The international Network of Health Promoting Hospitals (HPH),
its Task Force and Standards on Environment

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Workshop Sustainability in health care sector: Public Procurement,
Energy and Mobility in the Italian health system and beyond, 7th
November 2014, Bologna
Overview

1. The international HPH Network
2. Health Promotion & HPH and Environment & Sustainable Development
3. Results from PRICES study on environment friendliness of HPH hospitals
4. The TF on HPH and environment – Standards & Self-assessment forms
5. The concept & tools for sustainable Hospitals – The Vienna initiative
1. THE INTERNATIONAL HPH NETWORK
Milestones of the International HPH network

1986: Ottawa Charter
1988: Milz & Vang in HPI: Consultation on the Role of Health Promoting Hospitals
1989-96: Model project “Health and Hospital” in Vienna, Austria
1990: Foundation of HPH Network by WHO-Euro
1991: Budapest Declaration on Health Promoting Hospitals
1993-97: European Pilot Hospital Project “Health Promoting Hospitals” (20 ho in 11 countries)
1993: Start of annual international Conferences, Newsletter
1995: WHO starts to promote national / regional HPH networks
1997: Vienna Recommendations on Health Promoting Hospitals
1998: First thematic HPH task force (psychiatric services, later established: children & adolescents, migrant-friendly, alcohol, environment, age-friendly)
2006: Launch of 18 HPH core strategies, 7 implementation strategies and 5 standards for health promotion in hospitals
2005: First non-European HPH network (Quebec)
2007: Foundation of the International Association “Health Promoting Hospitals and Health Services”
2008: HPH becomes an international association with annual action plans in cooperation with WHO-Euro
2009: Opening of HPH to other healthcare services than hospitals
2009-12: PRICES-HPH evaluation study
2011: Launch of HPH journal “Clinical Health Promotion”
2012: First non-European international HPH conference in Taipei
International HPH Network
More than 40 national / regional Networks with more than 900 members worldwide
The Italian HPH Network

- An important partner in HPH since more than 20 years
- Participation in EPHP (1993-1997) with 2 hospitals (Padova, Milano)
- A strategy of regional networks since 1995
- Participation in PRICES-HPH with 9 networks (Emilia Romagna, Friuli Venezia Giulia, Liguria, Lombardia, Piemonte, Trentino, Toscana, Veneto, Valle d‘Aosta)
- Initiator of international HPH task forces
  - Children & adolescents (Tuscany)
  - Migrant-friendly & Cultural competence (Emilia Romagna)
- Current chair of HPH governance board from Italy
The comprehensive definition of the “umbrella” concept of health promoting health services

“A Health Promoting Hospital and Health Service (HPH) is understood as an organisation that aims to improve health gain for its stakeholders by developing structures, cultures, decisions and processes. HPH is focused primarily on patients and their relatives, with a specific focus on the needs of vulnerable groups, hospital staff, the community population and – last but not least – the environment.”

(The International Network of Health Promoting Hospitals and Health Services: Integrating health promotion into hospitals and health services, WHO 2007)
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<tr>
<th>Strategies for</th>
<th>Patients</th>
<th>Staff</th>
<th>Community</th>
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<tbody>
<tr>
<td>1) Empowerment for health promoting self reproduction</td>
<td>Health promoting living conditions in the hospital</td>
<td>Health promoting working conditions in the hospital</td>
<td>Access to the hospital for citizens</td>
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<td><strong>PAT-1</strong></td>
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<td>2) Empowerment for health promoting coproduction</td>
<td>Participation and coproduction in treatment and care</td>
<td>Participation and coproduction in work processes</td>
<td>Cooperation’s with services in the region (continuity of care)</td>
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<td><strong>PAT-2</strong></td>
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<tr>
<td>3) Developing a health promoting hospital setting</td>
<td>Safe and health promoting hospital environment</td>
<td>Safe and health promoting workplace environment</td>
<td>Safe and health promoting environment for community</td>
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<td><strong>PAT-3</strong></td>
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<tr>
<td>4) Empowerment for illness management</td>
<td>Prevention and self-management of specific diseases</td>
<td>Prevention and self-management of specific diseases</td>
<td>Prevention and self-management of specific diseases</td>
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<td><strong>PAT-4</strong></td>
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<td>5) Empowerment for lifestyle development</td>
<td>Health promoting lifestyle development</td>
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<td><strong>PAT-5</strong></td>
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<tr>
<td>6) (Co-)Developing health promoting living conditions in the community</td>
<td>Development of health promoting living conditions</td>
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18 core strategies for HPH as a comprehensive framework for HP activities

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<tr>
<th>Strategies for</th>
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<th>Community</th>
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<tbody>
<tr>
<td>1) Empowerment for health promoting self reproduction</td>
<td>Improving the health promotion quality of existing services</td>
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<td>2) Empowerment for health promoting coproduction</td>
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<td>3) Developing a health promoting hospital setting</td>
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<td>4) Empowerment for illness management</td>
<td>Development of additional health promoting services</td>
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<td>5) Empowerment for lifestyle development</td>
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<tr>
<td>6) (Co-)Developing health promoting living conditions in the community</td>
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7 implementation strategies for health promotion in health care organizations following the quality approach

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<thead>
<tr>
<th>Quality Functions</th>
<th>Structures of services (&amp; settings)</th>
<th>Processes of services (&amp; settings)</th>
<th>Outcomes/impacts of services (&amp; settings)</th>
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<tbody>
<tr>
<td>1. Definition</td>
<td>S1 Define criteria &amp; standards for structures</td>
<td>P1 Define guidelines &amp; Standards for processes</td>
<td>O1 Define targets for outcomes &amp; impacts</td>
</tr>
<tr>
<td>3. Assurance, development, improvement</td>
<td>S3 Develop of structures by OD, PD, TD</td>
<td>X</td>
<td>X</td>
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Standards for Health Promoting Hospitals

An international working group “Standards for Health Promotion in Hospitals”
developed from 2001-2005
five standards:
1: Management Policy
2: Patient Assessment
3: Patient Information and Intervention
4: Promoting a Healthy Workplace
5: Continuity and Cooperation
with 24 sub-standards & indicator sets.
5 Standards for implementing health promotion in hospitals (Edited by O. Groene 2006)

Standard 1: Management Policy
The organization has a written policy for health promotion. The policy is implemented as part of the overall organization quality improvement system, aiming at improving health outcomes. This policy is aimed at patients, relatives and staff.

Standard 2: Patient Assessment
The organization ensures that health professionals, in partnership with patients, systematically assess needs for health promotion activities.

Standard 3: Patient Information and Intervention
The organization provides patients with information on significant factors concerning their disease or health condition and health promotion interventions are established in all patient pathways.

Standard 4: Promoting a Healthy Workplace
The management establishes conditions for the development of the hospital as a healthy workplace.

Standard 5: Continuity and cooperation
The organization has a planned approach to collaboration with other health service providers and other institutions and sectors on an ongoing basis.
2. HEALTH PROMOTION & HPH AND ENVIRONMENT & SUSTAINABLE DEVELOPMENT
Important steps in the development of the sustainable and the health promotion discourse on a political level

- 1972: UN Conference on Human Environment Limits to Growth
- 1972: Club of Rome
- 1973: OPEC Oil Crisis
- 1980: World Conservation Strategy, IUCN
- 1980: Independent Commission on International Development Issues
- 1985: Ozone Hole Discovery
- 1985: Climate Change Recognised
- 1987: The Brundtland Report
- 1987: Montreal Protocol
- 1992: Earth Summit
- 1997: Kyoto Protocol
- 1997: Earth Summit + 5
- 2001: EU Strategy for Sustainable Development
- 2000: UN Millennium Summit
- 2002: World Summit on Sustainable Development, Johannesburg
- 2005: Kyoto Protocol Becomes Law
- 1974: Lalonde Report
- 1978: Declaration of Alma-Ata
- 1979: Health for All
- 1986: Ottawa Charter for Health Promotion
- 1988: Adelaide Recommendations on Healthy Public Policy
- 1989: WHO Charter on Environment & Health
- 1991: Sundsvall Statement on Supportive Environments for Health
- 1991: Budapest Declaration on HPH
- 1997: Health and Environment in Sustainable Development: Five Years after the Earth Summit
- 1997: Jakarta Declaration
- 1997 Vienna Recommendations on HPH
- 2000: Mexico Ministerial Statement for Promotion of Health
- 2005: Bangkok Charter for Health Promotion in a Globalized World
- 2009: Nairobi Call to Action
- 2009: Healthy Hospitals, Healthy Planet, Healthy People: Addressing climate change in health care settings

There is an explicit reference by HP to SD since the Ottawa Charter
Principles of SD in HP/WHO documents

Ottawa Charter for Health Promotion (1986)
- **Create supportive environments:** The conservation of natural resources throughout the world should be emphasized as a global responsibility. … The protection of the natural and built environments and the conservation of natural resources must be addressed in any health promotion strategy.

Sundsvall Statement on Supportive Environments for Health (1991)
- Four aspects of supportive environments: The economic dimension, which requires a re-channelling of resources for the achievement of Health for All and sustainable development, including the transfer of safe and reliable technology.
- … At the international level, large differences in per capita income lead to inequalities not only in access to health but also in the capacity of societies to improve their situation and sustain a decent quality of life for future generations.

Jakarta Declaration (1997)
- Priorities for health promotion in the 21st Century - Promote social responsibility for health: protect the environment and ensure sustainable use of resources
Principles of SD in HP/WHO documents continued

Adelaide Recommendations on Healthy Public Policy (1988)

- **Action Areas - Creating supportive environments:** Environmental management must protect human health from the direct and indirect adverse effects of biological, chemical, and physical factors, and should recognize that women and men are part of a complex ecosystem. The extremely diverse but limited natural resources that enrich life are essential to the human race. Policies promoting health can be achieved only in an environment that conserves resources through global, regional, and local ecological strategies.
- At an international level, the World Health Organization should play a major role in achieving acceptance of such principles and should support the concept of sustainable development.
- This Conference advocates that, as a priority, the public health and ecological movements join together to develop strategies in pursuit of socioeconomic development and the conservation of our planet's limited resources.
Principles of SD in HPH documents

The Budapest Declaration on Health Promoting Hospitals (1991)
- Raise awareness of the impact of the (physical) environment of the hospital on the health of patients, staff and community.

The Vienna Recommendations on Health Promoting Hospitals (1997)
- Hospitals are producers of large amount of waste. They can contribute to the reduction of environmental pollution and, as consumers of large amounts of products, they can favour healthy products and environmental safety
- … be oriented towards quality improvement, the wellbeing of patients, relatives and staff, protection of the environment

> SD in HPH documents, including the HPH strategies & Standards, is only to some extent included!
3. RESULTS FROM PRICES STUDY ON ENVIRONMENT FRIENDLINESS OF HPH HOSPITALS
Survey on HPH national/regional network level

Survey on HPH hospital level

Relevant local, regional, national environments

Institutions & Organizations

Populations & Citizens

HPH member Hospital

HPH hospital HP structures:
Building capacities for HP activities

HP hospital HP processes/activities:
Implementing HPH strategies & standards

HP hospital HP outcomes:
Improved health gain of...

HPH network structures
Building capacities for supporting activities for development of HP hospitals

HPH network processes/activities:
Implementing strategies for HP capacity building in HP hospitals & in their relevant environments

HPH network intermediate outcomes I:

HPH network intermediate outcomes II:

PRICES-HPH evaluation model (Pelikan J.M. et al 2012)
### Key characteristics of the PRICES-HPH study

<table>
<thead>
<tr>
<th>PRICES-HPH study</th>
<th>Network survey</th>
<th>Hospital survey</th>
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<tbody>
<tr>
<td><strong>Survey period</strong></td>
<td>02-06, 2009</td>
<td>10, 2009 – 03, 2010</td>
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<tr>
<td><strong>Method</strong></td>
<td>questionnaire, interviews (132 questions)</td>
<td>online -questionnaire (110 questions)</td>
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<tr>
<td><strong>Total population</strong></td>
<td>35 Networks</td>
<td>35 Networks (768 Hospitals)</td>
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<tr>
<td>(the time the survey was conducted)</td>
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<tr>
<td><strong>Participating</strong></td>
<td>28 Networks</td>
<td>29 Networks with 529 member hospitals</td>
</tr>
<tr>
<td><strong>Response rate</strong></td>
<td>80%</td>
<td>34% (180 hospitals)</td>
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<tr>
<td><strong>Presented data</strong></td>
<td>28 Networks</td>
<td>159 “Acute” hospitals (from 25 NW)</td>
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Sustainable "performance" of HPH hospitals

- **f)** The hospital attempts to reduce waste, effluents and emissions (e.g. by recycling of goods, by reducing nuclear, biological and chemical residues)
- **c)** The hospital attempts at reducing its energy consumption (e.g. by insulation of buildings, energy saving equipment, lighting control, renewable energy sources)
- **e)** The hospital attempts to reduce its material consumption (e.g. by reducing one-way equipment, packing material)
- **a)** The hospital considers ecological impacts in purchasing goods (e.g. preference of ecological food, bio-degradable cleaning agents)
- **d)** The hospital attempts to reduce its water consumption
- **g)** The hospital reduces private car traffic to (and from) the hospital (e.g. by improving accessibility of the hospital by public transport, by offering free tickets for public transport to staff, by encouraging the use of...)
- **b)** The hospital considers social impacts in purchasing goods (e.g. preference of fair-trade products)

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at All</th>
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<th>3</th>
<th>4</th>
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<tr>
<td>NW &gt; 3</td>
<td>58%</td>
<td>73%</td>
<td>50%</td>
<td>46%</td>
<td>23%</td>
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<td>3.6</td>
<td>3.5</td>
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<td></td>
<td></td>
<td>fully</td>
<td>not at all</td>
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**HPH PRICES hospital survey 2010 (N = 179, Q 92)**
PH PHPRICES hospital survey, 2010, LBIHPR (N = 179)

In how far are the following *setting related* topics addressed by your hospital?

**g) Sustainable hospital / Green hospital**

![Bar chart showing the level of addressing sustainable hospital topics by national / regional HPH Networks]

- **Fully**
- **Widely**
- **Partly**
- **Hardly**
- **Not at all**
HPH network hospitals differently meet green criteria (PRICES-HPH hospital study, LBIHPR 2010, N=179 hospitals = 34% response rate)

In how far does your hospital meet the following criteria?

- Fully
- Widely
- Partly
- Hardly
- Not at all

- Considering social impacts by purchasing
- Considering ecological impacts by purchasing
- Reducing energy consumption
- Reducing water consumption
- Reducing material consumption
- Reducing waste, effluents, emissions

Southern EU
Western EU
Northern EU
4. THE TF ON HPH AND ENVIRONMENT – STANDARDS & SELF-ASSESSMENT FORMS
Task Force HPH & Environment

- Working since 2010
- Led by representatives from the Taiwanese HPH network
  - Dr. Shu-Ti Chiou, Dr. Chin-Lon Lin
- Members from inside the HPH network & from partner networks / organizations (e.g. HCWH)
- Regular Meetings & Symposia related to each HPH IC
- Main products
  - Self-Assessment Forms
  - HPH and Environment Manual
Self-Assessment Forms
For Environment-friendly Hospital Initiative
(Adapted from the Global Green and Healthy Hospital Agenda)
Task Force on Health Promoting Hospital and Environment, Version 2.0, April 2013

1. Leadership
2. Chemicals
3. Waste
4. Energy
5. Water
6. Transportation
7. Food
8. Buildings

Sub-standards /indicators for every standard mostly to be answered by the following scheme:
Response: □ 1.None , □ 2.Partially implemented , □ 3.Fully implemented
I. Leadership
Demonstrate leadership support for green and healthy hospitals in order to: create long-term organizational culture change; realize widespread hospital worker and community engagement; and foster public policy that promotes environmental health.

1.1. Develop and commit to a system-wide green and healthy hospital policy.
Response: □ 1. None, □ 2. Partially implemented, □ 3. Fully implemented

1.2. Form a task force consisting of representatives of various departments and professions within the organization to help guide and implement efforts.

1.3. Dedicate staff resources at the executive/directorate and facility levels to address environmental health issues organization- or system-wide.

1.4. Invest in research to remove barriers to further innovation.

1.5. Assure that strategic and operating plans and budgets reflect the commitment to a green and healthy hospital.

1.6. Provide opportunities for educating staff and community on environmental factors that contribute to the burden of disease, as well as the relationship between public environmental health and disease prevention.

1.7. Together with the local community, engage in dialogues, debates and initiatives related to disease prevention and environmental health.

1.8. Collaborate with other stakeholders to map environmental health risks and conduct surveillance of diseases associated or potentially associated with environmental factors.
   (e.g. collaborate with local health, labor or environment agencies to report or investigate the cause behind abnormal disease incidences or occurrences)
Leadership continued

1.9. Build or participate in local networks of hospitals and/or health services groups committed to advocate for environmental health policies. *

1.10. Advocate for disease prevention and environmental health as core components of future health strategies.

1.11. Encourage multilateral and bilateral agencies financing hospital construction or health sector operations to collaborate with public and private sector counterparts, to ensure that such financing promotes the development and operation of environmentally sustainable health facilities that foster community environmental health. *

1.12. Educate accreditation bodies about the intersection between environmental sustainability, human health and health care standards. Identify ways that sustainability practices can be incorporated into accreditation standards. *

1.13. Utilize purchasing power to obtain environmentally responsible and ethically produced products at cost competitive prices and work with manufacturers and suppliers to innovate and expand the availability of these products.


1.15. Quantify consumption data of substances, energy heating and cooling from different departments.

1.16. Maintain a system in place to periodically evaluate your continued compliance with pertinent national, state or provincial and local environmental regulations.

1.17. Seek sources of funding for green projects and incentive opportunities. *

1.18. Implement regular (e.g., quarterly) sustainability reporting to update senior management, staff and Board of Trustees.
II. Chemicals

Improve the health and safety of patients, staff, communities and the environment by using safer chemicals, materials, products and processes, going beyond the requirements of environmental compliance.

2.1. Develop institution-wide chemicals and materials policy and protocols to protect patient, worker, and community health and the environment, while helping drive society wide demand for alternatives.

2.2. Implement a facility-specific chemicals action plan with benchmarks and timelines.

2.3-1. Participate in the WHO-HCWH Global Mercury-Free Health Care Initiative. *

2.3-2. Substituting all mercury thermometers and blood pressure devices with safe, accurate, affordable alternatives.

2.4. Address the use of chemicals of concern, including, for example, glutaraldehyde, halogenated fire retardants, PVC, DEHP and BPA, and seek safer alternatives and substitutes.

2.5. Adopt policies that require disclosure of chemical ingredients in products and materials and seek to ensure that all ingredients have undergone at least basic toxicity testing. *

2.6. When products or materials are identified that contain Substances of Very High Concern – substances that have been identified as carcinogenic, mutagenic or toxic for reproduction, or that are persistent and bio-accumulative or warrant similar concern – hospitals should make it a high priority to replace them with safer alternatives.
III. Waste
Protect public health by reducing the volume and toxicity of waste produced by the health sector, while implementing the most environmentally sound waste management and disposal options.

3.1. Implement environmentally preferable purchasing procedures and avoid toxic materials such as mercury, PVC and unnecessary disposable products.

3.2. Set up a waste management committee and allocate a dedicated budget for waste management.

3.3. Implement a comprehensive waste reduction program, including avoiding, where feasible, injectable medicines where oral treatments are as effective.

3.4. Segregate waste at source and initiate recycling for non-hazardous wastes.

3.5. Implement a comprehensive waste management training program, including injection safety and safe handling of sharps and other waste categories.

3.6. Ensure waste handlers are trained, vaccinated and have personal protective equipment.

3.7. Introduce non-burn treatment technology in order to ensure that the waste that cannot be avoided is treated and disposed of in an economical, safe and environmentally sustainable manner.


3.9. Support and participate in the development and implementation of “zero waste” policies that significantly reduce the amount of waste generated at the hospital, municipal and national levels.

3.10. Conduct waste audit to track the waste volume and disposal expenses from each department. Keep and track the collected data.

3.11. Check irregularly the treatment process from the hospital to recycling plants, incinerators, and landfill site.
IV. Energy
Reduce fossil fuel energy use as a means to improve and protect public health; foster energy efficiency as well as alternative, renewable energy use with the long-term goal of 100% of energy needs to be supplied by on-site or community renewable energy sources.

4.1. Starting from 2009, in accordance with the Sustainable Energy Policy Guideline by the Executive Yuan, existing hospital buildings should aim for annual negative growths of power and fuel usage (-1%), with a cumulative target of 7% reduction by the year 2015 (Relevant to Taiwanese Hospitals only) *

4.2. Hospital implements an energy saving purchasing policy (e.g. purchase lightings and equipment with energy or water saving certifications)

4.3. Conduct regular energy audits and use the results to inform awareness and retrofit programs.

4.4. Once efficiency measures are implemented, investigate the purchase of clean, renewable energy, and if available, purchase at least five percent at the next available opportunity. In existing plants, shift to cleaner boiler fuels. *

4.5. Investigate sources of onsite, clean, renewable energy and include its generation in all new building plans.

4.6. Identify potential co-benefits of climate mitigation efforts that reduce greenhouse gas emissions and local health threats, while saving money at the same time.

4.7. Integrate occupant (employees, patients and visitors) education and awareness programs to reduce energy consumption related to occupancy. *

4.8. In mechanically conditioned spaces, turn thermostats down a few degrees in winter or cool climates, and up in summer or warm climates. Even a slight shift can create significant energy savings.

4.9. promotes/implements shutting down of equipment not in use, removing plugs and turning off power.
V. Water
Implement a series of conservation, recycling and treatment measures to reduce hospital water consumption and wastewater pollution. Establish the relationship between potable water availability and healthcare resilience to withstand physical, natural, economic and social disruption. Promote public environmental health by providing potable water for the community.

5.1. Establish a framework that aspires to “net zero water use” within a hospital system.

5.2. Implement water conservation strategies: install efficient faucets and toilets, routinely check plumbing and pipes to prevent leaks, eliminate water-based sealant and coolant in medical air compressors and vacuum pumps, and retrofit refrigeration systems.*

5.3. Switch from film-based radiological imaging equipment, which uses large quantities of water, to digital imaging, which uses no water and no polluting radiological chemicals.

5.4. Landscape grounds using drought-resistant plants to minimize water use.

5.5. Consider harvesting rainwater and/or recycling water for process water uses.*

5.6. Eliminate bottled water facility-wide if high quality potable water is available.*

5.7. Regularly analyze water quality.

5.8. Implement on-site wastewater treatment technologies when no municipal service is available.*

5.9. Conduct water use audit to examine water distribution and consumption among different departments.

5.10. Solve leaking, dripping, and unnecessary problems through repair solutions.

5.11. Check sewer systems regularly for leakage to avoid polluting groundwater.
VI. Transportation
Develop transportation and service delivery strategies that reduce hospitals’ climate footprint and their contribution to local pollution.

6.1. Provide health care in locations that are accessible to patients, staff and visitors without causing them unnecessary travel. *

6.2. Consider community-based primary care, home care and co-locating medical services with related social services or community programs.

6.3. Develop strategies for telemedicine, communication by e-mail and other alternatives to face-to-face encounters between caregivers and patients.

6.4. Encourage staff, patients and visitors to walk or use car pools, public transport or bicycles whenever possible. *

6.5. Install showers, lockers and bicycle storage facilities to encourage staff to adopt healthy modes of transportation.

6.6. Negotiate discounts for public transport to provide incentives for its use.

6.7. Optimize the energy efficiency of hospital fleet vehicles by using hybrid, electric or appropriate bio-fuel technologies.

6.8. Purchase from local suppliers, and/or suppliers who use fuel efficient transportation.

6.9. Dispose of waste near the point of generation.

6.10. Advocate for progressive public transportation policies in the interest of environmental health.

6.11. Offer preferred parking for carpool participants or environment-friendly vehicles, such as environment-friendly parking only space.

6.12. Provide certain amount of charging spots for electric vehicles.


VII. Food
Reduce hospitals’ environmental footprint while fostering healthy eating habits in patients and staff. Support access to locally and sustainably sourced food in the community.

7.1. Modify hospital menus and practices to support healthier food purchases by buying locally produced and organic produce.*

7.2. Make the hospital a “fast food free zone”; eliminate sugar-based soft drinks in hospital cafeterias and vending machines.*

7.3. Work with local farmers, community-based organizations and food suppliers to increase the availability of locally sourced, sustainably grown food.

7.4. Encourage vendors and/or food management companies to supply food that is produced without synthetic pesticides and hormones or antibiotics given to animals in the absence of diagnosed disease, and which supports farmer’s health and welfare, as well as ecologically protective and restorative agriculture.

7.5. Implement a step-by-step program to identify and adopt sustainable food procurement. Begin where minimal barriers exist and immediate steps can be taken, for example, by introducing organic fresh fruit in the cafeteria.

7.6. Educate and communicate within the hospital or health care system, as well as to patients and community, about nutritious, socially equitable and ecologically sustainable food practices and procedures.

7.7. Minimize and beneficially reuse food waste. For instance, compost food waste or use it as animal feed. Convert cooking oil waste into biofuel.

7.8. Make the hospital a center that promotes nutrition and healthy food by holding farmers’ markets for the surrounding community and fostering community gardens on hospital grounds.

7.9. Use reusable dishware and utensils in hospital dining areas and implement recycling.

7.10. Use bio-based or compostable utensils when there are no reusable utensils available.

7.11. Implement meal service survey plan for patients, as a mechanism to reduce kitchen waste and increase patient satisfaction.

6.12. Provide certain amount of charging spots for electric vehicles.
VIII. Buildings
Reduce health care’s environmental footprint, and make hospitals healthier places to work and visit, by incorporating green building principles and practices into design and construction of health facilities.

8.1. Aspire to carbon-neutral building operation.

8.2. Protect and restore natural habitat

8.2.1 Hospital has “green measures” (e.g. increase green areas, increase plants/vegetations in buildings)*

8.2.2 total building base area: square meters; green area square meters*

8.3. Hospital buildings have shading structures to reduce sunlight exposure
HPH and Environment Manual

Preface

The level of environmental friendliness of hospitals and health services worldwide has and will continue to have a significant and direct impact on human health. According to the WHO, the environment related mortality comes from a multitude of factors - including unsafe water, air pollution, waste disposal, noise, substances and so forth. Potentially, if environment is taken into account to include man-made climate change, the gravity of the health related issues is of course even more substantial.

The health care sector plays a major part in global environment, and thus we, as health professionals, can make a real change for the better. Hospitals are among the most intensive energy-consuming buildings and byproducts of health care industries include toxic, hazardous substances, polluted water, massive amounts of waste etc.

In this way, hospitals and health services can seriously undermine the health of the people they are meant to serve.

Rather than causing diseases, we should be preventing them, and thus hospitals and health services should take their place as front line promoters of a cleaner and greener world. Furthermore, health care professionals, we have a very credible platform for such advocacy, so our work in this area can make a positive difference.

The International Network of Health Promoting Hospitals and Health Services (HPH) focus on actively promoting the health of patients, staff, communities and environments - wherever possible and however possible. Doing so naturally entails harnessing the tremendous positive potential inherent in furthering a more environmentally friendly health care sector globally. In light of the critical need for further development, documentation and dissemination of evidence-based environmental activities and initiatives in hospital and health service settings, the HPH Environment Task Force has developed this manual. The manual attempts to visualize environmental initiatives and related initiatives in core HPH documents, and by doing so it aims to support such initiatives at all hospital and health service levels and to be useful for all health professionals.

It must be noted that this manual will be of good use to you in your health promotion work.

On behalf of the International Network of Health Promoting Hospitals & Health Services,

[Signatures]

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Sustainable development triangle - key elements and interconnections (Munasinghe 1992, Rio Earth Summit)

- **Economic**
  - growth
  - efficiency
  - stability

- **Social**
  - empowerment
  - inclusion/consultation
  - institutions/governance

- **Environmental**
  - resilience/biodiversity
  - natural resources
  - pollution

A multi-criteria approach defining a “Sustainable” & Health Promoting Hospital (developed and tested in the “Sustainable Hospital Project”, Vienna 2007-10)
By a multi-criteria approach defining a “Sustainable” & Health Promoting hospital
(developed and tested in the “Sustainable Hospital Project”, Vienna 2007-10)

These criteria have to be implemented in the hospital by ...
- Explicit policies, targets, action planes, indicators, ...
- Defined responsibilities (roles, units)
- Integration in management system (QM, Balanced Scorecard, ... and/or special environmental MS such as EMAS, ISO 14000)
- Monitored operational change in core & support processes
The ecological sustainability of a hospital can best be captured by an Input-Output-Model.

**Input**
- Energy
- Water
- Building materials
- Food
- Equipment & Products

**Hospital**
- Using innovative technologies & renewable energy
- Reducing hazardous chemicals (e.g. PVC, mercury, lead, dioxin, cadmium ...)
  - “Green building principles”
- Buying sustainable meat & seafood, local & organic food
- Green purchasing (energy efficient, less polluting, durable, less packaging)
- Waste Management (minimization, segregation, recycling, safer chemicals)
- Transportation (consignment, traffic by Staff, patient & visitors)

**Output**
- Air emission (building energy, use procurement, travel)
- Wastewater
- Solid Waste
- Hazardous Waste (Pharmaceuticals)

Sources: HCWH, WHO
Typology of pressures from hospitals on the environment by input, output, throughput and side effects

PRE-INPUT
Used energy and natural resources in connection with product

INPUT
Building energy
Water
Products: (investment goods consumer goods)
Land

TROUGHPUT
Clinical functions (diagnostics, therapy, care)
Support functions (administration, purchasing, …)
Hotel functions (accommodation, nutrition, cleaning, heating, …)

OUTPUT
Air emissions
Wastewater
Waste: Solid Waste
Hazardous Waste (Pharmaceuticals)

SIDE EFFECTS
Travel (patients, visitors, staff)
Possible responses by hospitals: Seven elements of a climate-friendly hospital (WHO 2009)

**TROUGHPUT**

1. **Energy efficiency** (reduce energy consumption & costs through efficiency & conversation measures)
2. **Green building design** (responsive to local conditions & optimized for reduced energy & resource demand)
3. **Alternative energy generation** (produce/consume clean, renewable energy onsite)
4. **Transportation** (alternative fuels, walking & cycling, public transport, site health-care buildings)
5. **Food** (sustainably grown local)
6. **Waste** (reduce, re-use, recycle, compost; alternatives to incineration)
7. **Water** (conserve; avoid bottled water)

**SIDE EFFECTS**

Reducing Side Effects

**INPUT**

- Travel

**OUTPUT**

Reducing Input

Reducing Output
Possible responses by hospitals **within clinical functions**

**TROUGHPUT**
- Antibiotics policy
- Reduce diagnostics without therapeutic consequences
- Palliative care versus high-tech medicine at the end of life...
- Energy efficiency, Green building design, .....

**SIDE EFFECTS**
- Travel

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(PRE-) INPUT
- Reducing Input
  - Clinical functions
  - Support functions
  - Hotel functions

OUTPUT
- Reducing Output
- Reducing Side Effects
Self assessment-tool for sustainability of hospital units - Interview guideline

Part A: “Sustainable culture” - 2 Questions

Part B: “Ecology” (Waste, Energy use, …) - 14 Q

Part C: „Economy“ (cost awareness of staff) – 2 Q

Part D: „Social“- 18 Q

  D1: internal social responsibility incl. stresses and strains for staff
  D2: external social responsibility (cooperation, purchasing)
  D3: Health Promotion (actions)

Part E: “Core processes of the unit” (quality, teaching) – 5 Q

Project: „Testing the Sustainable Hospital“ – 2008-2010, Vienna
http://www.das-nachhaltige-krankenhaus.at
Self assessment-tool for sustainability of hospital units - Interview guideline

Part A: “Sustainable culture” – 2 Questions
Part B: “Ecology” (Waste, Energy use, …) – 14 Q
Part C: „Economy“ (cost awareness of staff) – 2 Q
Part D: „Social“ – 18 Q
  D1: Internal social responsibility incl. stresses and strains for staff
  D2: External social responsibility (cooperation, purchasing)
  D3: Health Promotion (actions)
Part E: “Core processes of the unit” (quality, teaching) – 5 Q

Teil D: „Soziales“
Soziales A: Interne soziale Verantwortung - MitarbeiterInnen

D1: Erfahren Sie als MitarbeiterInnen insgesamt ausreichend Anerkennung und Wertschätzung? (Anerkennung und Wertschätzung bezahlt das Einsatz Kollegen, Vorgesetzte, Kollegen, Ruhemann, Angestellte, Gesellschaft)

D2: Haben Sie als MitarbeiterInnen insgesamt ausreichend Informationen und Mitwirkungsmöglichkeiten? (Partizipationsmöglichkeit an der Gestaltung der eigenen Arbeit)

Documentation:
- Rating the performance
- Rating the need for action
- Suggestions for solutions
Self assessment-tool for sustainability of hospital units – a six step procedure

1. Self assessment (3 staff groups)
2. Report
3. “Consensus” conference in the unit
4. Protocol
5. Leadership meeting
6. Evaluation

Project: „Testing the Sustainable Hospital“ – 2008-2010, Vienna
http://www.das-nachhaltige-krankenhaus.at
Self assessment-tool for sustainability of hospital units – a six step procedure

Strengths of the Procedure:
- Participatory bottom up procedure, but supported top down
- Agenda Setting & awareness raising for environmental issues
- Use of local expertise for problems and solutions
- Instant solution of local environment related problems
- Lean and acceptable procedure for staff and management

Project: „Testing the Sustainable Hospital“ – 2008-2010, Vienna
http://www.das-nachhaltige-krankenhaus.at
The “Ecological Footprint” of hospitals is quite large

**Ecological Footprint of the hospital**

(first-ever carried out 2001 for Lions Gate Hospital, Vancouver
4.9 ha/patient-year vs. 7.6 ha/person-year in Canada
2.2 ha/person-year in World
Bicopacity 1.8 ha/person-year,
Source: Global Footprint Network, 2006

**Using innovative technologies & renewable energy**

**Reducing hazardous chemicals (e.g. PVC, mercury, lead, dioxin, cadmium ...)**

**Green (new) building principles**

**Buying sustainable meat & seafood, local & organic food**

**Green purchasing (energy efficient, less polluting, durable, less packaging)**

**Waste Management (minimization, segregation, recycling, safer chemicals)**

**Transportation (consignment, traffic by Staff, patient & visitors)**

**Input**

- Energy
- Water
- Building
- Food
- Products

**Hospital**

**Output**

- Emission
  - Air (building energy use, procurement, travel)
- Waste
  - Water
  - Hazardous Waste
  - Pharmaceuticals
  - Solid Waste

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Pelikan JM, Workshop Sustainability in Healthcare, HPH & Environment, Bologna, November 7, 2014
HPH conference 2015, Oslo, Norway, June 10-12

23rd International Conference on Health Promoting Hospitals and Health Services

"Person-oriented health promotion in a rapidly changing world: Empowerment – Continuity – New media & technologies"

Abstract deadline: December 20, 2014

Information and abstract submission: http://www.hphconferences.org/oslo2015.html
Thank you for your attention!

Contact:
juergen.pelikan@lbihpr.lbg.ac.at

http://www.hph-hc.cc
Health Promotion (HP) programmatic documents from the beginning explicitly refer to Sustainability

- Health Promotion (WHO-Declarations from global HP conferences)

  - Health Promotion should address “social, economic and environmental determinants of health” (Ottawa 1986 and all following Declarations)

  - “Public health and ecological movements should join together” (Adelaine, 1988)

  - Health promotion should address the “quality of life for future generations” (Sundsvall, 1991)

  - “Progress has been made in placing health at the centre of and environmental policies, e.g. in the Millennium Development Goals” (Bangkok 2005)

- Global Sustainable Development (key events)

  - Ottawa 1986
  - Adelaide 1988
  - Sundsvall 1991
  - Jakarta 1997
  - Mexico 2000
  - Bangkok 2005
  - Nairobi 2009