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Shortcut to Sustainable Healthcare Innovation: The NCSH Model

Empowering the global healthcare sector with practical sustainability solutions, the NCSH Model facilitates swift, impactful change and offers a shortcut to implementing best practices and tackling urgent environmental challenges.

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key points

- Healthcare faces pressing sustainability challenges that demand immediate action, yet change remains slow, prompting the search for innovative, time-efficient solutions.
- Developed by the Nordic Center for Sustainable Healthcare (NCSH), the NCSH Model offers a tangible approach to implementing sustainable practices in hospitals worldwide, empowering healthcare professionals to drive meaningful change.
- The NCSH Model's four pillars - Determine, Baseline, Action, and Reference - provide adaptable guidelines for hospitals to identify, plan, and implement sustainable initiatives tailored to their unique contexts.
- Through pilot testing in Indian hospitals, the NCSH Model demonstrates its transferability and potential for widespread impact, offering valuable insights for sustainable healthcare development beyond Nordic and European settings.
- With tested green solutions readily available, the NCSH Model presents an opportunity to expedite the transition to sustainable healthcare, leveraging existing knowledge and practices for immediate implementation.

Most of the sustainability issues facing today's industry sectors demand urgent action. The healthcare sector, calling for more innovative approaches, is no exception to such urgency. Yet, change in the industry remains slow. Relying on future healthcare innovations can be challenging when time is running out, considering the long learning path which usually goes into the process. The pressing state of climate change and biodiversity loss means that waiting for innovation can delay changes that need to be made. Turning instead the challenge on its head, is it possible to find a practical tool where best practices can be copied and pasted to bypass slow processes? Can we take a shortcut?

Empowering Sustainability: The NCSH Model for Greener Healthcare

The Nordic Center for Sustainable Healthcare (NCSH) is currently developing a model that promises to facilitate the journey towards sustainability. This model, aptly named The NCSH Model, is not just a theoretical concept but a tangible, practical tool. It's a hands-on approach to creating greener hospitals worldwide, based

on existing knowledge, technology, and know-how accumulated over twenty years of hospital audits, legal compliance, and international projects focused on energy efficiency, waste management, and reducing pharmaceutical residues. This model is designed to be applied in real-world healthcare settings, empowering healthcare professionals and administrators to make a difference.

efficient resource use and reduce their environmental impact, all while maintaining quality care for patients and a conducive working environment for staff. Its four pillars (see below: Determine, Baseline, Action, and Reference) are not rigid rules but adaptable guidelines. They can be tailored to meet the specific contextual needs and conditions of healthcare facilities worldwide. This adaptability puts the power of sustainability in the hands

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The NCSH Model offers hospitals and healthcare facilities a unique opportunity to adopt the best practices in sustainable healthcare and customise these practices to their own needs and conditions. The model identifies realistic and achievable implementations, some of which may be necessary by legislation, and offers a roadmap for short-, medium-, and long-term investments with significant impact. Once the copy-and-paste procedure is complete, it paves the way for further innovation, creating a fertile ground for positive change.
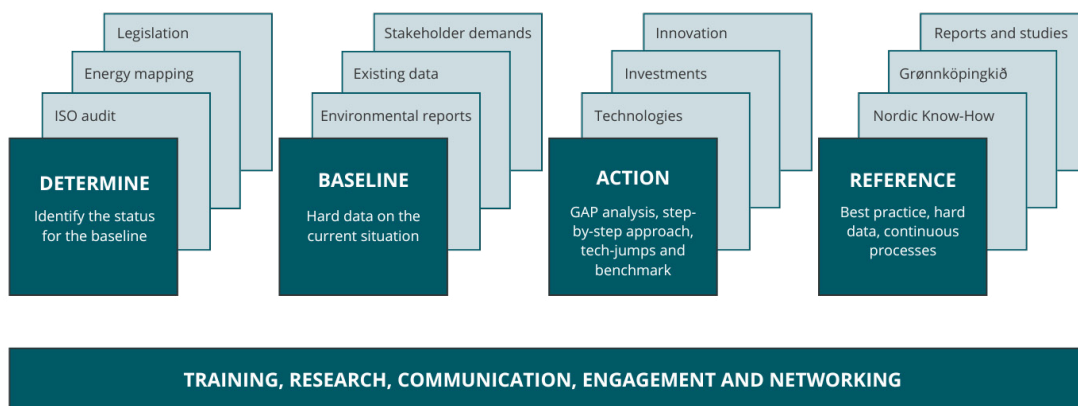
The NCSH Model is a tool designed to empower healthcare facilities. It enables them to establish more

of healthcare professionals and administrators, allowing them to steer their facilities towards a greener future.

Strategic Sustainability: The Four Pillars Behind the NCSH Model

Such contextual needs and conditions are essential for the model's success. Although The NCSH Model is standardised in its pillars, short-, medium—and long-term recommendations are based on specific situations for concrete goals with action plans—both quantitative (involving energy consumption or similar) and qualitative—to follow. Across all the pillars, there is

THE NCSH MODEL

Legislation	Stakeholder demands	Innovation	Reports and studies
Energy mapping	Existing data	Investments	Grønnköpingkiõ
ISO audit	Environmental reports	Technologies	Nordic Know-How
DETERMINE Identify the status for the baseline	**BASELINE** Hard data on the current situation	**ACTION** GAP analysis, step-by-step approach, tech-jumps and benchmark	**REFERENCE** Best practice, hard data, continuous processes

TRAINING, RESEARCH, COMMUNICATION, ENGAGEMENT AND NETWORKING

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a continuous need for training and research on multiple levels, internal and external communication, and structures for engagement and networking.

- **Determine:** This pillar confirms the starting point and the current position of the hospital or healthcare facility. (If this point is already established, the model moves on to the next pillar.) For the Determine pillar, NCSH has developed an extensive audit protocol that, with two to three days of site visits at a hospital, will provide enough information to identify the most relevant issues that need to be addressed.

- **Baseline:** This pillar depends on the Determine pillar and on revisiting present know-how. Hospitals with environmental management systems, reports based on standards and legislation, and goals and strategies for progress measurement tend to already have the existing data and documentation for the Baseline in place.

(worldsgreenesthospital.org).

Know What is on the Market and Build on Best Practices

Together, the four pillars and The NCSH Model make up a quick and easy shortcut to sustainable healthcare. Depending on the hospital's status, recommendations could range from cleaning waste from hospital grounds to installing autoclaves for medical waste to procuring other more circular products, or from cleaning heat pumps to introducing LED lights to investing in solar cells for energy efficiency. The most appropriate best practice needs to be implemented based on what is feasible for a specific facility.

While keeping visions and long-term thinking in mind, shortcutting means that The NCSH Model takes a complementary route to public policies and international agreements that focus on goals for 2030, 2045, or even 2050. Embedded in these goals is a seeming

> Many of the best practices can be found in Nordic countries and can contribute to a shortcut for sustainable healthcare for countries with larger populations and infrastructure needs

- **Action:** This pillar is based on a GAP analysis mapping the road towards a reference point, with action points to be implemented in the short-, medium- and long-term. The action points are concrete and based on the level of progress, the hospital buildings' specific settings, the opportunities available in the regional or national contexts, and economic factors. The GAP compares the Baseline with the best practice(s) possible to help pinpoint what the priorities should be.

- **Reference:** This pillar refers to the aim (the best outcome in every given moment and category). The objective is everchanging and does not rely on a fixed number of measures. Resources that comprise a knowledge base – with best practices and solutions from different parts of the world – can be used to set the Reference pillar. In an ideal scenario, these resources will be ongoing and peer-reviewed. Examples of knowledge bases from the Nordic countries are NCSH's Nordic Know-How series as well as the platform of the World's Greenest Hospital

consensus on waiting for new solutions that will solve the sustainability issues rather than turning the gaze to what is available today. NCSH's model can make actions of the bigger vision tangible.

If (or when) the gaze is turned, it is possible to see that the products and services needed to lower healthcare sector impacts already exist. The same goes for the knowledge base, made visible by the countless studies on healthcare's negative effects on the climate and information about what should be done—highlighting the sector's possibilities for economic and sustainable development.

For the solutions not yet in view, actors can be connected to innovate together based on their conditions and needs. Involving the public sector, healthcare providers, engineers, and professionals working with public expenditure, such innovation could become a transdisciplinary process improving healthcare provision while decreasing environmental impacts.

On the contrary, not making use of existing knowledge and solutions could lead to a reality in which relevant

companies lose out on the market share and may come to down-prioritise their green innovations. One factor that could be realised in this scenario is the lack of practical information among hospital management, not knowing "the what" and "the how" to go about changes: What are the concrete steps, and how can they be taken? What are the priorities under the available budget, and how do we prioritise them? What skills are required to achieve the sustainability goals, and how do we increase these skills? What are the available solutions, and how do we access them? The NCSH Model places the knowledge, the solutions, "the what" and "the how" into the same method.

Putting the Model to Work: Scaling Sustainability in India

In November and December of 2023, The NCSH Model was tested through NCSH's hospital audits in the Indian states of Himachal Pradesh and Uttar Pradesh. The state leads sanctioned the audits and provided access to all parts of the hospitals.

In dialogue with the state, the audit results led to recommendations about what activities and areas to prioritise to generate the most impact in each specific case. Based on the impact, the NCSH Model's assessment is planned to be implemented on a broader scale among the states' thousands of hospitals in India, which is set to have positive environmental effects that exponentially exceed changes at two hospitals.

By putting The NCSH Model to work, a lot of know-how has been obtained on how to tackle sustainability challenges in an Indian setting with different needs and conditions than a Nordic or European context. Such know-how is transferrable to other healthcare facilities in India and beyond. If transferability is taken one step

further, different actors could be trained to use the NCSH Model to accelerate the impact in many hospitals through a global snowball effect.

Accelerating Sustainable Healthcare the Quick and Easy Way

So far, good intentions and strategies have resulted in insufficient outcomes for the healthcare sector's sustainable transformation globally. While spending substantial quantities of financial and human resources on writing policies with little accountability, time for change is running out.

The positive side is that tested green solutions, financially solid measures that will save money, and knowledge on how to best generate change all exist and can be implemented as early as tomorrow.

At hospitals, the work begins at the management level. By recognising limitations in the in-house knowledge bank of sustainable healthcare, management needs to look outwards to learn from best practices of "the what" and "the how" to go about change.

Many of these best practices can be found in Nordic countries and can contribute to a shortcut for sustainable healthcare for countries with larger populations and infrastructure needs. Taking the shortcut means improving healthcare services for thousands of millions of people and considerably reducing CO2 emissions worldwide.

The NCSH Model is currently being designed to facilitate the healthcare sector's transition in a practical manner. Turning to green products, services, and knowledge at work in today's hospitals allows more actors to – with little effort – copy and paste solutions for future custom-made innovations.

About NCSH

NCSH is a cross-sectoral network boosting sustainable healthcare globally, the Nordic way. The NCSH network includes companies, hospitals, regions, universities, NGOs, clusters, and more. Together, the members form an arena that generates collaborations, projects, business, knowledge, and new innovative ideas.

The Nordic countries and many of NCSH's international members have a solid knowledge base and advanced technologies for improved environmental performance and sustainability in healthcare. The network aims to make knowledge and solutions more accessible and visible worldwide.

Do you want to join NCSH in developing and testing The NCSH Model further?

Please reach out to info@nordicshc.org to start the conversation.