

Thoughtful Design: The Future of Healthcare Planning



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Thoughtful Design

•As designers, the environments that we **design** can't make a doctor a better doctor or a nurse a better nurse. We can, however, prevent them from achieving their full **potential** by providing a poorly designed work space.”

•John Christie, Parkin Architects Limited

Thoughtful Design: What Is It?

Is it Healing Environments?

- Do no harm
- Facilitate medical service
- Contribute to healing

Thoughtful Design: What is it?

Is it therapeutic interior design :

- Supports clinical **excellence** in treatment
- Supports **psycho-social** needs of the patient
- Produces **measurable** positive effects on clinical outcomes

Ron Smith, AIA Academy of Architecture for Health

Thoughtful Design: What Is It?

Is it Evidence Based Design?

- Reduce or eliminate environmental **stressors**
- Provide positive **distraction**
- Enable social **support**
- Give a sense of **control**
- Promote staff **efficiency**
- Cultural sensitivity**

Thoughtful Design: What Is Our Future?



Four Factors of Future Healthcare:

- Changing Technologies
- Aging Workforce
- Diverse Patients
- Increasing Acuity

Thoughtful Design: Changing Technologies



‘Physicians are procedure-oriented, patients demand the latest in technological advances, the industries that manufacture healthcare devices and drugs are remarkable innovative and aggressive in marketing their products, and reimbursement policies favor technological procedures.’

The New England Journal of Medicine Volume 329:1748-1749

Thoughtful Design: Changing Technologies

- Shift to earlier interventions drives delivery system recommendations
- Smarter, smaller surgical devices drives volume to MIS
- End stage care morphs to long term management
- Patients embrace the 'Bionic Man' Model
- Inpatient cardiac services no longer a top revenue generator

Thoughtful Design: Changing Technologies

- Access to healthcare 24/7 becomes a reality
- Blockbuster drugs wilt as customized therapies blossom
- IT takes center stage
- Workforce shortages soothed by technology deployment
- Cancer is tamed but not conquered

Thoughtful Design: Changing Technologies

Design Implications

- Internet access in all patient rooms

Thoughtful Design: Changing Technologies



Design Implications

- Combined with new patient entertainment systems and EMR

Thoughtful Design: Changing Technologies

Design Implications

- More space for technology in procedure rooms

Thoughtful Design: Changing Technologies

Design Implications

- Movement of patients between technologies

Thoughtful Design: Changing Technologies

Design Implications

- Use of non-healthcare technologies e.g. GPS Positioning

Thoughtful Design: Changing Technologies

Design Implications

- New lower emitting materials

Thoughtful Design: Changing Technologies



Design Implications

- Telemedicine use will increase

Thoughtful Design: Aging Workforce

**“Overall, Canadian
healthcare workers
are aging faster than
the general
workforce.”**

Canadian Institute for Health Information

Thoughtful Design: Aging Workforce

Design Implications

Better ergonomic design of
workplace

Adjustable height
work surfaces

Persons with
disabilities in the
workforce

Thoughtful Design: Aging Workforce

Design Implications

Reduction in background
noise

Thoughtful Design: Aging Workforce

Design Implications:

Recruitment and retention
initiatives

Thoughtful Design: Diverse Patients

“With such a culturally diverse population, there exists a need for an equally diverse group of health care providers at all levels.”

Canadian Federation of Medical Students

Thoughtful Design: Diverse Patients

Design Implications:

- Single patient rooms

Thoughtful Design: Diverse Patients

Design Implications:

- Family areas within patient care spaces incl exam rooms

Thoughtful Design: Diverse Patients

Design Implications:

- Acuity adaptable rooms – universal room design

Thoughtful Design: Diverse Patients

Design Implications:

- Varying ages of patients

Thoughtful Design: Diverse Patients

Design Implications:

- Bariatric design

Thoughtful Design: Diverse Patients

Design Implications:

- Chronic disease management

Thoughtful Design: Increasing Acuity

“Many nurses believe that people are getting sicker because of unhealthy environments and lifestyles. Sicker patients require more monitoring, treatment, and administration of drugs.”

CBC News Online

Thoughtful Design: Increasing Acuity

Design Implications

- Longer length of stay for sicker patients

Thoughtful Design: Increasing Acuity

Design Implications

- Older patients require more physical support

Thoughtful Design: Increasing Acuity

Design Implications

- Ceiling lifts

Thoughtful Design: Increasing Acuity

Design Implications

- Visual access and accessibility to patients

Thoughtful Design: Increasing Acuity

Design Implications:

- HEPA filters to prevent infection spread

Thoughtful Design: Increasing Acuity

Design Implications

- Longer time frame for turnover of procedure rooms as treatments are more time consuming

Thoughtful Design: Increasing Acuity

Design Implications:

- Need for alternative advanced diagnostic testing and treatment facilities

Thoughtful Design: Increasing Acuity

Design Implications:

- Increased infections –
more access to hand
hygiene

Thoughtful Design: Increasing Acuity



Design Implications:

- Single rooms

Thoughtful Design: Increasing Acuity

Design Implications:

- More nursing resources
 - visibility of patient from outside room and increased ability to monitor

Thoughtful Design: Increasing Acuity

Design Implications:

- Better drug distribution systems

Thoughtful Design: Other Factors

- Drug resistant microbes
- Pandemic diseases
- Targeted drug therapies
- Increase in natural disasters
- Reduced resource availability leading to more energy efficient building design

Thoughtful Design:

- Migration patterns from east to west
- Increasing natural disasters due to climate change
- Increasing provision of health care outside the hospital setting

Thoughtful Design

Questions?