

# **Medical Fabric Performance**

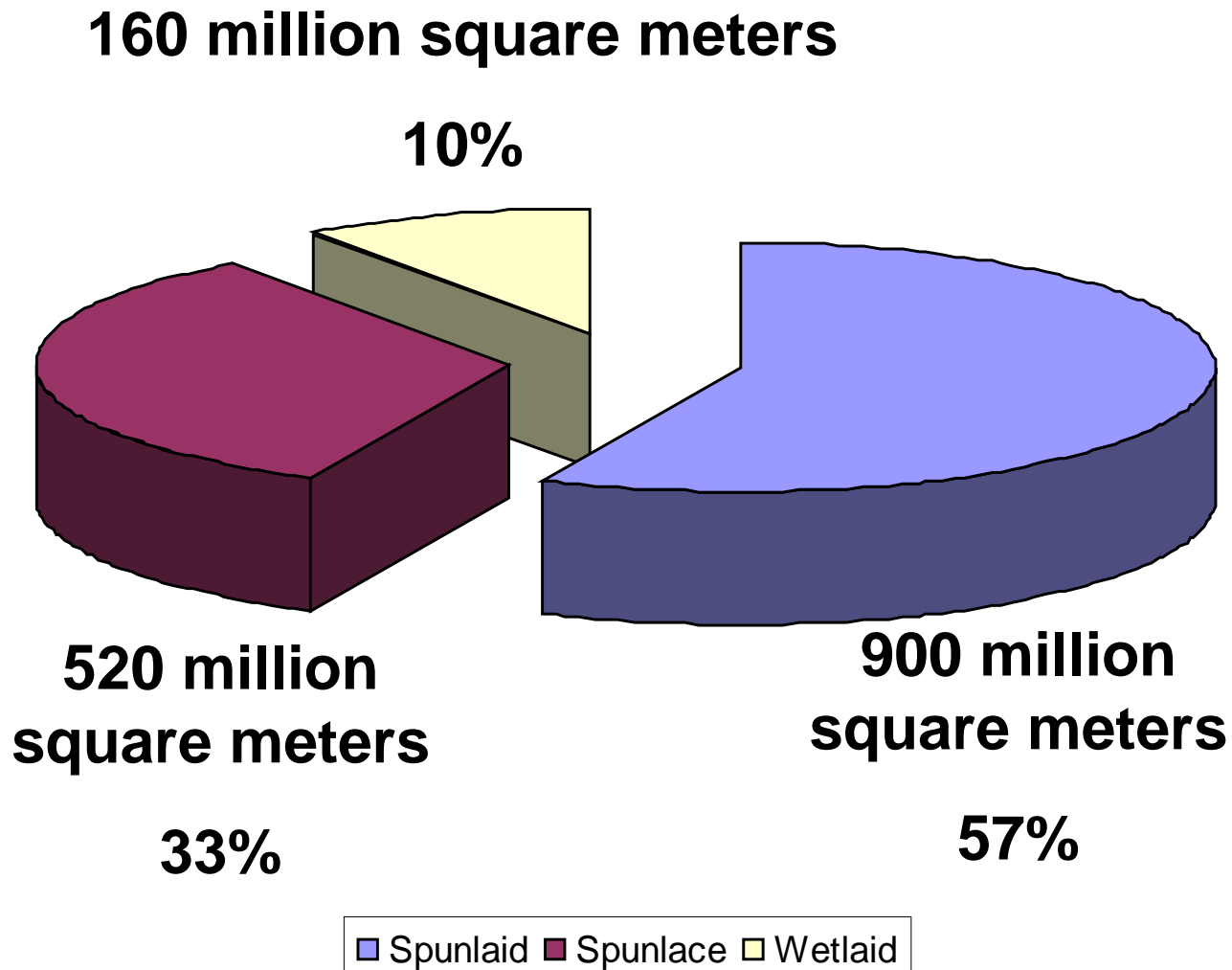
**STAMP 2010**

**(Sustainable Textiles & Medical  
Protections)**

**Rory Holmes  
INDA  
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Total Healthcare: 2.1 billion square meters

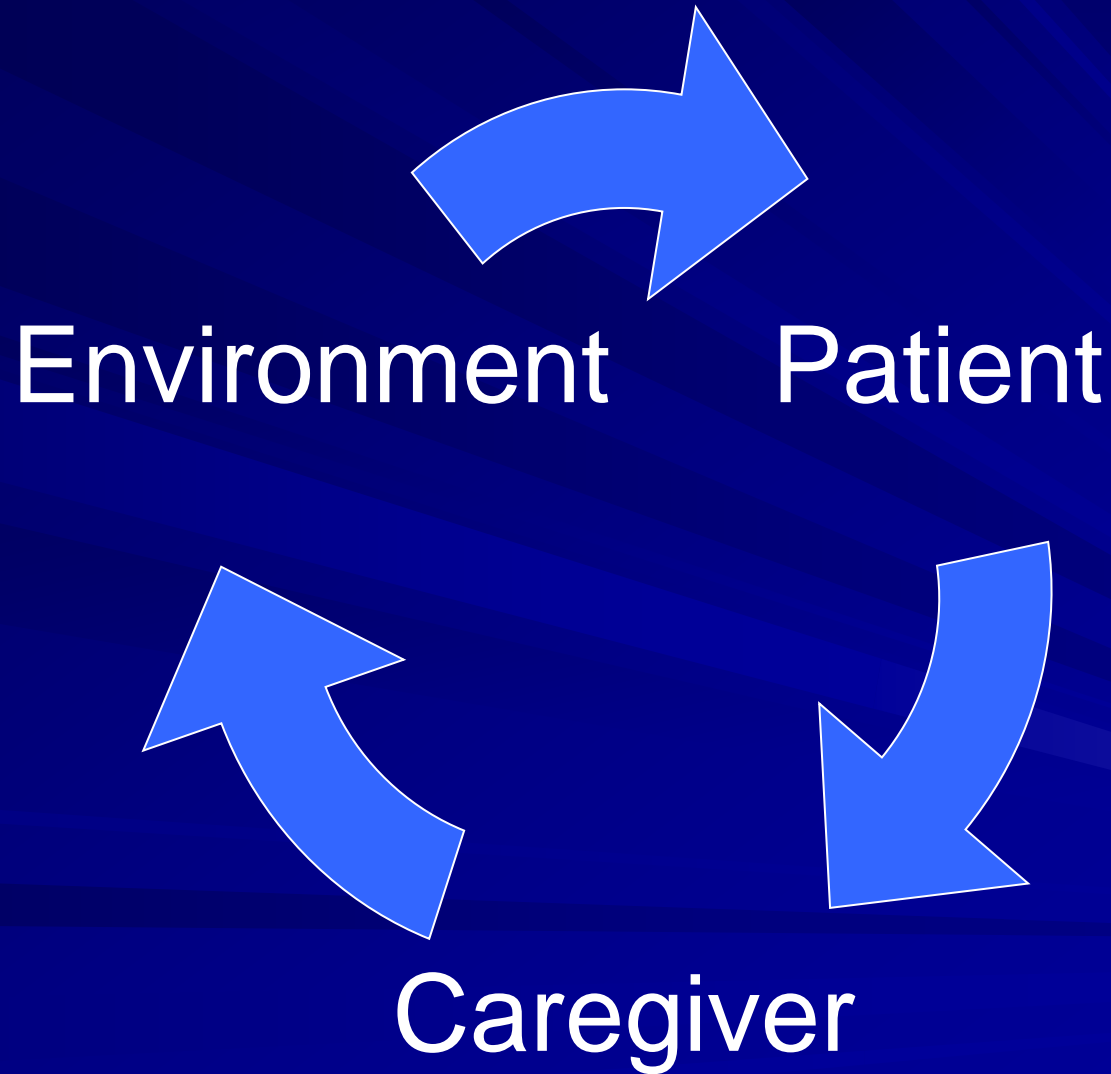
Gowns/Drapes (75%) 1.580 billion square meters



# Medical Fabrics

- Reasons for Use
  - Barrier to fluids
    - Patient from Clinician
    - Clinician from Patient
  - Infection protection for both patient and clinician

# Preventing Infection



# Infection Control

## ■ Healthcare-Associated Infections (HAI)

- A leading cause of death in the U.S.
- 1.7 million HAI's in 2007
- \$28 - \$33 billion annually in direct medical costs

# Healthcare - Associated Infections

- Pathogens can be transported on clothing and other medical fabrics
  - Survive as long as 1 - 90 days on textiles
- “Super-Pathogens” require 100% protection 100% of the time
- Single use medical fabrics provide the clinician the safety of knowing the contaminated gown or drape will not be used again

# Protective Clothing

- All medical fabrics are held to the same standard: AAMI/PB70 *“Liquid Barrier Performance and Classification of Protective Apparel and Drapes Intended for Use in Health Care Facilities.”*
  - This standard creates a system of classification and minimum requirements based on liquid barrier performance for protective apparel and drapes used in health care facilities.

# Protective Clothing...continued

- The guideline specifies a reliable method for testing and labeling protective apparel and provides an understanding of barrier properties to assist health care personnel select the appropriate product for a particular task.
- Four laboratory tests are used to identify and understand liquid barrier properties: Spray Impact Penetration Test, Hydrostatic Head Test, ASTM F1670 and ASTM F1671.



# Four Levels of Protection

- **Level 1: Very light fabrics for little to no contact with blood & bodily fluids**
- **Level 2: Medium weight fabrics for light contact with blood & bodily fluids**
- **Level 3: Heavy fabrics for moderate exposure to blood & bodily fluids**
- **Level 4: Coated fabrics for highest level of protection to moderate exposure of blood and bodily fluids.**

# Single-Use Reality Check

- Infection Control
- Comfort
- Cost
- Environmental Responsibility

# Performance of Single-Use Fabrics

## ■ Infection Control

- Higher protection levels
- Consistency of properties
- Convenient & Dependable
- Environmentally Responsible
- Multiple fabric technologies to select from and over 25 years of industry use

# Reality Check: Infection Control

- Fewer HAI's attributed to single-use
- Consistent properties
  - Reusable textiles—barrier protection and/or efficacy could drop with each laundering
- Disposability
- Super-pathogens

# Reality Check: Comfort

- Lightweight
- Breathable
- Functional
  - Drapeability, flexibility and durability
- Peace of Mind—barrier properties remain intact!

## Reality Check: Cost

- Takes 5-7 reusable gowns to do the work of 1 single-use gown
- A reusable gown has a life-span of 22.6 uses in the typical hospital setting

# Reality Check: Environmental Responsibility

- At first glance... reusable's look like the obvious choice, but in the real world they only pass the environmental burden on to other members in the chain (e.g., wastewater treatment facilities)
- Energy, natural resources and toxic chemicals needed to clean and sterilize reusable's greatly exceed the environmental impact of disposable drapes & gowns.
- Don't forget—both products are eventually disposed of.

# Single-Use Reality Check

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- Cost
- Environmental Responsibility



THANK YOU