de plásticos

- A sua organização tem iniciativas para reduzir o consumo deste item? Sim ou não - descreva
- A sua organização tem iniciativas com fornecedores para melhorias no desenvolvimento/fabricação ou descarte do produto? Sim ou não - descreva
PHS Team and Governance

- Alessandra Azevedo: Sustainable Procurement Expert
- Ecimara Silva: Waste Expert and Membership Management
- Igor Cordeiro: Energy Expert
- Neilor Guilherme: Climate Expert
- Julio Schwartzman: Administration and Finance
- Monique Lima: Communications
- Raphael Ramos: Information Technology

Executive Board (3P)
Advisory Board (16P)
Fiscal Council (3P)
Thank You!
¡Gracias!
Merci!
Obrigado!

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