

Prevention through Design at Kaiser Permanente

CleanMed

May 19, 2009

What Does PtD Look Like?



Sidney R Garfield Center for Innovation

Garfield Center Activities

Simulations



Nurse Knowledge Exchange



Virtual Reality



Rapid Response Team

Prototyping



Medication Administration



Exam Room Prototyping

Evaluations / Demos



Tablet PC



Infrared Sinks



Remote Presence

PROTOTYPING SPACE – EXAM ROOM



RESEARCH – INFRARED FAUCETS



PROTOTYPING SPACE – ONCOLOGY PHARMACY



TELEMEDICINE





Current Sustainable Standards

Toxin Reduction

- PVC-free:
 - **Resilient flooring**
 - Carpet
 - Roofs
 - Wall Protection
 - Exterior Piping
- Toxin-free fabrics
- Low VOC Paint
- Copper-free roofs
- Construction Waste Recycling
- Mercury Free (low mercury lamps)
- CFC-free refrigerants

Carbon Reduction

- Cool roofs
- Energy efficient HVAC
- Cogeneration
- Thermal Fluid Heaters
- Occupancy Sensors
- Fluorescent Lighting
- Building Orientation
- Punched Windows
- Low E Glass
- Energy efficient boilers
- Instantaneous Water Heaters
- Alternative Foundations

Water Conservation

- Digital Imaging
- Turf-free & Native Plant Landscaping
- Infrared Faucets

Resilient Flooring

- Water and labor savings
- Reduced chemical use
- Improved traction
- Reduced slip/fall rates
- Better acoustic properties
- More comfort underfoot , reduced fatigue
- Stain resistant
- Mold resistant
- **Installation & maintenance challenges**



Current Sustainability Research Initiatives

Toxins Reduction

- Low VOC Epoxy Paint
- Bio-plastics
- Safe Products For Expectant Parents
- Formaldehyde-free Casework
- **Cotton Insulation**
- Toxin-free Furniture
- Wireless Light Switches

Carbon Reduction

- Solar Power Project
- **Displacement Ventilation**
- Waste Anesthetic Gas Capture
- Energy Performance Design & Operations Target
- Green Cement

Water Conservation

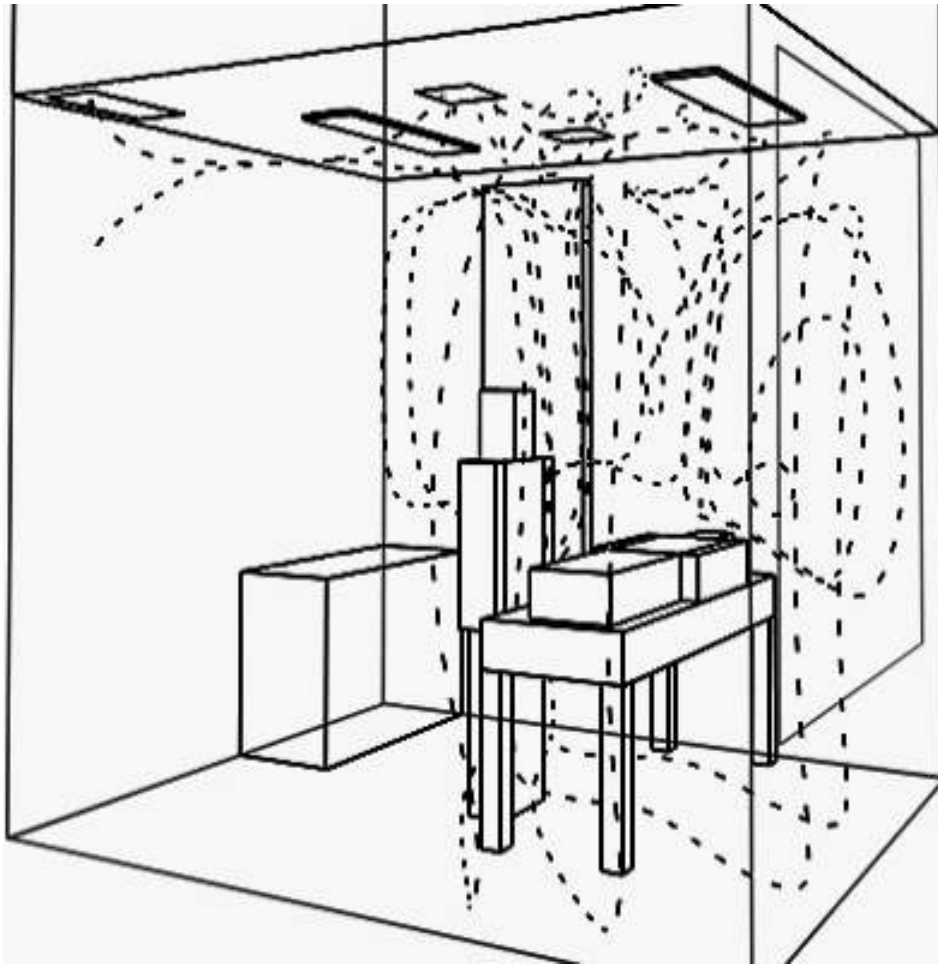
- Dual-flush Toilets
- Low flow & Waterless Urinals
- Process Water Re-use
- Grey Water Re-use
- Metering
- Process Equipment

Cotton Insulation

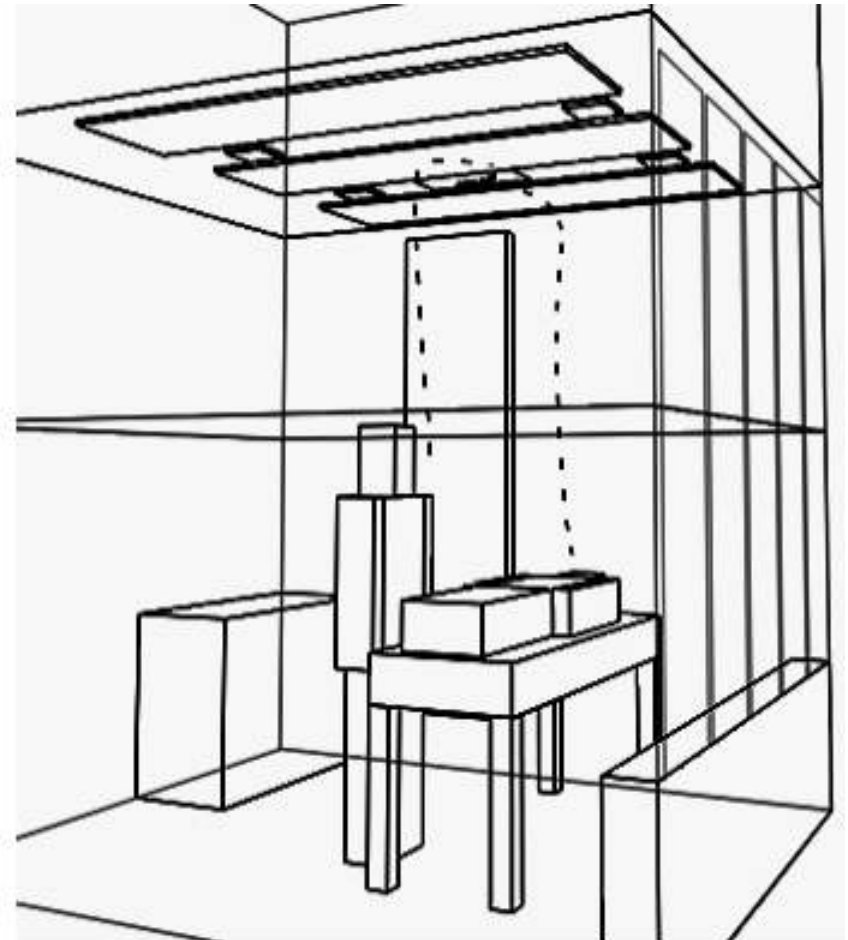
- >85% post-industrial recycled blue jeans fibers
- No PPE needed for installation
- Borate-treated Class A fire resistance
- Mold/mildew, pest resistant
- 3.80 R-value/inch insulation
- 3-5 dB noise reduction



Displacement vs. Mixing Systems

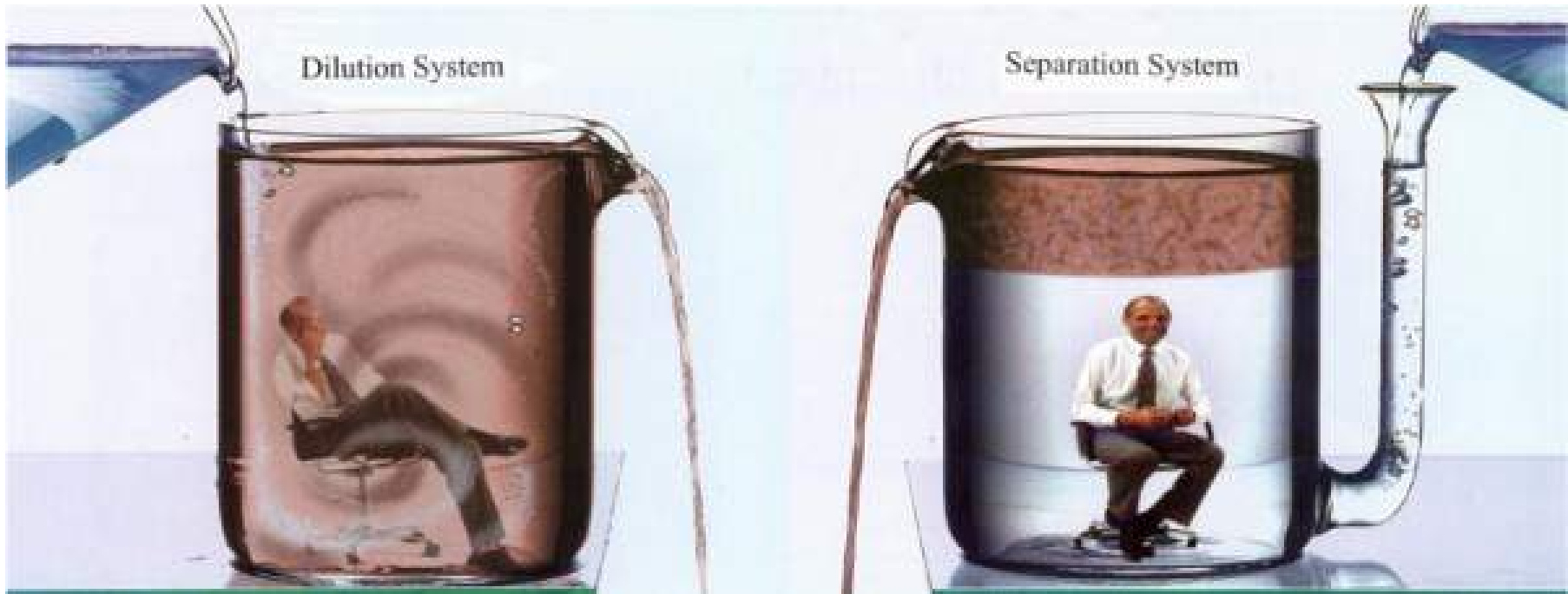


Overhead system



Displacement System

Displacement vs. Mixing Ventilation



Overhead System

Displacement System

Courtesy <http://www.hbi.com.au/images/cfdpics/maninjar.jpg>

Global Health & Safety Initiative

- **Measure our eco-footprint**
- **Document improvements in patient outcomes and workplace safety as a result of design interventions**
- **Work with others to build a social movement**
 - Large U.S. Health Systems, health care group purchasing organizations, architects and engineers, academics, the environmental movement, non-profit organizations, governmental agencies
 - Open source sharing of information and best practices
 - Group purchasing to transform the market
 - Research to document benefits, improvements, outcomes



The Future



We Can do Better Than This



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