

PMRI Message Standards:  
The New York Presbyterian  
Experience

Presented by:

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# Who am I?

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### **NewYork Presbyterian**



**THE UNIVERSITY HOSPITAL OF  
COLUMBIA AND CORNELL**

# NEWYORK PRESBYTERIAN HEALTH NETWORK PARTICIPANTS

- Hospitals 32
  - 15 sponsored - 5,772 beds
  - 13 affiliated - 3,592 beds
- Specialty Institutions 3
- Long-term Care Facilities 8
- Home Health Agencies 11
- Satellite Primary Care Centers 97
- Physician Groups 12
- Managed Care Entities 4

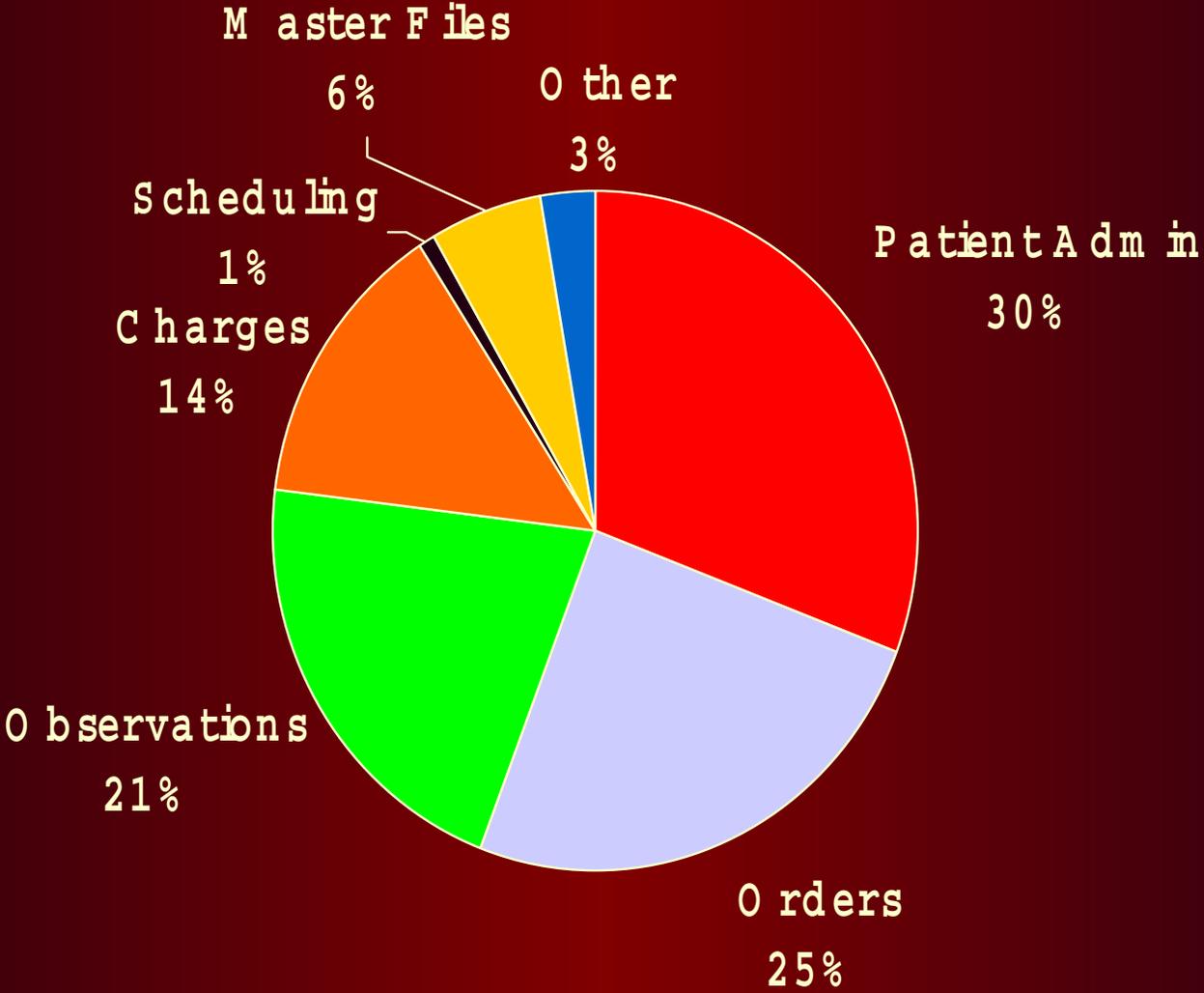
# What PMRI standards did we choose to implement?

- HL7 V2.x Patient Administration
- HL7 V2.x Observation Reporting
- HL7 V2.x Order Entry
- HL7 V2.x Financial Management
- HL7 V2.x Scheduling
- HL7 V2.x Medical Records (in development)
- Others not through interface engine
  - DICOM, device interfaces, etc.

# PMRI List of Standards - Possible Additions to the List

- HL7 Clinical Decision Support  
(Arden Syntax)
- HL7 Clinical Context Object Workgroup  
(Visual Integration)
- HL7 V2.x Master Files
- HL7 V2.x Laboratory Automation
- HL7 V2.x Personnel Management

# Over 400 Production Interfaces



# Why did we choose HL7?

- Covered all of our most pressing interface needs.
- The only widely implemented standard.
- Prior experience helped us recognize the importance of standards.
- Strong first impression of the HL7 Working Group.

# A Healthcare Interface is

The successful integration of disparate systems, applications, data, vendors, functions, businesses, institutions, and users.

# Not just field comparison

- Hidden complexity:
  - Ghosts in the ICU
  - Formulary mapping for Pharmacy Orders
- HL7 provides a critical starting point for interface negotiations.

# Exceeded our Expectations

- Comprehensive (its in there).
- Compatible - backwards AND forwards.
- The HL7 community
  - immediate and unlimited support
  - continuous quality improvement

# How long did/does it take?

- Interface Engine preparation
  - about 18 man-months
- Proprietary to/from HL7
  - 3 to 7 man-months.
- HL7 to HL7
  - 1 to 3 man-months
- Estimates include
  - time for design, development, testing, production planning, and production move.
  - time for communication.

# Some projects take longer...

- New inbound ADT interface sent to billing system
  - Replace integrated system with interfaced system.
  - Full implementation of all fields in V2.3 specification.
- Physician Orders to Pharmacy system
  - Understand the business processes
  - Vendor application differences.
  - Vocabulary issues.

# Is it easy to use?

# NO

- Each new interface requires evaluation of vendor specific interface specifications
  - requires full understanding of HL7 functional chapters.
- Must test for conformance for each implementation.
- Must match code tables on each interface.
- Reading the messages and troubleshooting is difficult
  - requires thorough knowledge of HL7 Control Chapter.

# Is it easy to use?

**YES**

- With education and experience, we are able to develop interfaces more rapidly.
- Develop our own more rigid interpretations of the standard.
- Require vendors to solve compliance and table issues and not depend on interface engine work.
- Develop boiler plate design, test plan, and production plan documents.
- Create and utilize automated tools for interface support.

# How much does it cost?

- Start up costs:
  - interface engine installation
  - HL7 classes
- HL7 membership (several \$1000 per year)
- Maintenance + typical growth: @ \$2 million /year
  - 95% is for staff
  - 16 1/2 members on team
- Without HL7, cost would be much greater.

# Major Weaknesses: V3 Promises to Make it Better

Major Weakness	V3 to Fix
•Too much optionality	✓
•Ambiguous - lacking definition	✓
•Artifacts left to retain backward compatibility	✓
•Can't specify or automate testing of conformance	✓
•Complicated, esoteric encoding rules.	✓
•No standard vocabulary	✓

# While we wait for Version 3

- Address the conformance issue now
  - Develop and Share Conformance Profiles
  - SIG Conformance provides Messaging Workbench Tool
- XML for V2.x
- Upgrade to newer V2 versions

# Upgrading Within the V2 Family

- Always read the latest version.
  - Best definitions
  - Enables strategic solutions
- Upgrade whenever there's a business case.
- Newer versions (V2.3+)
  - large jump in functionality
  - developed in “spirit” of V3.

# In Pursuit of Version 3

- Actively involved in HL7 Version 3 development.
  - make sure its understandable.
  - make sure it works as advertised.
- August ballot was MAJOR milestone.
- Hope to see the first vendor implementations in two years.