

Pharmaceutical Waste Compliance and Hospital Case Studies

Introductions

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Outline

- Pharmaceutical Waste and Key Stakeholder Overview
- Implementation challenges overcome by Northwestern Memorial Hospital
- Sustainability challenges faced by North Memorial Hospital



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Protecting People. Reducing Risk.[™]

PHARMACEUTICAL WASTE & KEY STAKEHOLDER OVERVIEW

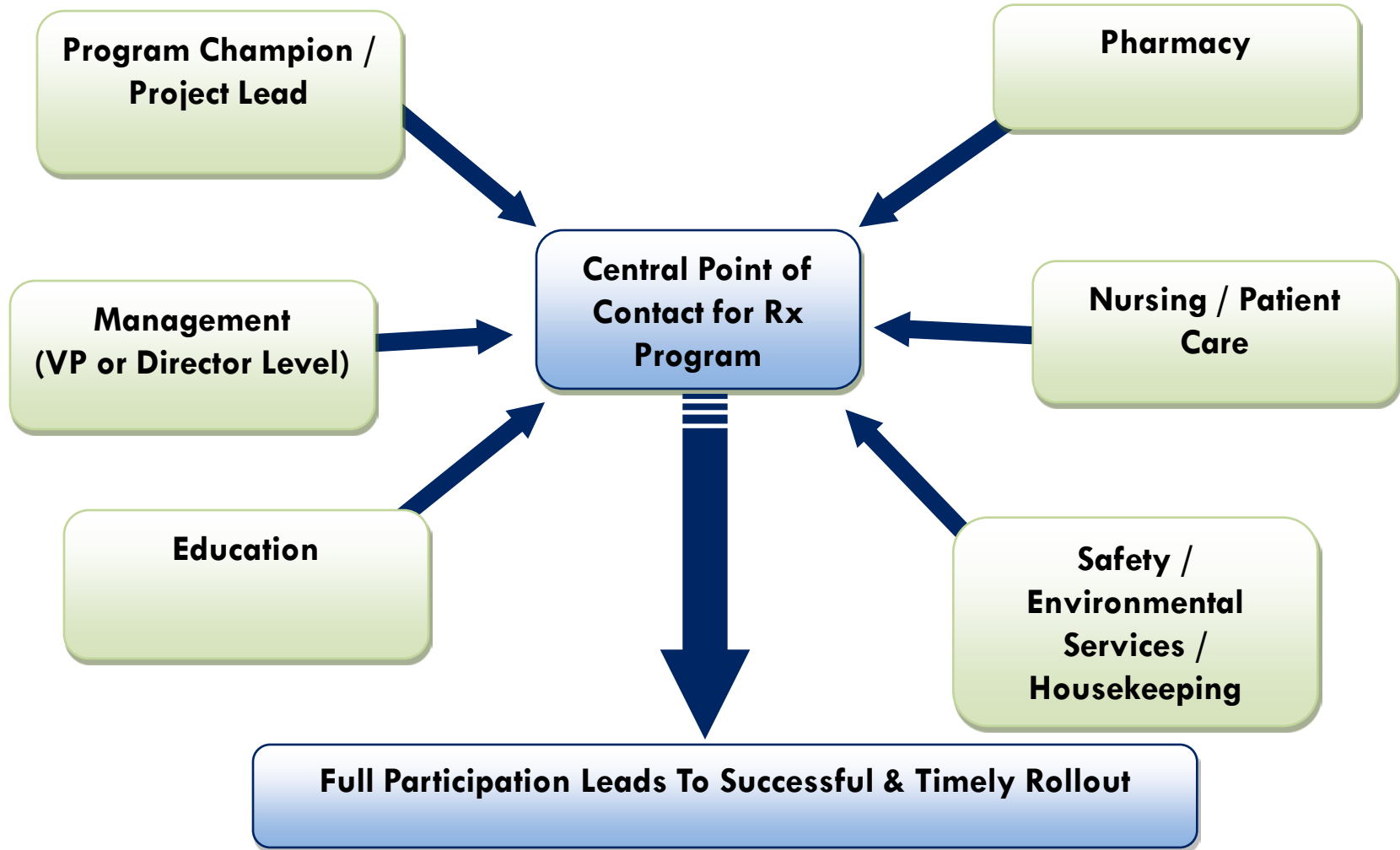
What is Pharmaceutical Waste?

- Pharmaceutical waste may be generated through various actions in a healthcare facility including (but not limited to):
 - In-house pharmaceuticals
 - Contrast media
 - Respiratory therapy pharmaceuticals/inhalers
 - Partially used vials, syringes, vaccines and IV's
 - Outdated pharmaceuticals

Pharmaceutical Waste Disposal

- Pharmaceutical waste historically has been disposed of down the drain, into sharps and infectious waste containers, and into the trash.
- These pharmaceuticals eventually made their way to and are currently being found in:
 - Waterways
 - Landfills

Key Stakeholders



Key Stakeholders

Program Champion / Project Lead

- Typically a dual role of either Safety, Pharmacy, Environmental Services, etc.
- Communication Point Person
- Supports Program
- Multi-Departmental Liaison
- Coordination of Implementation Activities

Key Stakeholders

Management

**(VP or Director Level often from Program
Champion Department)**

- Budget Approval
- Addresses Multi-Departmental Challenges
- Emphasizes the Importance of Successful program to Entire Facility / System

Key Stakeholders

Pharmacy

- Formulary Review
- Establishes & Maintains Internal Waste ID System
- Manages Rx Waste Returned to Pharmacy(Bag)
- Updates Inventories (formulary additions)

Key Stakeholders

Nursing / Patient Care

- On-Floor Waste Identification
- Proper Collection & Segregation of Waste
Pharmaceuticals

Key Stakeholders

Education

- Training of Affected Employees / Departments
- Maintains Current Training Materials
- Maintains Training Records
- Ongoing Education
- Integration of Training Modules into
New Employee Orientation

Key Stakeholders

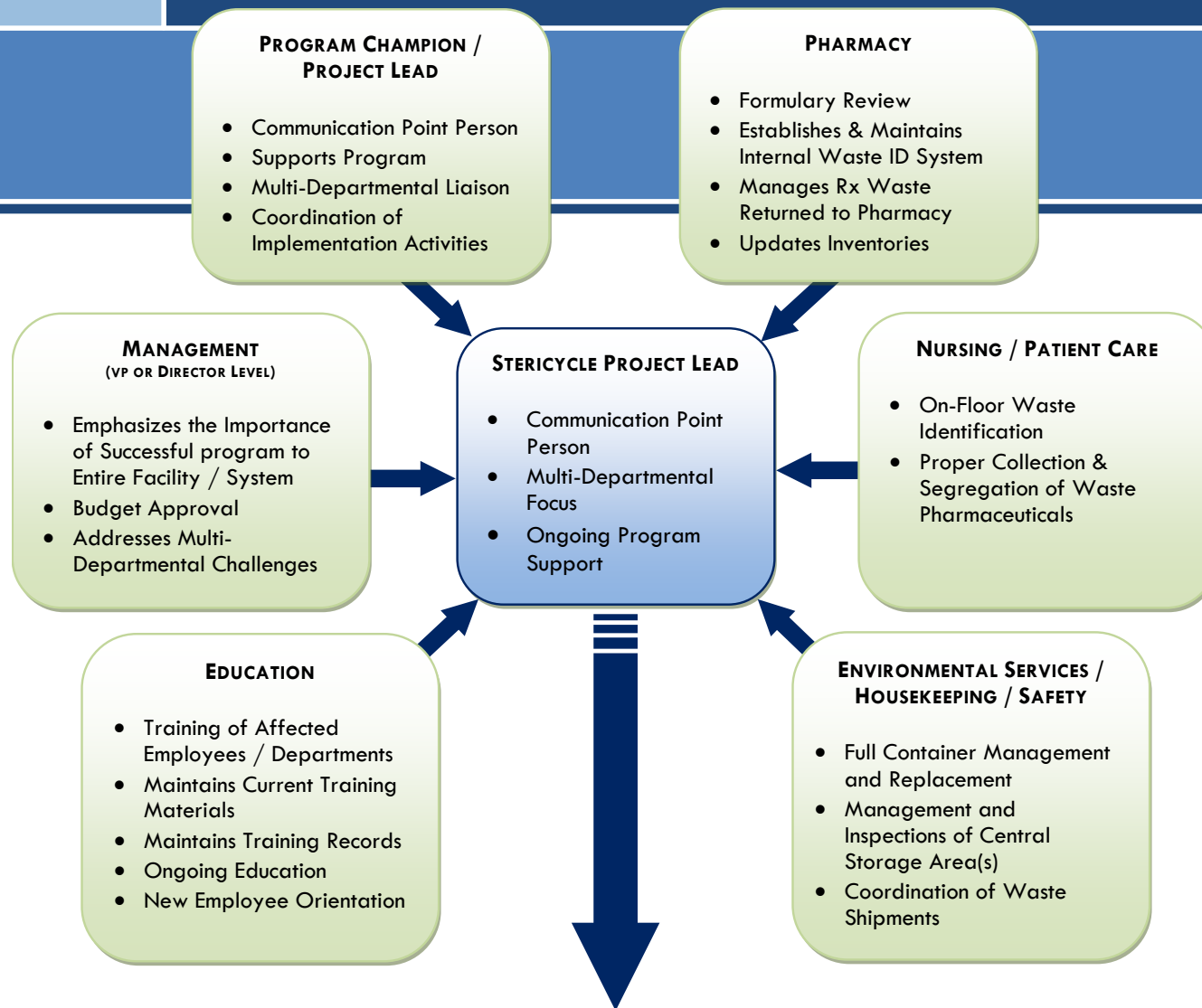
Safety/Environmental Services / Housekeeping

- Full Container Management and Replacement
- Management and Inspections of Central Storage Area(s)
- Coordination of Waste Shipments

Key Stakeholders

Central Point of Contact for Rx Program

- Communication Point Person
- Multi-Departmental Focus
- Ongoing Program Support



PROGRAM CHAMPION / PROJECT LEAD

- Communication Point Person
- Supports Program
- Multi-Departmental Liaison
- Coordination of Implementation Activities

PHARMACY

- Formulary Review
- Establishes & Maintains Internal Waste ID System
- Manages Rx Waste Returned to Pharmacy
- Updates Inventories

MANAGEMENT (VP OR DIRECTOR LEVEL)

- Emphasizes the Importance of Successful program to Entire Facility / System
- Budget Approval
- Addresses Multi-Departmental Challenges

STERICYCLE PROJECT LEAD

- Communication Point Person
- Multi-Departmental Focus
- Ongoing Program Support

NURSING / PATIENT CARE

- On-Floor Waste Identification
- Proper Collection & Segregation of Waste Pharmaceuticals

EDUCATION

- Training of Affected Employees / Departments
- Maintains Current Training Materials
- Maintains Training Records
- Ongoing Education
- New Employee Orientation

ENVIRONMENTAL SERVICES / HOUSEKEEPING / SAFETY

- Full Container Management and Replacement
- Management and Inspections of Central Storage Area(s)
- Coordination of Waste Shipments

FULL PARTICIPATION LEADS TO SUCCESSFUL & TIMELY PROGRAM ROLLOUT

- Achieves Compliance with Federal EPA, DOT & State Regulations
- Achieves Compliance with Current and Pending Joint Commission Standards
- Maximizes Awareness, Accuracy and Protection of the Environment
- Minimizes Disruption to the Existing Duties of Healthcare Staff
- Reduces Corporate / Institutional Liability

IMPLEMENTATION OF A COMPREHENSIVE PHARMACEUTICAL WASTE MANAGEMENT PROGRAM

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Northwestern Memorial Hospital

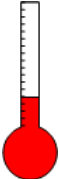
- Academic Medical Center where “the patient comes first”.
- Level I Trauma Center, Level III Neonatal ICU
 - Number of Licensed Beds: 897
 - Number of Employees: 6,500+
 - Building Space: 3M+ sq. ft.



Phased Implementation Strategy

- Phase I
 - Pharmacies
- Phase II
 - (A) Professional/Ancillary Service Areas
 - ** Pilot- 4 Patient Care Units
 - (B) Surgical Services
 - ** Pilot- L&D
- Phase III
 - All Patient Care Units
 - Emergency Department

Phase I - Pharmacies

- Status: Complete
- Implementation Difficulty:  Moderate
- Key Stakeholders:
 - Pharmacy Department
 - Environmental Services
 - Safety Management
 - Waste Vendor



Phase I - Pharmacies

- Advantages:
 - Technical/knowledgeable in subject matter
 - Centralized service model to facilitate “Rtn to Pharm” option.
- Challenges:
 - Container Placement/space constraints
 - Internal Identification Process
 - Labeling/Identification System Programming (PharmNet/Omnicell)
 - Label/Identification wording

Pharmaceutical Segregation

BLACK
Hazardous
Compatible

BLACK
Hazardous
Non-compatible



BLUE
Non-Hazardous

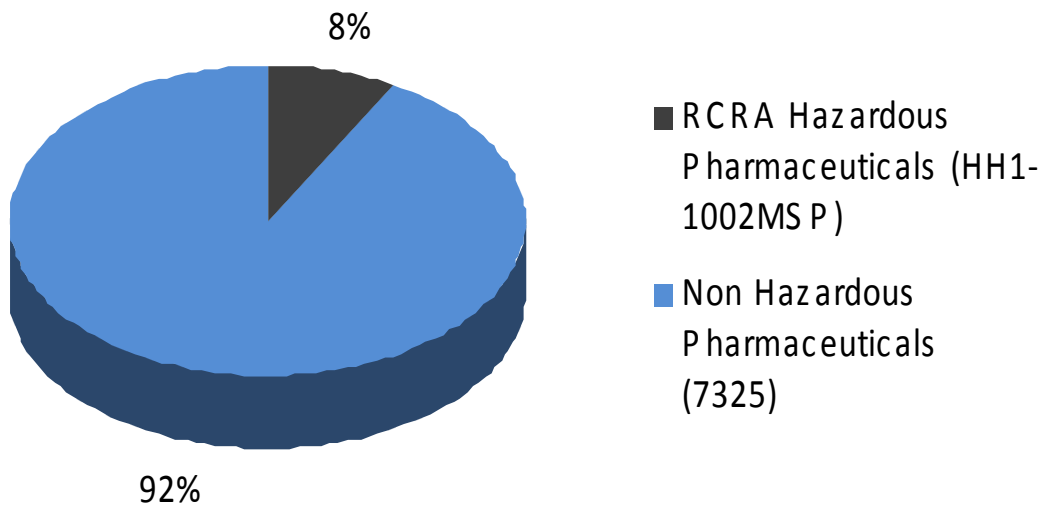
PURPLE
Dual Hazardous

**Sharps/Biohazard
Containers**

Phase I- Waste Experience

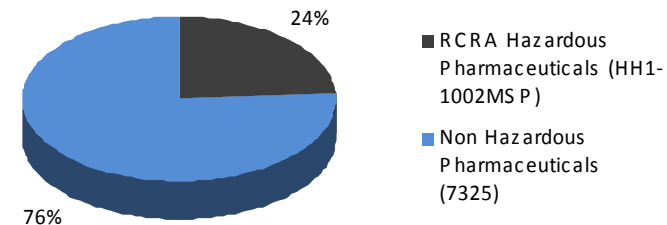
7/1/2008 thru 3/31/2009

Weight (lbs)

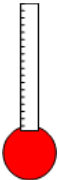


7/1/2008 thru 3/31/2009

Spend(\$)



Phase II(A) – Professional Services

- Status: Complete
- Implementation Difficulty:  Low
- Key Stakeholders:
 - Professional Service Departments
 - Pharmacy Department
 - Environmental Services
 - Safety Management
 - Waste Vendor



Phase II(A) – Professional Services

- Advantages:
 - Minimal Pharmaceutical Usage
 - Little resistance to centralized collection
- Challenges:
 - Container Placement/space constraints
 - Maintaining container locations for servicing
 - Limited availability for staff in-servicing
 - Preventing general waste in pharm containers

Pharmaceutical Segregation

BLACK
Hazardous
Compatible

RTN To Pharmacy



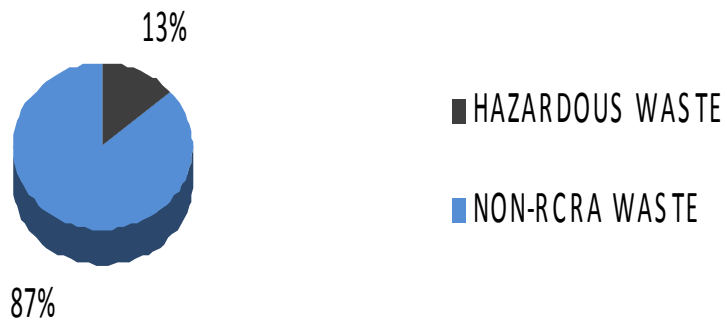
BLUE
Non-Hazardous

**Sharps/Biohazard
Containers**

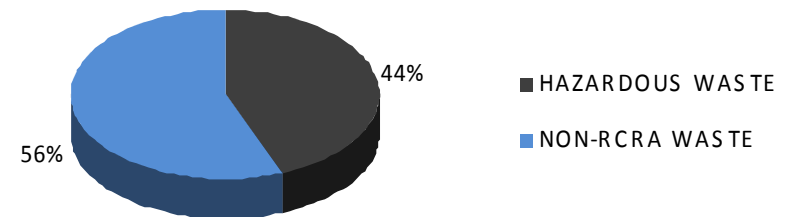
Phase II(A)- Waste Experience

4/1/2009 thru 5/12/2009

Weight (lbs)




4/1/2009 thru 5/12/2009
Spend(\$)



* Includes 4 patient care pilot units:

- ICU
- Medicine
- Neuro
- Surgical

Phase III – In-patient/ED

- Status: Pending (in pilot)
- Implementation Difficulty:  High
- Key Stakeholders:
 - Patient Care Departments
 - Infection Control
 - Pharmacy Department
 - Environmental Services
 - Pre-Op/PACU
 - Materials Mgmt.
 - Safety Management
 - Waste Vendor



Phase III – In-patient/ED

- Advantages:
 - Engaged staff- very supportive of “green” initiative
 - Return to pharmacy option to minimize containers
- Challenges:
 - Container- space constraints
 - Container Placement (centralized vs pat. room)
 - ID of proper med disposal (label and Omnicell screen)
 - Centralized med disposal impact to hand hygiene
 - Med administration process (bedside)
 - Managing med waste from isolation rooms

Pharmaceutical Segregation

BLACK
Hazardous
Compatible

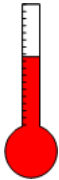
RTN To Pharmacy



BLUE
Non-Hazardous

Sharps/Biohazard
Containers

Phase II(B) – Surgical Services

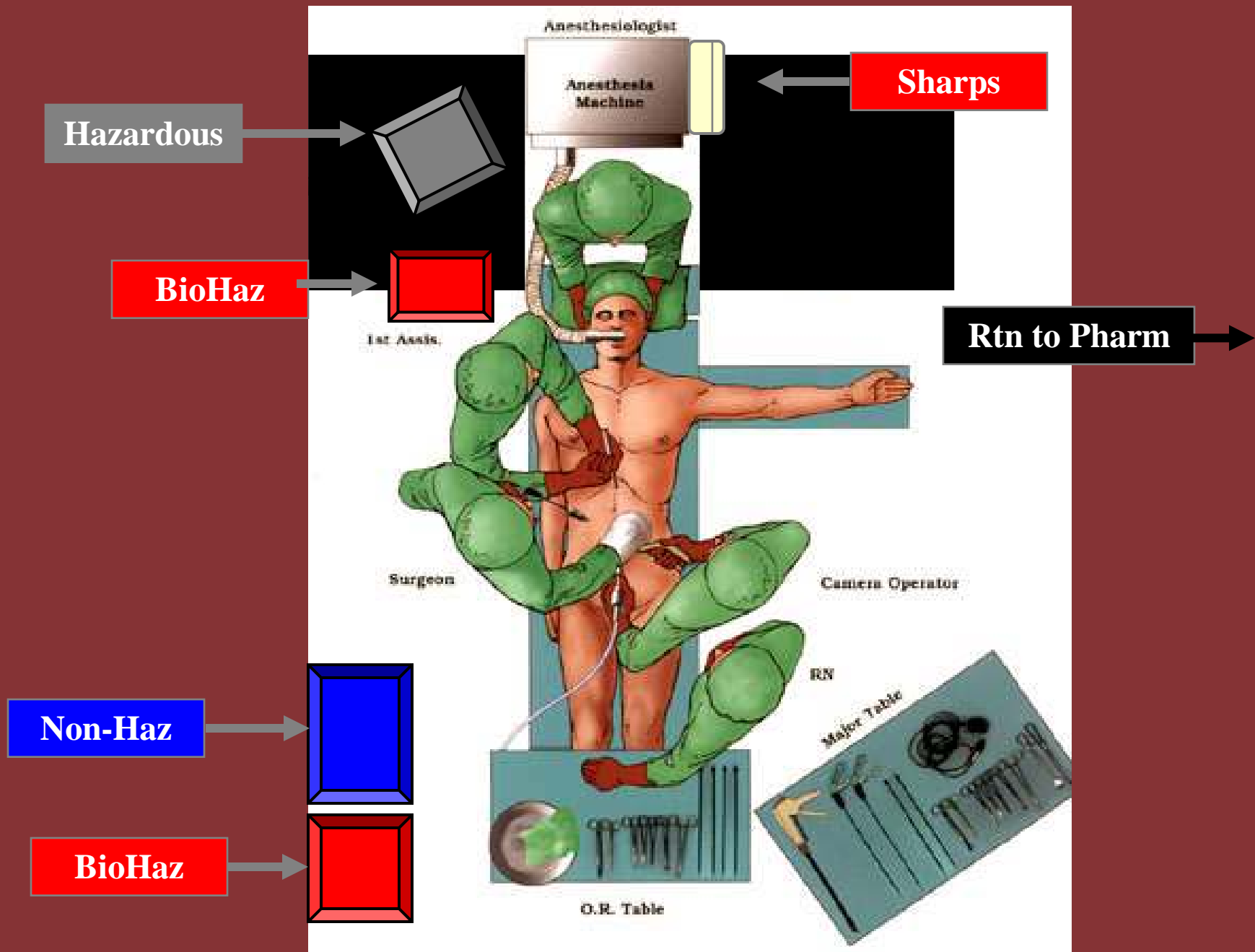
- Status: In-Process
- Implementation Difficulty:  High
- Key Stakeholders:
 - Surgery Departments (incl. C-Section)
 - Anesthesia Department
 - Pharmacy Department
 - Environmental Services
 - Pre-Op/PACU
 - Central Sterile Supply
 - Infection Control
 - Safety Management
 - Waste Vendor



Phase II(B) – Surgical Services

- Advantages:
 - Highly Controlled Environment
 - Immediate Pharmacy Availability
- Challenges:
 - OR Nursing vs. Anesthesia Processes
 - Managing Full/Partial Needle-less syringes
 - Container Placement/space constraints
 - Waste collection drums in semi-restricted areas
 - Managing Irrigation w/Pharmaceuticals
 - Servicing Containers in OR suites





LOGISTICS

- Container staging locations
- Container Servicing (empty-clean-replace)
- Bulk container storage locations
- Container supplies staging (liner, pads)
- Container/Drum supply
- Drum washing for semi-restricted areas



CONTACT INFORMATION

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Presentation Prepared by



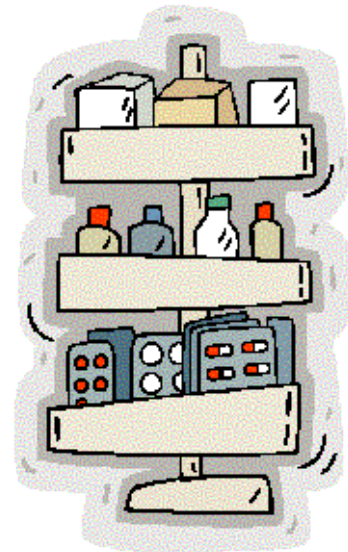
NORTH MEMORIAL'S PATH TO COMPLIANCE OVERVIEW & ONGOING IMPROVEMENTS

Background Information

- North Memorial Medical Center is a Not-for-Profit, Level I Trauma Center and a certified Primary Stroke Center
- Ambulance, Air Care, multiple clinics, 21 urgent care sites and new hospital Dec 09
- Key Facts:
 - Founded: 1954
 - Number of Licensed Beds: 518
 - Number of Employees: 4,500

Waste Management Process

- North Memorial's Waste Management Plan incorporates **all hazardous** and **regulated wastes generated** within the facility
- Primary **focus** of today's discussion is the management of **Pharmaceutical Wastes**



Focus on Compliance

- February 2004 – Initial Facility Inspection. A cooperative letter of warning given.
- March 2004 – Letter of Non Compliance
 - Notice given that facility must be compliant with RCRA regulations by July 2005
 - September 2004 Path to Compliance began
 - Pharmaceutical program implemented in 2005



Request for Proposal Objectives

- Select the right company to address your facilities needs to meet compliance.
 - Ability to fit within corporate culture
 - Knowledge base for compliance
 - Educational abilities
 - On-site Labor for collection, storage, transport and manifest
 - Partner in compliance

North Memorial's Goal

- **Compliance, Best Practice and Cost Effective.**
 - Managing both hazardous and non-hazardous pharmaceutical waste
 - Minimize the burden on nursing by streamlining methods without impacting patient care
 - Development of a comprehensive hazardous waste management plan

Create the Team

- Create a Hospital Team
 - Champion (Administration)
 - Leader
 - Members from key departments
 - Pharmacy
 - Environmental Services
 - Education
 - Nursing
 - Maintenance



Pharmaceutical Management

- Developed a **Presort Method**
 - Pharmaceuticals segregated at **point of generation**
- Utilized a two container method for the segregation of hazardous and non-hazardous waste
- Utilized existing pharmaceutical distribution cabinets for hazardous waste identification
- Strategically placed containers



Pharmaceutical Collection

BLACK CONTAINERS:

Hazardous Pharmaceutical
Waste



WHITE CONTAINERS:

Non-Hazardous
Pharmaceutical Waste



Non-Hazardous Pharmaceutical Waste

- Has no special label or pharmaceutical distribution cabinet message about special disposal requirement.
 - These wastes are managed through incineration as a best management practice
 - Examples: IV's & tubing with drugs, dropped pill, glass bottle half used

Education

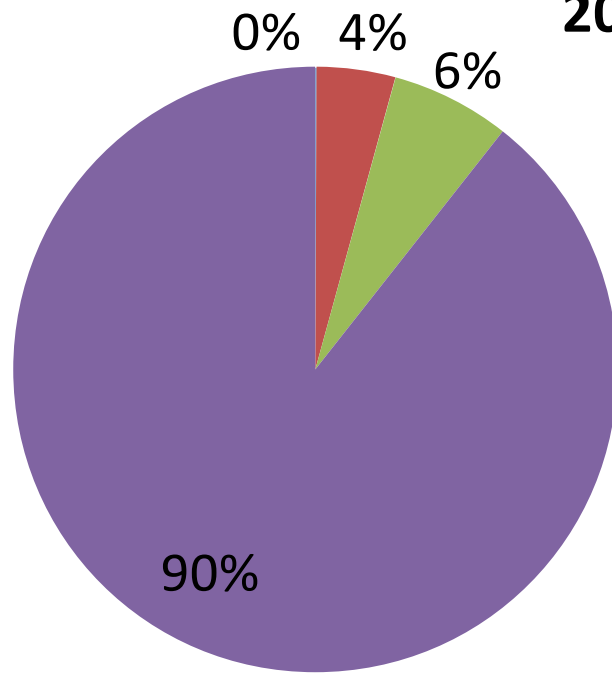
- Training Staff on Internal Process:
 - Department Specific
 - Preceptor Training
 - New Employee Orientation
 - Annual Competency Training
- The Program has been implemented throughout North Memorial Health Care System

WASTE ANALYSIS

RX Waste – Quantity (2008)

Quantity (lbs)

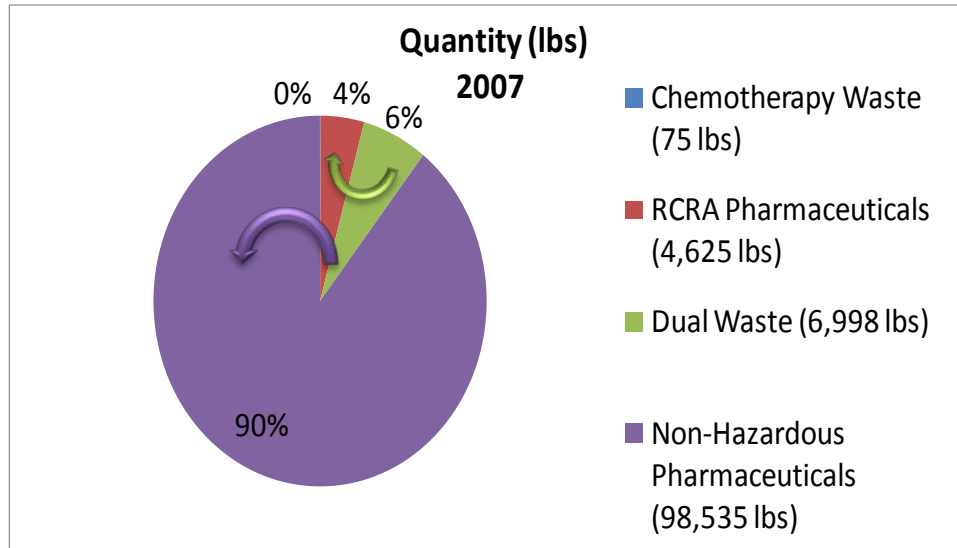
2008



- Chemotherapy Waste (75 lbs)
- RCRA Pharmaceuticals (4,625 lbs)
- Dual Waste (6,998 lbs)
- Non-Hazardous Pharmaceuticals (98,535 lbs)

Quality Improvement Charter

**PROCESS IMPROVEMENT – DUAL
WASTE INITIATIVE**



DUAL WASTE REDUCTION

TEAM CHARTER

Sponsor: Michael Burke

Leader: Jerry Fink

Members: Todd Butler – Anesthesia Manger, Deb Sicora-
Surgery Manager, Samantha Dunkel-Stericycle, Ann Bolkom –
Surgery Supervisor

Assessment:

Goal:

Measures:

Milestones:



ASSESSMENT:

- Evaluate Dual Waste Process, staff competency, segregation practices.
- Waste audits indicated improper disposal that was inconsistent with training.
- RCRA Empty containers being managed as Dual Waste.
- IV bags appear to be excessive due to overfilling.

GOALS:

Waste reduction of hazardous pharmaceutical waste and dual waste within surgical service department.

MEASURES:

Financial

Proper segregation = cost reduction

Waste reduction of both waste streams

Efficient placement of containers

Standardized management practices

Staff competency

MILESTONES:

- Develop Team
- Collect Data
- Implement reduction (execution important)
- Staff Competency / training
- Monitor measures
- Refine training requirements, techniques & education
- End team, quantify improvement & communicate impact

The Future Teams:

-The Joint Commission

–HICS

–MSDS analysis

–Ongoing staff competency

“The RCRA & MN Lethal standards apply to all health care waste streams. It is our responsibility to know what we purchase and ensure proper disposal of all waste for future generations” Michael J. Burke EVS

Questions?

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