

Green Healthcare Institutions: Health, Environment and Economics

**IOM Roundtable on Environmental Health Sciences, Research, and
Medicine
11 January, 2006**

Summary Remarks

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Acknowledgments

- IOM Roundtable staff
 - C. Coussens, D. Gilbert, D. Tollerud
- IOM Roundtable leadership
 - P. Rogers, L. Goldman
- Planning committee
 - A. Karolides, R. Bulger, J. Porretto, R. Jackson, H. Frumkin
- Speakers and moderators

Summary

- What?
- Why?
- On what basis?
- How?

What?

Green Healthcare uses facilities, materials, and practices designed to

- protect the environment
- promote health
 - of building occupants
 - of the immediate community
 - of the global community
- make business sense

Green Building: definition

The practice of

- increasing the efficiency with which buildings and their sites use energy, water, and materials, and
- reducing building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal—the complete building cycle.

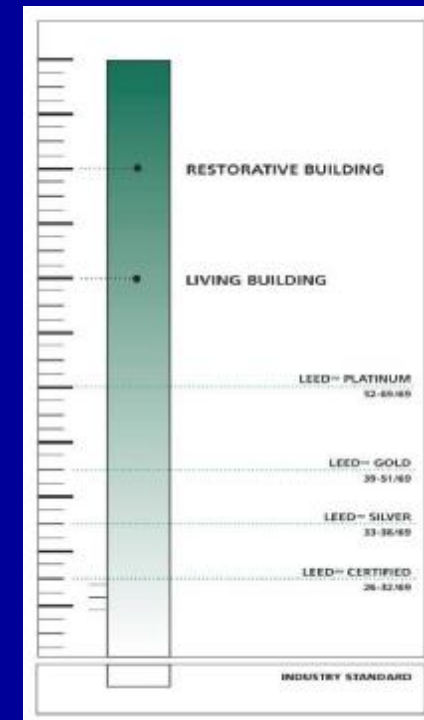
Green Building: definition

Additional elements

- Contact with nature
- Daylighting
- Coherence and wayfinding
- Art
- ...and other elements that add up to “great places” or “places of the heart”

Key elements of framing

- **Aspirational:** aims not only to avoid harm but to enhance well-being and restore the environment.
- **Economical:** Doesn't cost more...costs *less*. Talk about *value*, not *money*.
- **Prudent:** reduces risk of
 - Energy price shocks
 - Mold-related health problems
 - Building obsolescence
- **Long-term:** Life cycle analysis.
- **Contextual:** Community role.



Kaiser Vision Statement:

“We aspire to provide health care service in a manner that protects and enhances the environment and health of the community now and for future generations.”

Be realistic

Zimring's Laws:

- Avoid the theory of generalized goodness
- Recognize and be explicit about tradeoffs e.g. ↑ energy requirements of wide halls, large rooms

Why?

- Economic benefits
- Ethical obligations
- Environmental benefits
- Health benefits
 - Harm reduction e.g. reduced toxins
 - Health promotion e.g. daylighting
 - Improved health system performance e.g. reduced errors
- Social benefits e.g. Rikshospital main street
- Community leadership: key hospital role in many communities
- Educational mission

On what basis?

Evidence-based design:

- “Conscientious, explicit, and judicious use of current best evidence in making design decisions that advance an organization’s goals”

On what basis?

Assessing the evidence base:

- Evidence of health benefits
- Evidence of environmental benefits
- Cost-benefit evidence
- Evidence of other benefits
 - Social benefits
 - Community impact

Evidence of health benefits

An incomplete evidence base:

- Difficulty of defining “exposure”
- Difficulty of defining outcomes (“evolved well-being needs”)

But considerable research opportunities:

- Relevant outcomes routinely measured
- Large-scale study settings available
- Research culture at health science centers

Evidence of environmental benefits

- Starting point: evidence of large environmental impact of health sector
- Example of benefits: UF data on emissions avoided, waste reduced, etc.

Cost-benefit evidence

- Strong evidence for commercial buildings and schools
e.g. Kats data (www.cap-e.com)
- Some evidence from case studies of health care institutions

Building the evidence base

- Need to define data gaps with respect to
 - Health benefits
 - Environmental benefits
 - Cost-benefit aspects
- Need to study cases of green healthcare institutions
- Need adequate research funding streams

How?

Steps to the greening of healthcare

- Evidence-based advocacy
- Are we at a tipping point?
 - Rapid growth of interest in green healthcare
- Planning for the healthcare future
 - Aging population
 - Rising healthcare costs
 - Increasingly scarce inputs (fossil fuels, water)

How?

The importance of:

- Champions within the institution
- Inclusive outreach within the institution
- Institutional leadership
- Power to transform the market (e.g. Kaiser)
- The business case
- External support (e.g. Heinz, PA at UPitt)
- Procedures and tools that work e.g. commissioning
- A party so good, everybody wants to come

How?

Elements of Social Marketing

- Understanding the competition
- Understanding target markets
- Creating mutually beneficial exchanges
- Segmenting markets and targeting based on anticipated return

How? Levels of “adopters”

- Tier 1: Minimum regulatory compliance.
- Tier 2: Beyond compliance to cost savings.
- Tier 3: Beyond cost savings to policy measures, usually to catalyze industry change, new perspectives on health, and the role of the physical environment on health. Benefits may be staff satisfaction, improved community health, increased market share.

How?

Differences according to scale?

- Academic medical centers:
 - Educational mission
 - Presence of student and faculty advocates
- Community hospitals
 - Economic realities
 - Competition for patients
- Clinics and physician offices
 - ?

How?

Taking advantage of this meeting

A concluding vision

A healthcare system that

- protects and restores the environment
- promotes patient health by
 - Providing healthy environments
 - Providing environments that optimize staff performance
- promotes community health and well-being
- promotes the health of the global community
- makes green performance sound business
- leads by example

And a generation of future healthcare leaders
prepared to do better than we did

Enjoy!