



M E T A S T A R


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Wisconsin Ambulatory Health Information Technology (HIT) Survey 2006-2007

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Governor's eHealth Care Quality and
Patient Safety Board

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Overview

- * Background
- * Survey methodology/data collection
- * Results
- * Comparison with other studies
- * Conclusion

Background: Executive Order 129

Charged the eHealth Care Quality and Patient Safety Board to, “...annually assess the extent to which automated information and decision support systems are used by health care providers in Wisconsin.”

Background

- * To fulfill part of this charge and establish a baseline measurement, the eHealth board commissioned Seth Foldy MD, MPH of the Medical College of Wisconsin and MetaStar to conduct a survey of physician practice sites.



Objectives

- * Provide information to the eHealth Board on the status of health information technology adoption and health information exchange participation among providers in Wisconsin
- * Design an assessment process that is repeatable and can yield trends over time
- * Design a method that permits benchmarking with national or other states' data

Definitions: Health Information Technology (HIT)

Use of computers and computer programs to store, protect, retrieve, and transfer clinical, administrative, and financial information electronically within health care settings.

Definitions: Practice Management Systems (PMS)

Those that manage the business functions of a practice, which may include one or more of patient and payer demographics, registration for encounters, scheduling, third-party billing, patient billing, and similar functions.

Definitions: Electronic Medical Record (EMR) system

A system by which providers manage clinical information longitudinally for each patient for both medical management and medico-legal purposes.

Definitions: Health Information Exchange (HIE)

The electronic sharing of patient information about a particular patient across organizational boundaries for clinical purposes other than purely billing or other administrative needs.

Definitions: Electronic prescribing or ePrescribing

A system for electronically recording prescriptions, with other features that may include unidirectional or bidirectional electronic communication between prescribers and pharmacists, automated checking of prescriptions against formulary lists, and decision support features that identify potential safety problems like drug-drug or drug-allergy interactions.

Survey Methodology/Data Collection

- * Tool
- * Unit of analysis
- * Sampling
- * Strategies to Increase Response Rate and Accuracy
- * Data Collection Period
- * Statistical Analysis

Tool Strategy

- * Used 3 logos on tool to get attention
- * Paper tool 10 pages
- * Preprinted demographics
- * Electronic tool had skip logic



Tool Content Resources

- * National Center for Health Statistics 2005 National Ambulatory Medical Care Survey (NAMCS)
- * MetaStar's 2005 Environmental Scan physician office tool
- * eHealth Initiative Connecting Communities Toolkit Interview Template by Type of Stakeholder
- * California Regional Health Information Organization Inventory tool
- * Medical Group Management Association 2005 physician office survey tool
- * Other Quality Improvement Organization (QIO) physician office surveys
- * Centers for Medicare & Medicaid Services (CMS) Doctor's Office Quality-Information Technology (DOQ-IT) *Office Systems Survey* tool
- * Experiences of MetaStar DOQ-IT staff and the authors.

Practice Site the Unit of Analysis

- * Separate outpatient practice or clinic locations
- * MetaStar's list of primary care—family practice, general internal medicine or pediatrics and obstetrics/gynecology—and multi-specialty sites
- * Augmented list to include specialty-only practice sites
- * Total list included 2,819 practice sites.

Surveys sent to 1,567 practice sites

- * 700 independent sites/small systems (<10 sites)
 - * 387 primary care and multi-specialty sites (100% sample)
 - * 313 specialty care (20% sample)
- * 28 large systems – organizations with 10 or more sites (100% sample)
 - * 867 sites—all specialty types
 - * One survey to a single respondent for each large system

Strategies to Increase Response Rate and Accuracy

- * Lessons learned
- * To facilitate response and prevent duplicates, we preprinted each site name and address for which responses were desired on each form.
- * Check-off list of sites for large-system respondents
- * Unique identifier to each form to avoid data-entry confusion among similarly named sites.

Data Collection Period

- * October 2006 Mailed survey
- * November 2006 Follow-up calls Rnd 1
- * January-February 2007 Follow-up calls Rnd 2

Statistical Analysis

- * Reported as numbers and proportion of responses to particular item
- * Some items have much lower response rates than others
- * Reported for subpopulations by number of locations, urban vs rural and specialty type
- * Chi-square for comparisons of two responses. Statistical significance $p < .05$
- * Relative to an Identified Distribution for ordered responses. Statistical significance $p < .001$

Results

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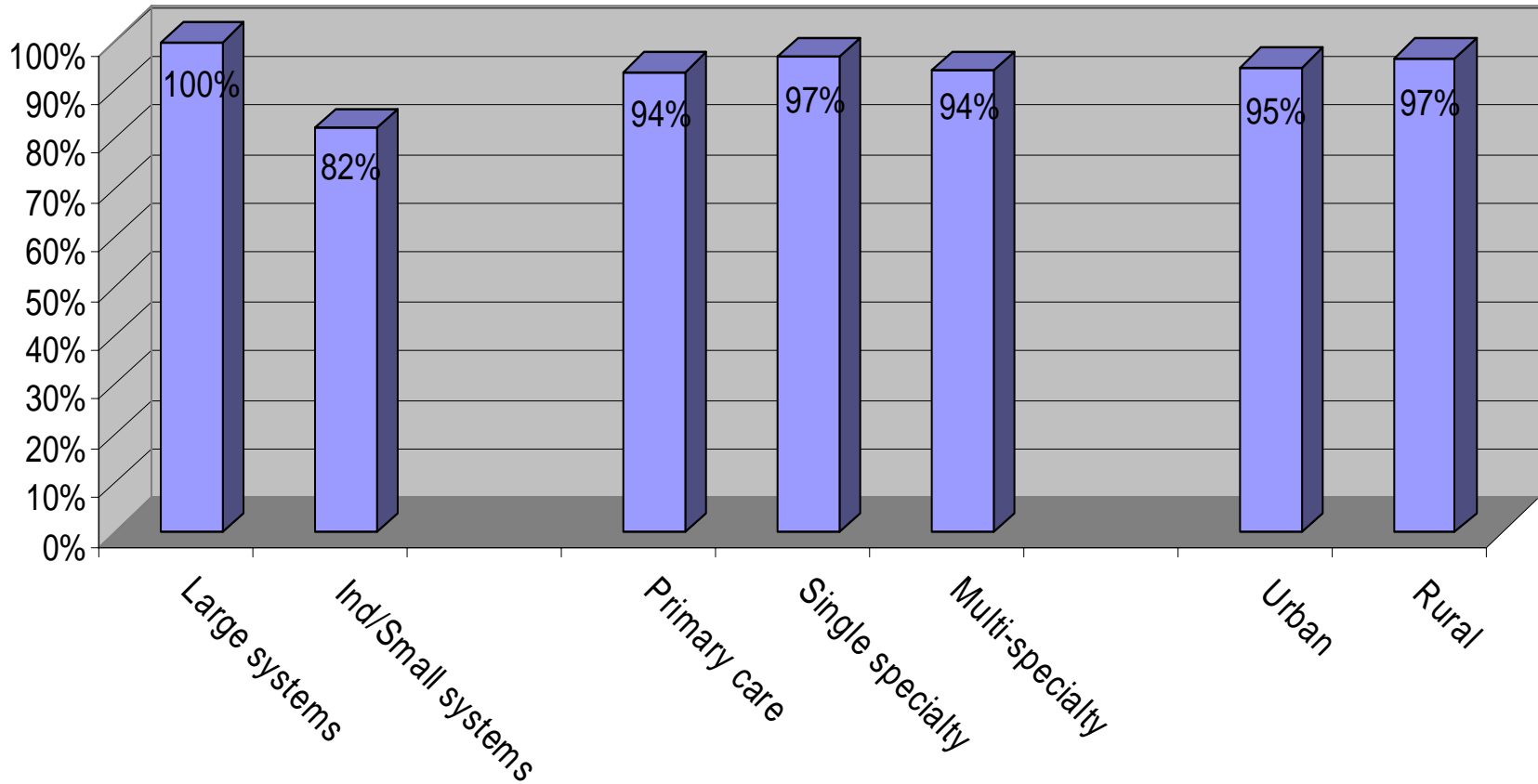
Response Rate

- * 928 of the 1,567 practice sites
- * 59% overall response rate.
- * Rates much higher for large systems (86%) vs. independent or small-system sites (25%).
- * Data for overall survey population over-represents large-system respondents except when weighted

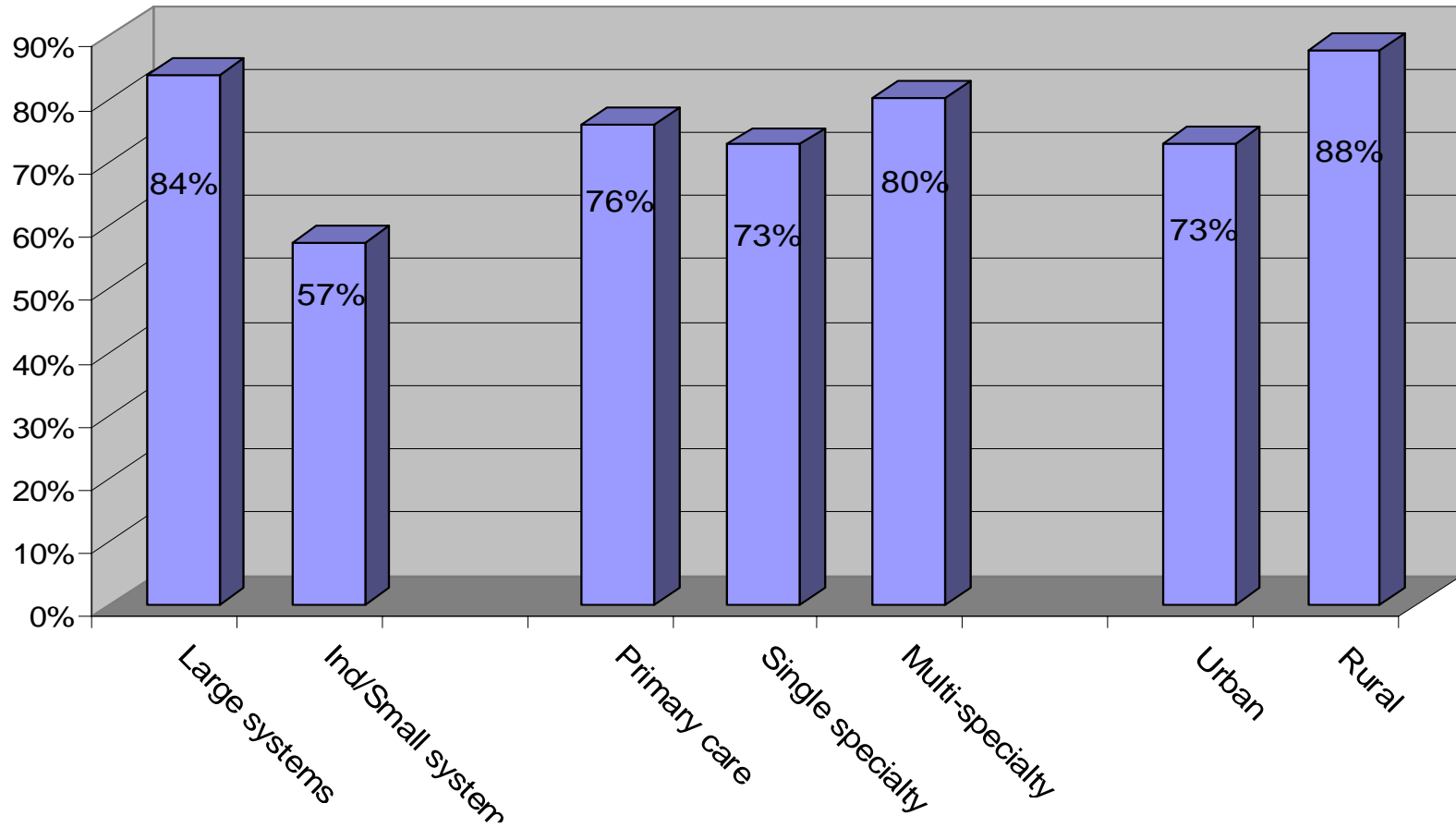
Characteristics of Respondents

- * Large Systems or Independent/Small Systems
- * Urban or Rural
- * Specialties

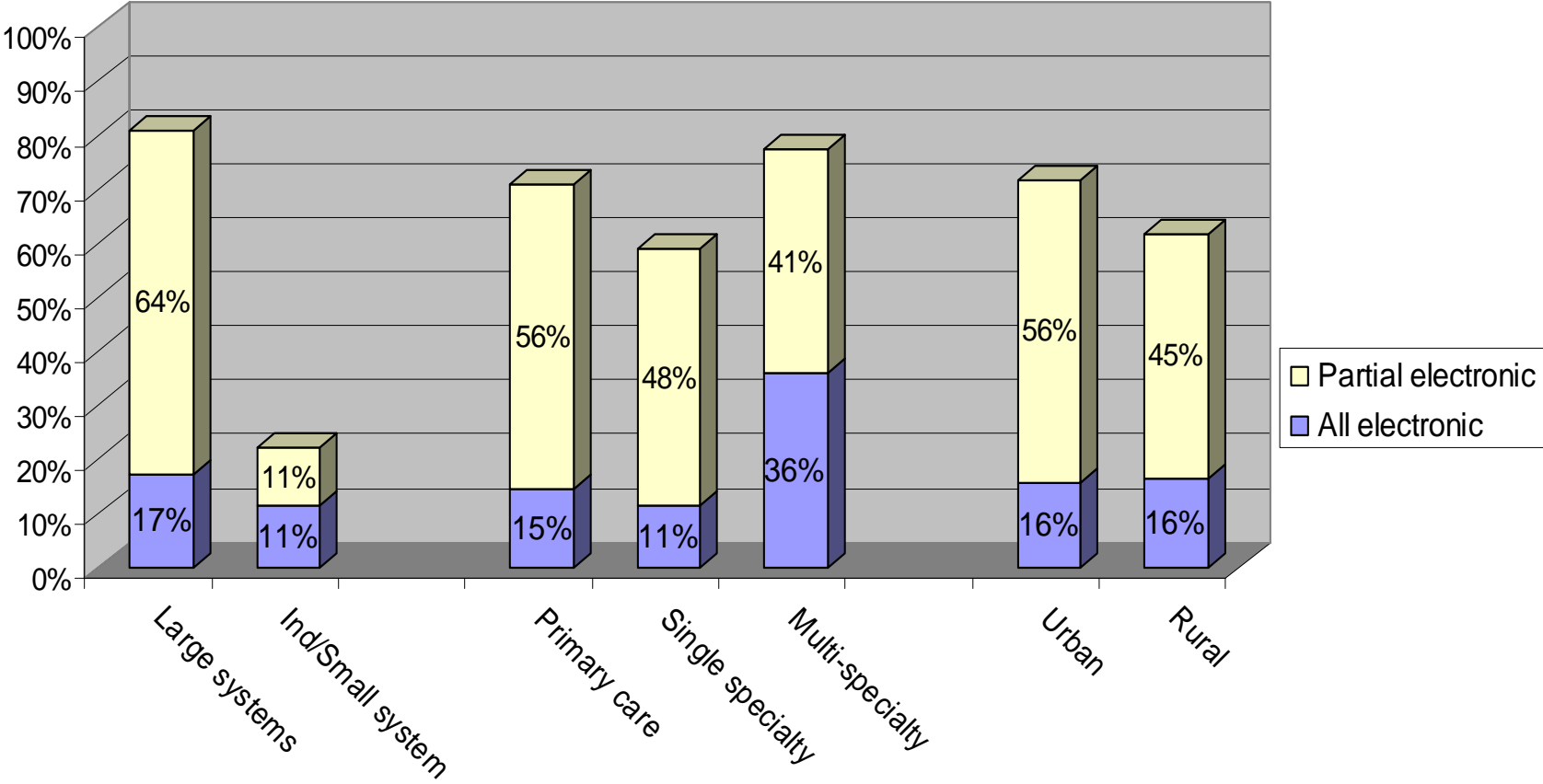
High-Speed Internet Connection



Practice Management Systems



Electronic Medical Records Implemented



Physicians with an EMR

- * Respondents represented 6,170 physicians
- * ~ 36% of the physicians had fully electronic medical records
- * ~ 47% had partially electronic medical records.

Vendors of Electronic Medical Records

- * 148/149 respondents with full EMR gave vendor
 - * 133 had vendor provided/in-house systems certified by Certification Commission for Health Information Technology (CCHIT)
 - * 15 had in-house system
- * 411/493 respondents (83%) with partially implemented EMRs cited a commercial vendor implying comprehensive and potentially interoperable functions
- * Small number of partially electronic referred to a single-function record, e.g. WI Immunization Registry

Plans To Implement a New EMR

No EMR

- * 241 responded
- * 48% said they plan to install a system in the next 3 years
- * 40% did not plan to
- * 12% did not know

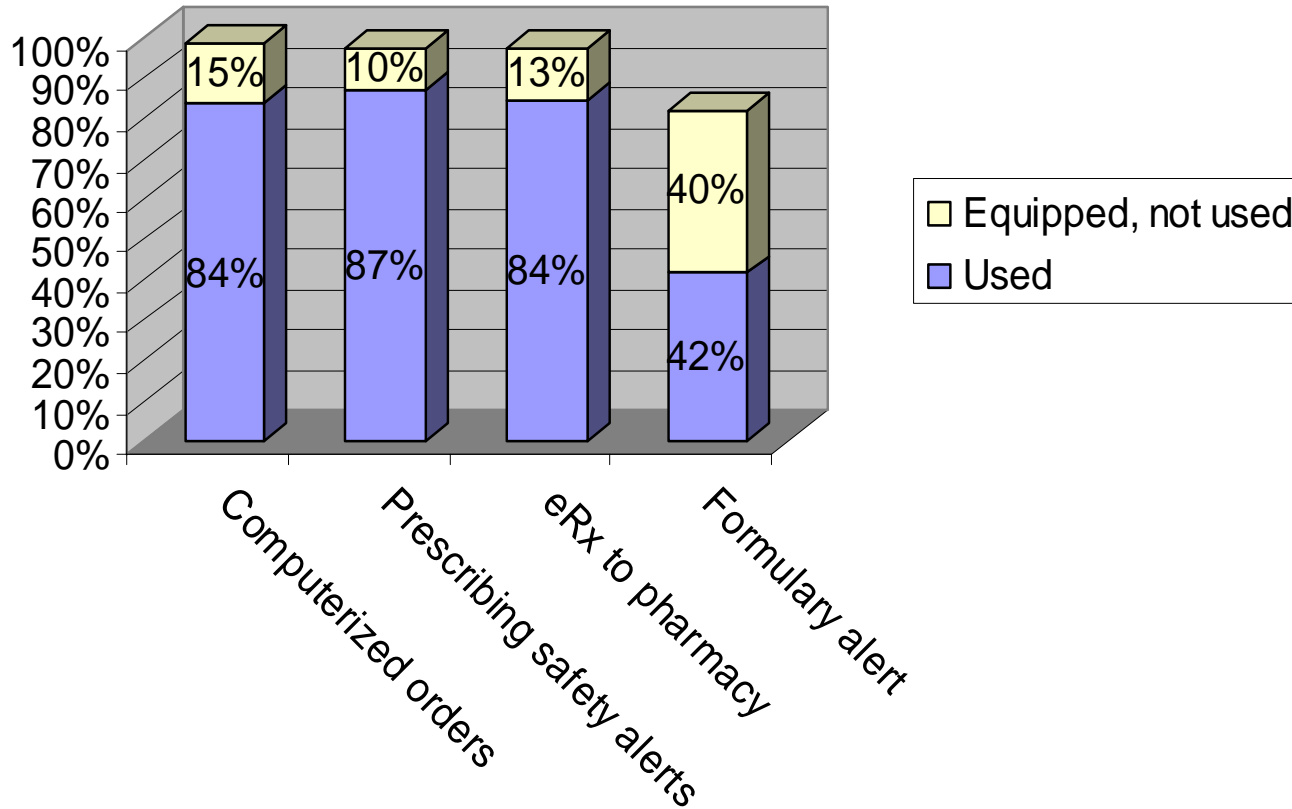
With EMR

- * Only 63 responded
- * None planned to replace system

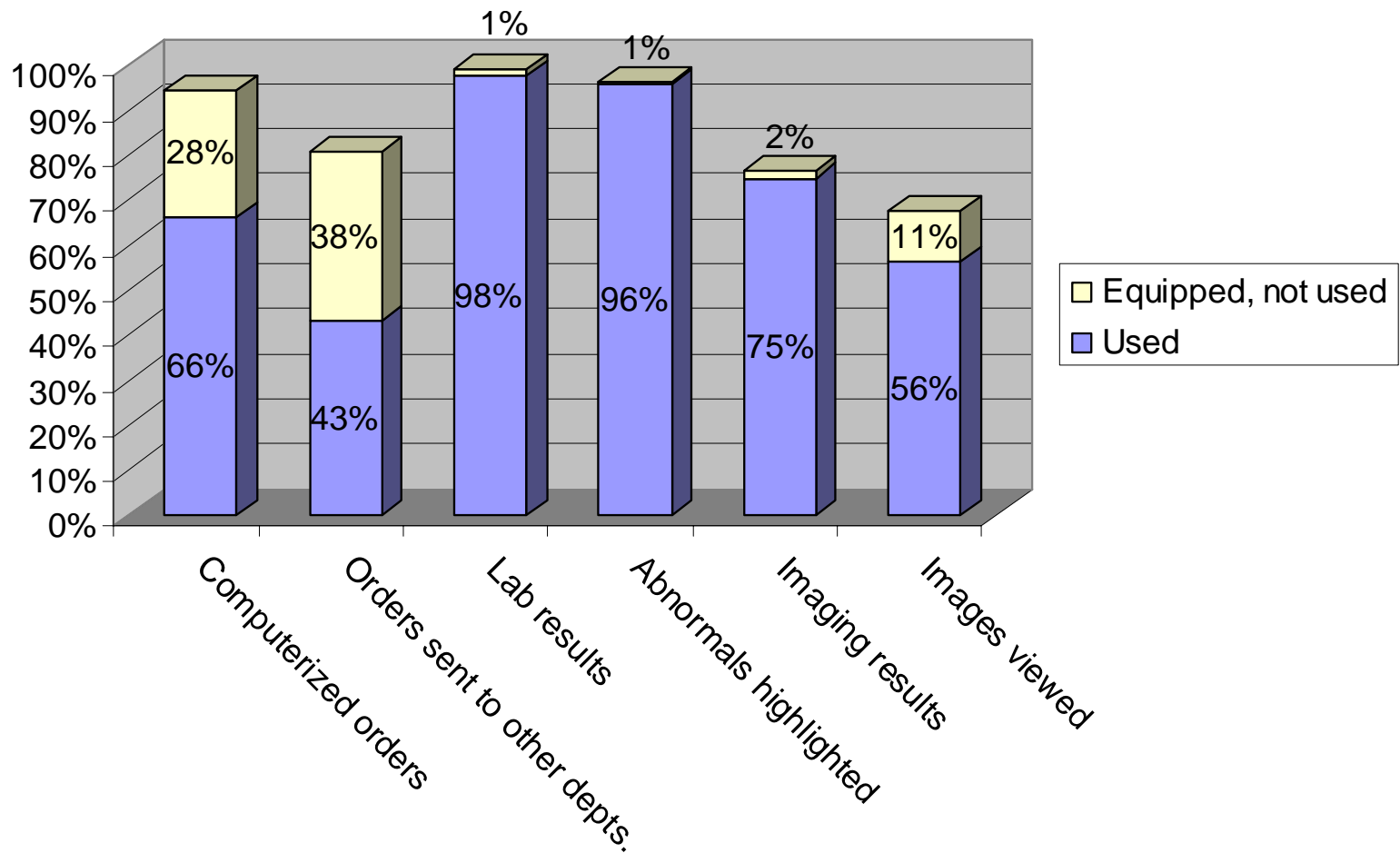
Availability and Use of Specific EMR Functions

- * Sites using EMR were asked which functions were installed on their EMR system and which were actually used by the practice site.
 - * Yes (and used)
 - * Yes (but not used)
 - * No
 - * Don't know

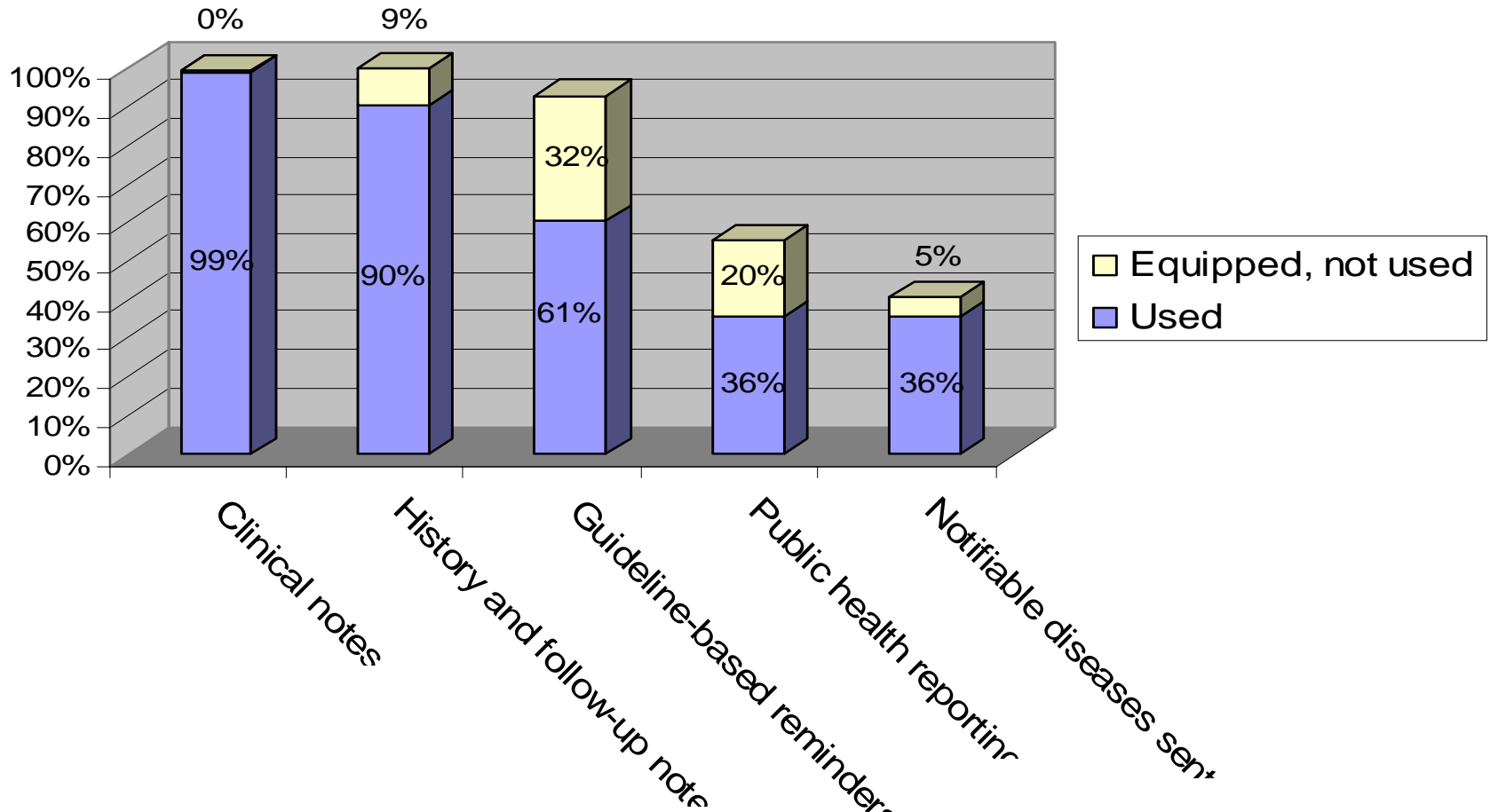
EMR ePrescribing Functions



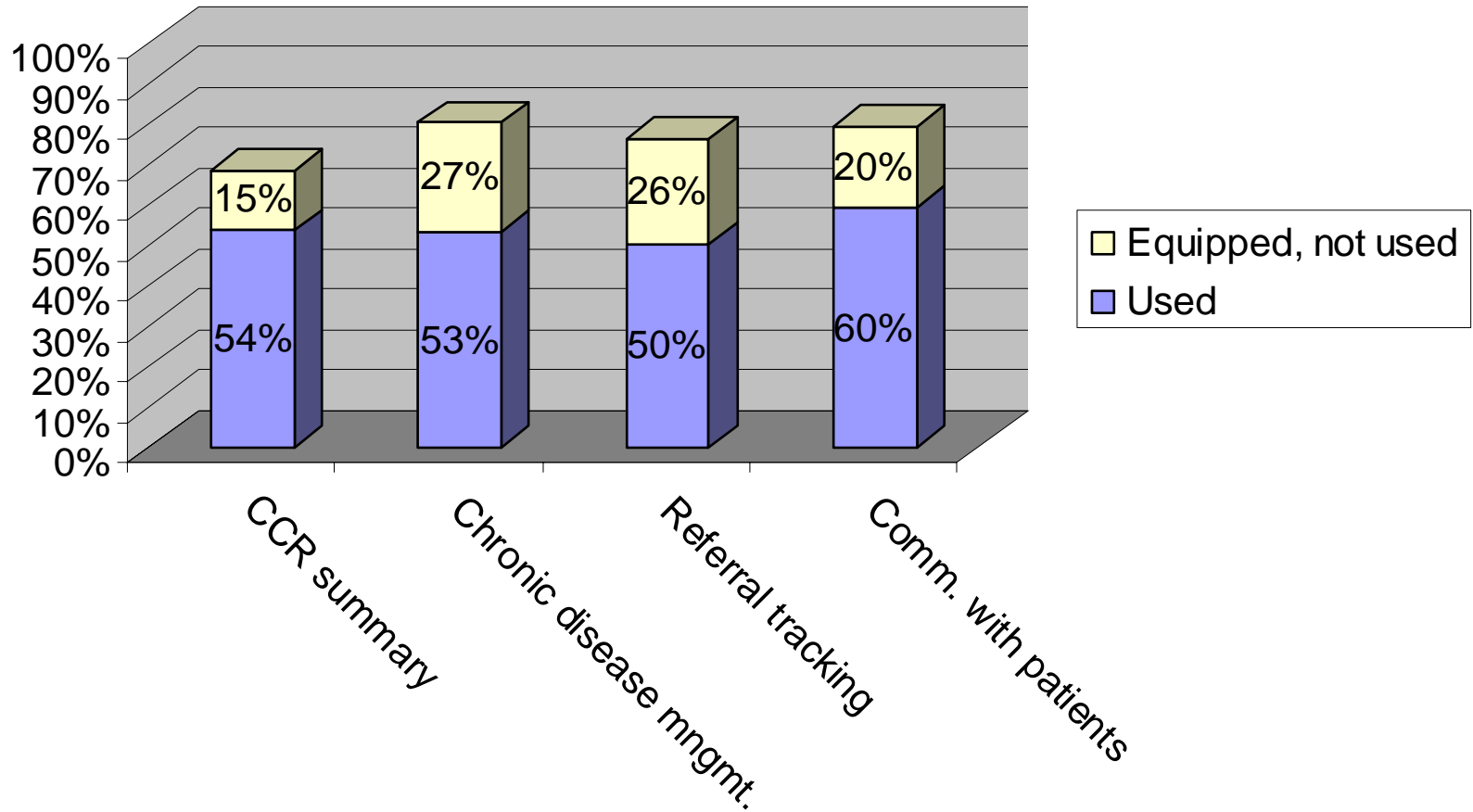
EMR Diagnostic Test Functions



EMR Clinical Narrative, Decision Support, and Public Health Reporting Functions

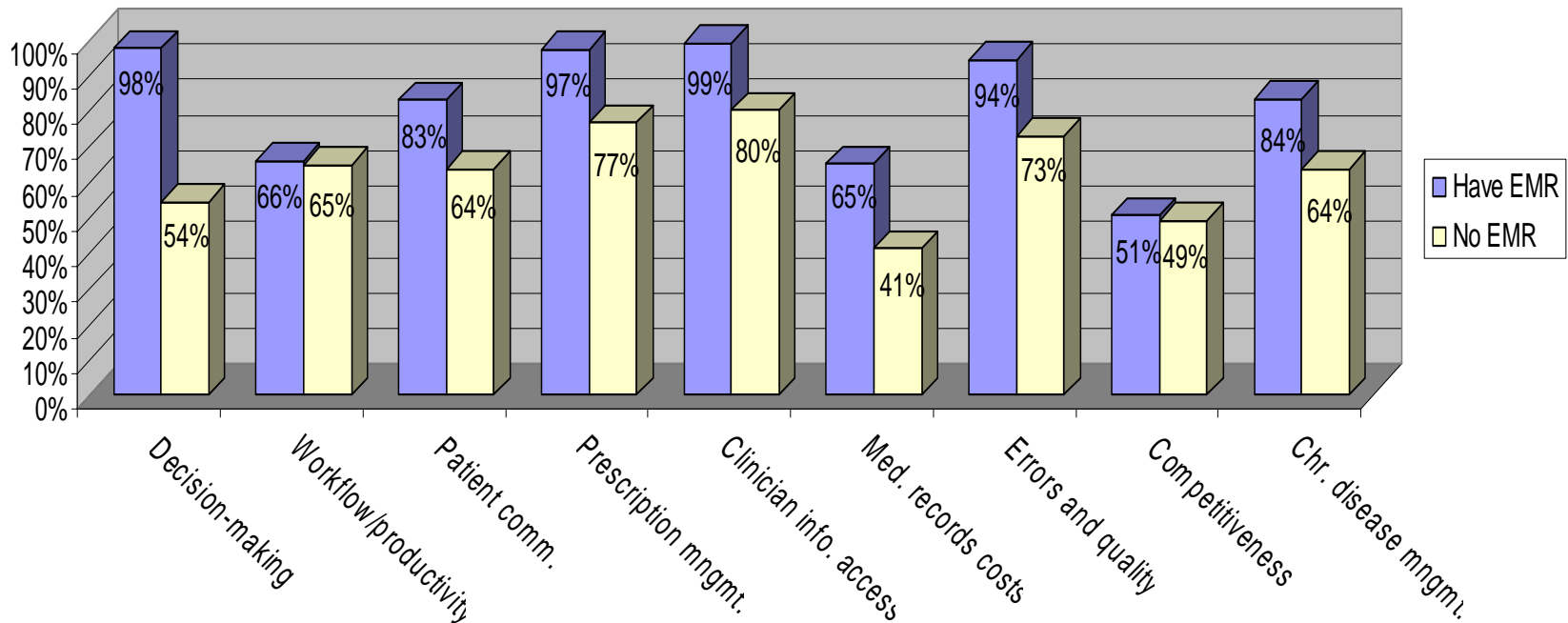


Other EMR Functions

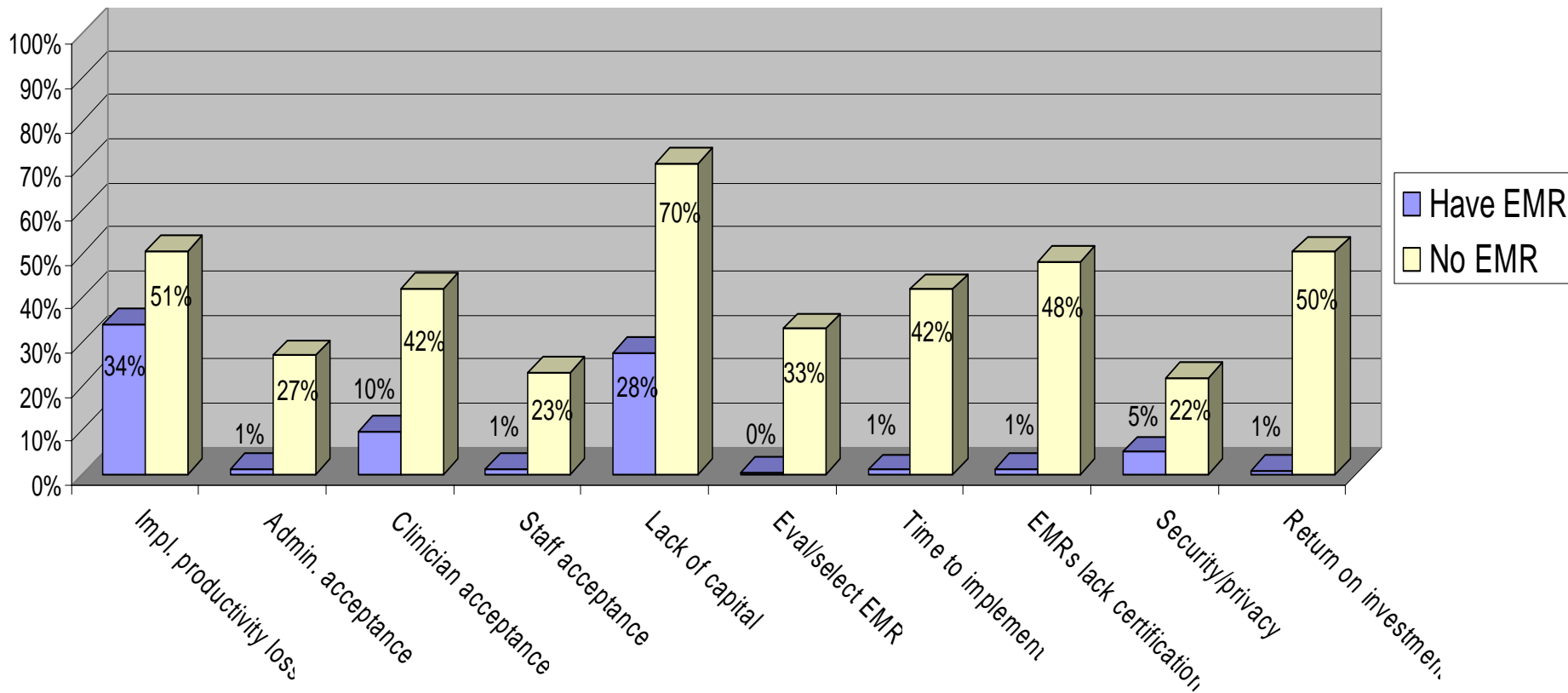


Impact of EMR

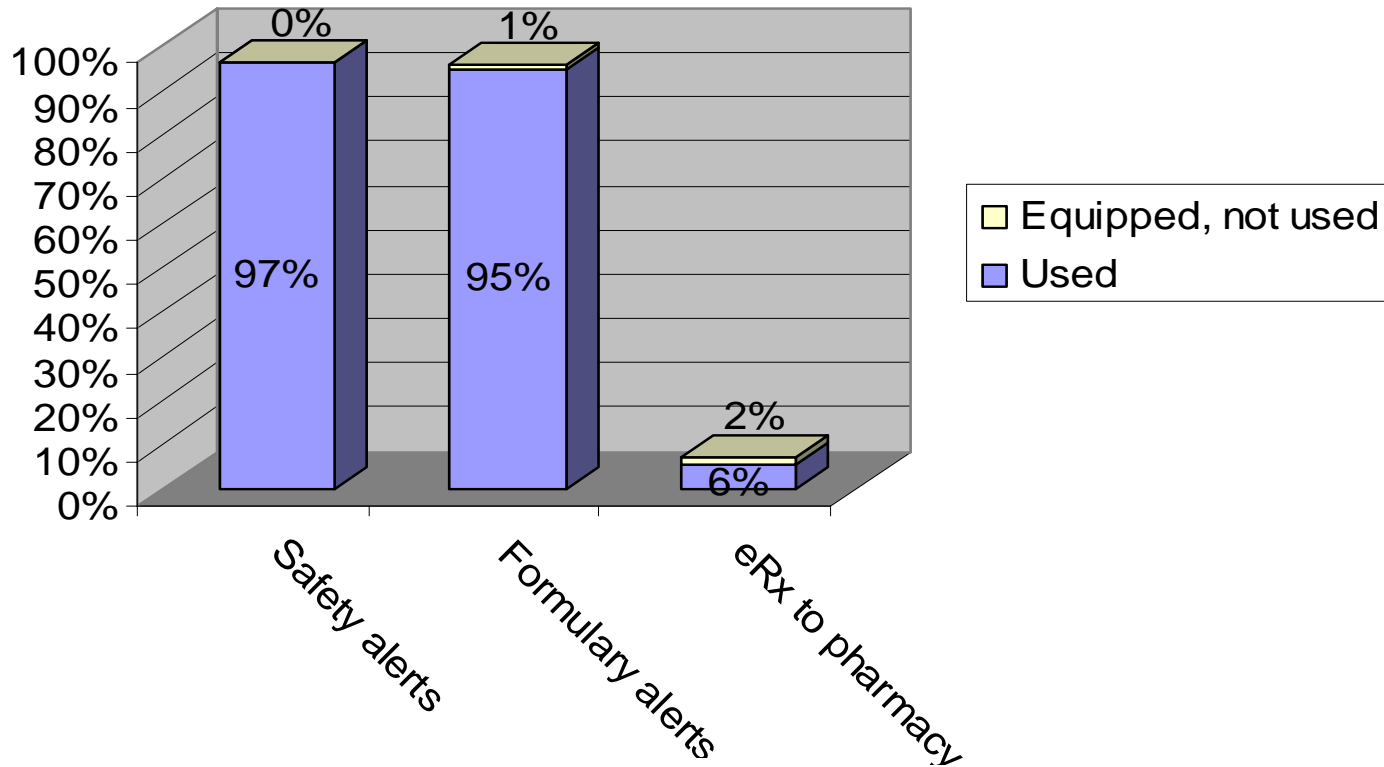
Percent stating EMR made/would make each function slightly/substantially better



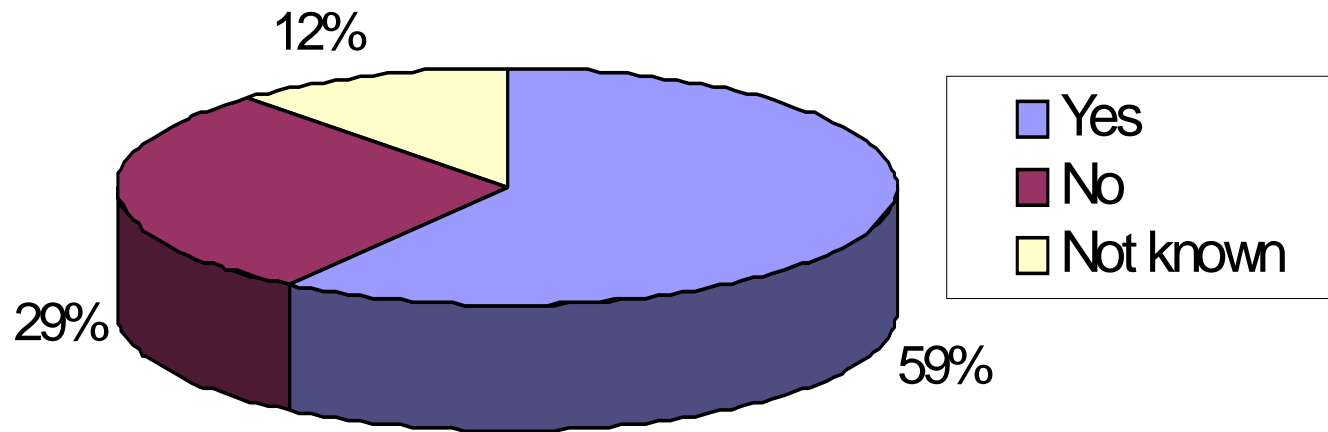
Barriers: Real and Imagined



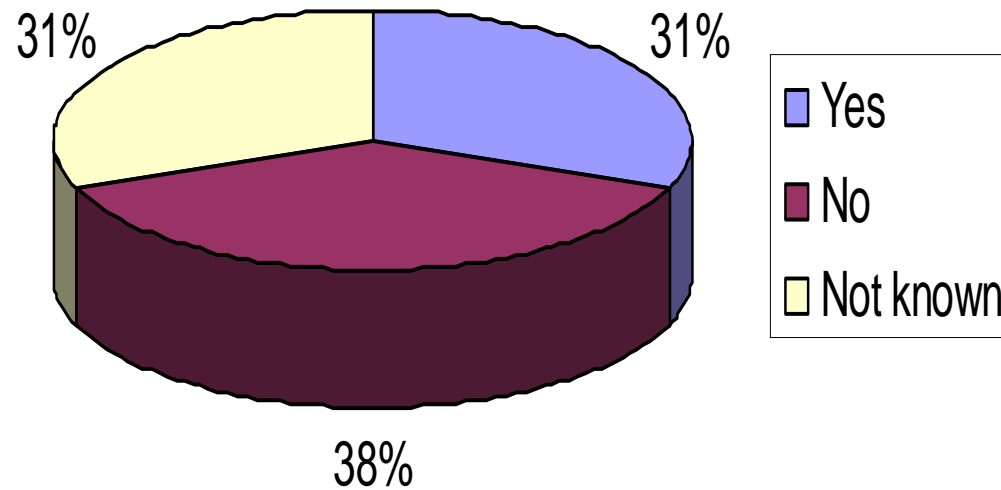
Free-standing ePrescribing



Performance measures publicly reported

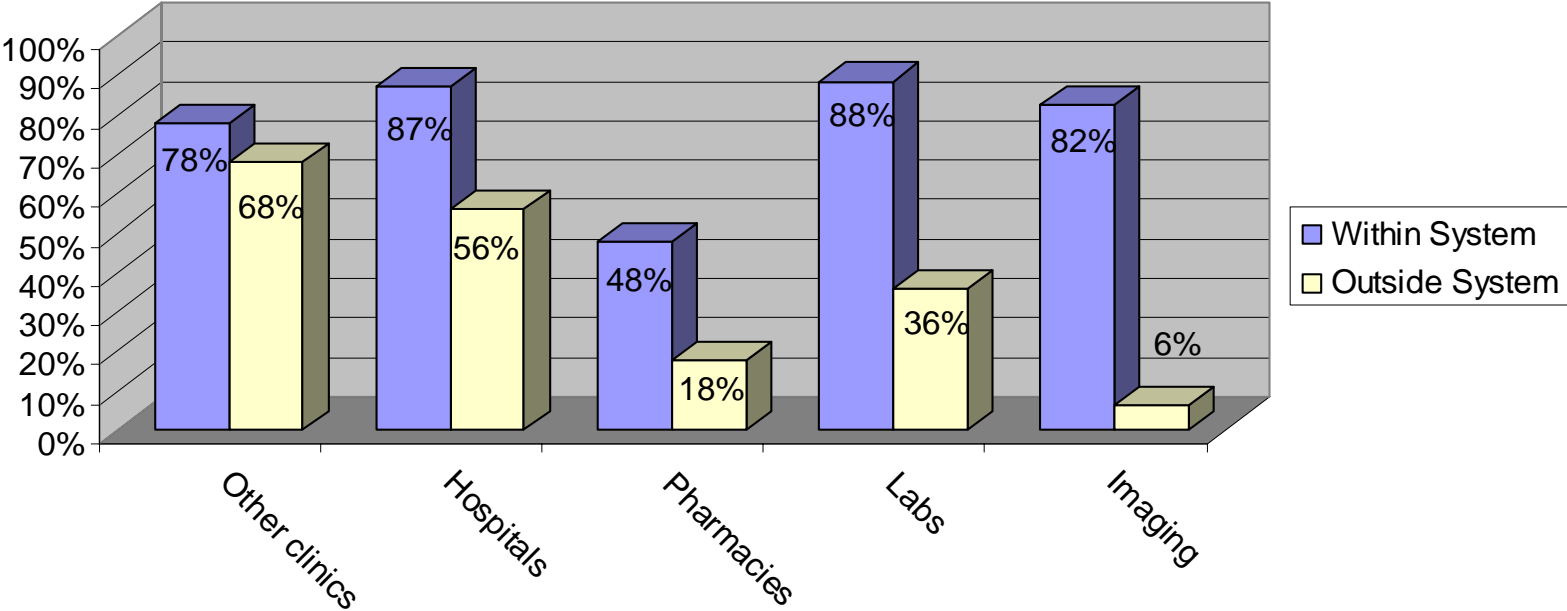


Paid/Penalized for performance

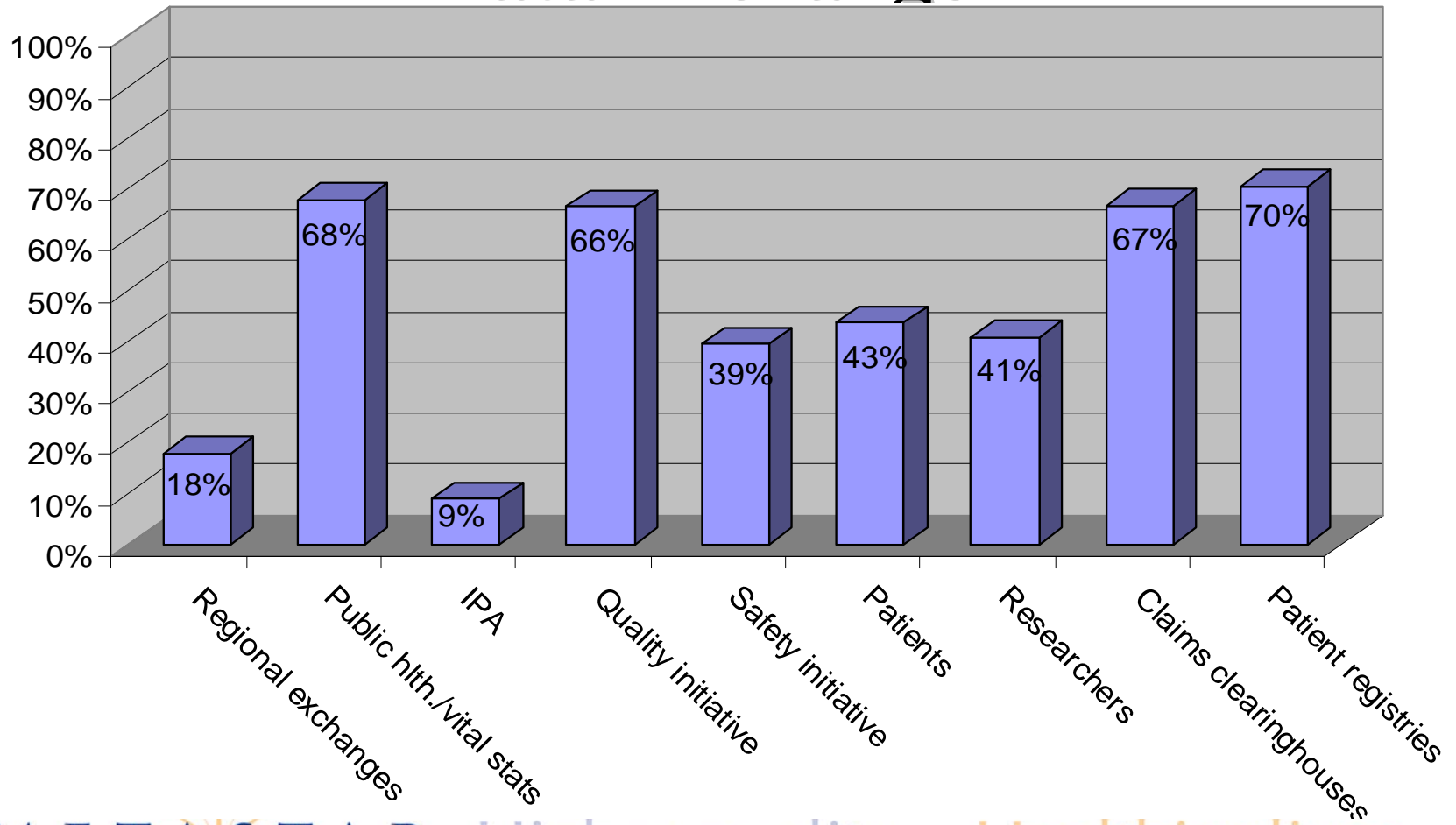


Sites Exchange Data Electronically

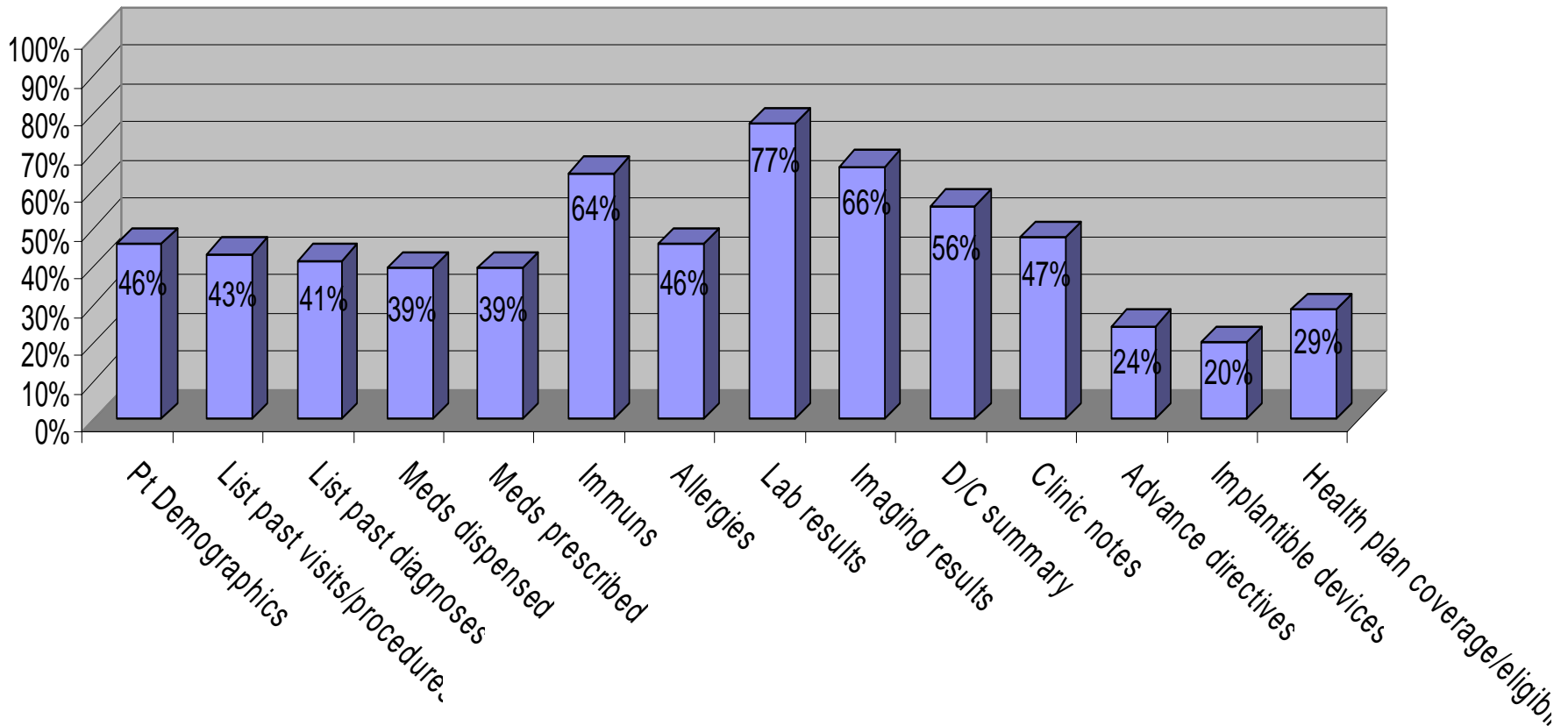
Internal versus External Exchange Partners



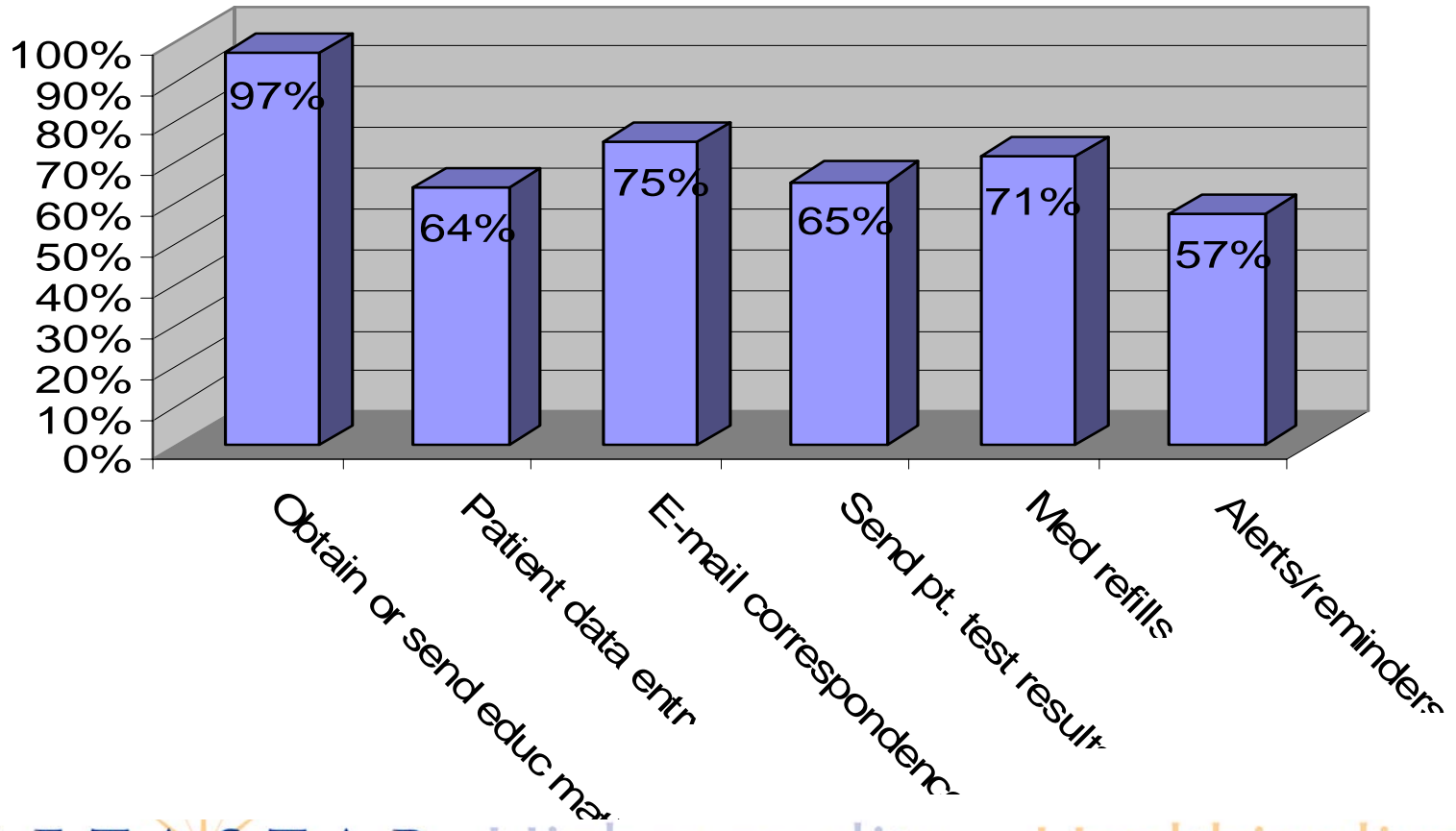
Other Sites Participating in Electronic Data Exchange



Electronic View at Point of Service



Internet Used for Patient Communications



Comparisons with Other Studies

- * National in 2005*
- * 25% of physicians using some form of electronic medical record
 - * 11% fully electronic
 - * 13% partially electronic
- * WI in 2006-2007
- * 83% of physicians using some form of electronic medical record
 - * 36% fully electronic
 - * 47% partially electronic

* NAMCS used physicians rather than practice sites as unit of analysis

Conclusions

- * ~ 13% of WI medical practice sites have fully electronic medical records--~41% use combination of electronic and paper records.
- * 36% of WI physicians use fully electronic medical records.
- * 48% of sites that do not currently use electronic records plan to implement them in the next 3 years (by 2010)
- * 40% of sites have no such plans!!

Conclusions

- * The greatest barrier to EMR implementation cited by practice sites without an EMR system is lack of capital.
- * 95% of sites currently use high-speed Internet connections
- * Both users and non-users see multiple benefits to EMR adoption.

Conclusions

- * Many installed functions of an EMR are unused
- * Clinical sites place high priority on e-prescribe but relatively little actually occurs.
- * ~ 60% of sites publicly report performance measures, and ~ a third state they receive performance-based economic incentives.
- * Most use the Internet for practice-patient communications

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