Welsh Health Estates
Symposium on Single Bed Ward Accommodation
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Single Rooms and the Hospital of the Future

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The future is one of increasing infection challenges and risks

- Hospital patients will be sicker, more vulnerable and immuno-compromised
- Chronic illness patients in community also will be sicker, more vulnerable
- MRSA, *C. difficile*, other infections will be widespread in the community, and routinely brought into hospitals
Other Design Priorities for Single Rooms in Hospital of Future

- **Safety, safety, safety**
  - Reduce errors, falls, other
  - Errors may be more costly for hospitals

- **Support safer care of sicker patients**
  - Locate staff near patients
  - Excellent visual access to patients
  - Adaptable-acuity rooms
  - Reduce staff injuries from lifting
Other Design Priorities for Single Rooms in Hospital of Future -- cont

➤ **Support family-centered care**  
  - Essential for high patient satisfaction  
  - Inevitable given staff shortages and need for greater labor efficiency

➤ **Increase staff efficiency, yet reduce fatigue and stress**  
  - More time for direct patient care  
  - Increase staff retention  
  - Support aging work force  
  - Facilitate team or multidisciplinary care
Decentralized nurse stations are increasingly appearing in lower acuity spaces, such as general med/surg, outpatient surgery.
Providing single rooms is vital for adapting to sicker patients in future

**Combination of:**
- single rooms
- localized nurse stations with good patient observation
- good ventilation
Design to increase staff efficiency, yet reduce fatigue and stress

- Well-designed patient units, rooms and supply locations
  - reduce staff walking, fatigue, stress
  - help reduce turnover
  - increase time nurses have for direct care activities
Effects of Floor Layouts on Nurse Travel
(after Hendrich)

DECENTRALIZED Supply Storage
Nurse Travel
2.9 km/day/nurse

CENTRALIZED Supply Storage
Nurse Travel
6.0 km/day/nurse
Traditional vs well-designed floors: Effects on nurse activity

➢ *Travel*:
  - Traditional: 10-15 km per day
  - Well-designed: 2-5 km

➢ *Care time* received by each patient:
  - Traditional: 16-24 minutes per shift
  - Well-designed: 35-45 minutes

➢ *Time spent ‘hunting and gathering’*:
  - Traditional: 40%
  - Well-designed: 10-15%
General medical-surgical unit with 36 single rooms organized around 6 nurse stations, each with localized supplies
Decentralized nurse stations and supplies =
Less walking & fetching

Clarian West Medical Center
Indianapolis USA
Design: HKS
- EBD for reducing falls
- Design to increase hand washing

- Same-handed rooms
- Clean air
- Quiet
- Family presence
- Daylight, view

St. Joseph’s Hospital
West Bend, Wisconsin
Design: Gresham Smith
Ohio Health

Identical rooms for more error-free care
Same-handed single patient room
With evidence-based design (EBD) safety features

Handwashing sink with sight line
Large bathroom door
Direct path with hand assist to toilet

Dublin Methodist Hospital, Dublin Ohio
Design: Karlsberger with Cama Inc.
English PFI Program and NHS Healthcare Design

Responsibilities for capital investment and operations largely separated

Ulrich, 2005, 2006
(After Evans et al. 1998, Royal Academy of Engineering, and J. Cole, N. Ireland NHS)

NHS pays for operations (health services) for 30 years

PFI Risk

Building Design and Construction

1

Maintenance

4.2

Healthcare (Business) Operations

40–75 (approx)
Build it cheap and quick!

Healthcare Operations
COSTS

*Negative* long term financial consequences

Healthcare Operations
REVENUES
(from choice and performance)

Less Demand

Building Design and Construction
1

Maintenance
4.2

Healthcare (Business) Operations

50

65-75 (approx)
Policy Changes Affecting Financial Outcomes of Trusts in England

• Choice
  ♦ Patients can choose where to go for care. *Revenues flow with patients.*
  ♦ Two sources of competition: NHS and private providers

• Payment by results
  ♦ Costs of infections, falls, errors, longer stays paid to greater extent by trusts
Build it based on evidence and spend slightly more.

Healthcare Operations COSTS

Positive long term financial consequences

Heathcare Operations REVENUES (from choice and performance)

More Demand

Healthcare (Business) Operations [Revenues Minus Costs]
Suggestions for Procuring Quality Hospitals in Wales

- Create superb evidence-based briefs for new projects – that require single rooms
- Integrate thinking about initial capital costs with long-term operations
- Accept that procurement of good buildings requires spending somewhat more initially
- Can Welsh NHS hospital administrators be rewarded for creating good new projects?
Kidderminster Hospital

Design: MAAP Architects