Adoption of Health Information Technology among U.S. Ambulatory and Long-term Care Providers

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Background

•The 2009 American Recovery and Reinvestment Act (ARRA) includes financial incentives for physician practices and hospitals to adopt electronic health record (EHR) systems starting in 2011. ARRA also includes disincentives for not adopting these systems starting in 2015.

•Incentives include $19 billion in Medicare and Medicaid payments to physicians and hospitals demonstrating “meaningful use” of EHR systems.

Objectives

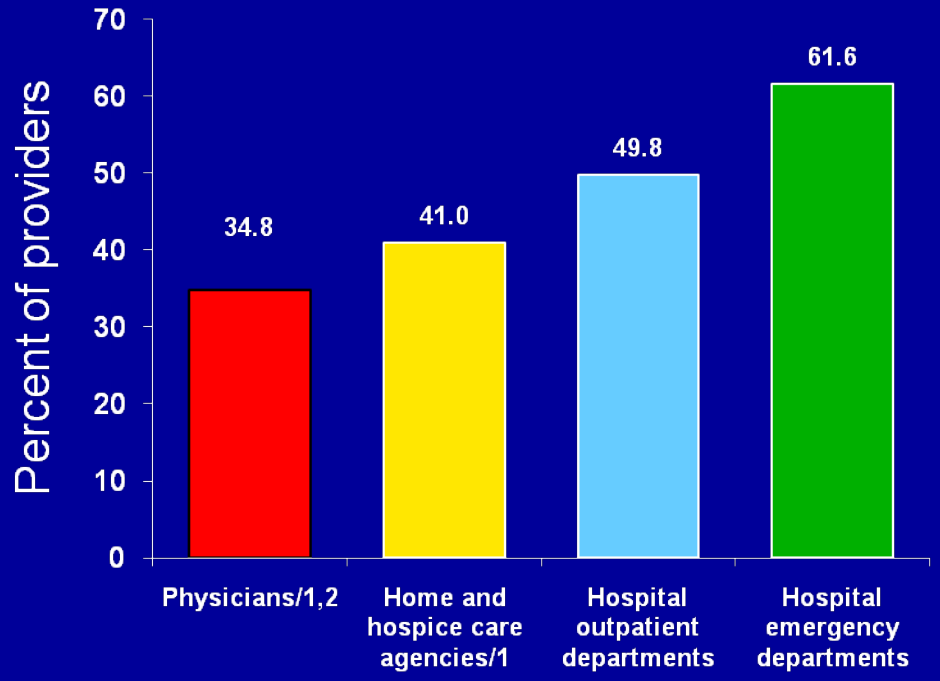
- Examine use of electronic medical record (EMR) systems among ambulatory and long-term care providers in 2007, the most recent year with comparable data, as well as other settings with available data.

- Examine availability of basic electronic health record (EHR) systems and fully functional EHR systems among physicians and hospital departments, as well as selected estimates of “Meaningful use”.

Data sources

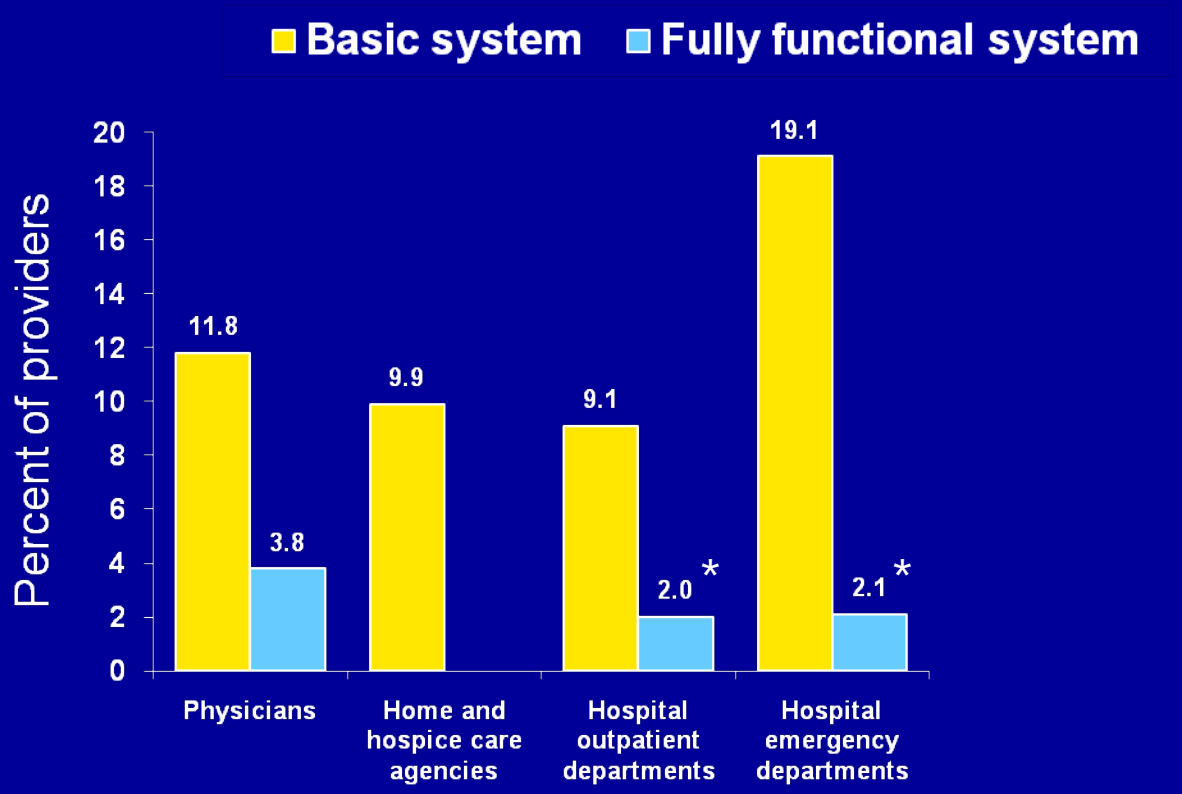
Survey	Type of provider	Data year analyzed	Average responding sample size	Data collection method
NAMCS	Office-based physician	2001-2009	1,500 physicians	Personal interview and mail survey in 2008-2009
NHAMCS	Hospital outpatient department (OPD) and emergency departments (ED)	2006-2007	480 hospitals	Personal interview
NSAS	Ambulatory surgery centers	2006	490 facilities	Personal interview
NNHS	Nursing homes	2004	1,200 nursing homes	Computer-assisted personal interview
NHHCS	Hospices and home health agencies	2007	1,000 agencies	Self-administered questionnaire and computer-assisted personal interview

Percent of ambulatory and long-term care providers using electronic medical record systems, 2007



1/ Difference with hospital emergency department is statistically significant.
2/ Difference with hospital outpatient department is statistically significant.
SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey, National Hospital Ambulatory Medical Care Survey, National Home and Hospice Care Survey.

Percent of ambulatory and long-term care providers with types of electronic record systems, 2007



* Figure does not meet standards of reliability or precision.

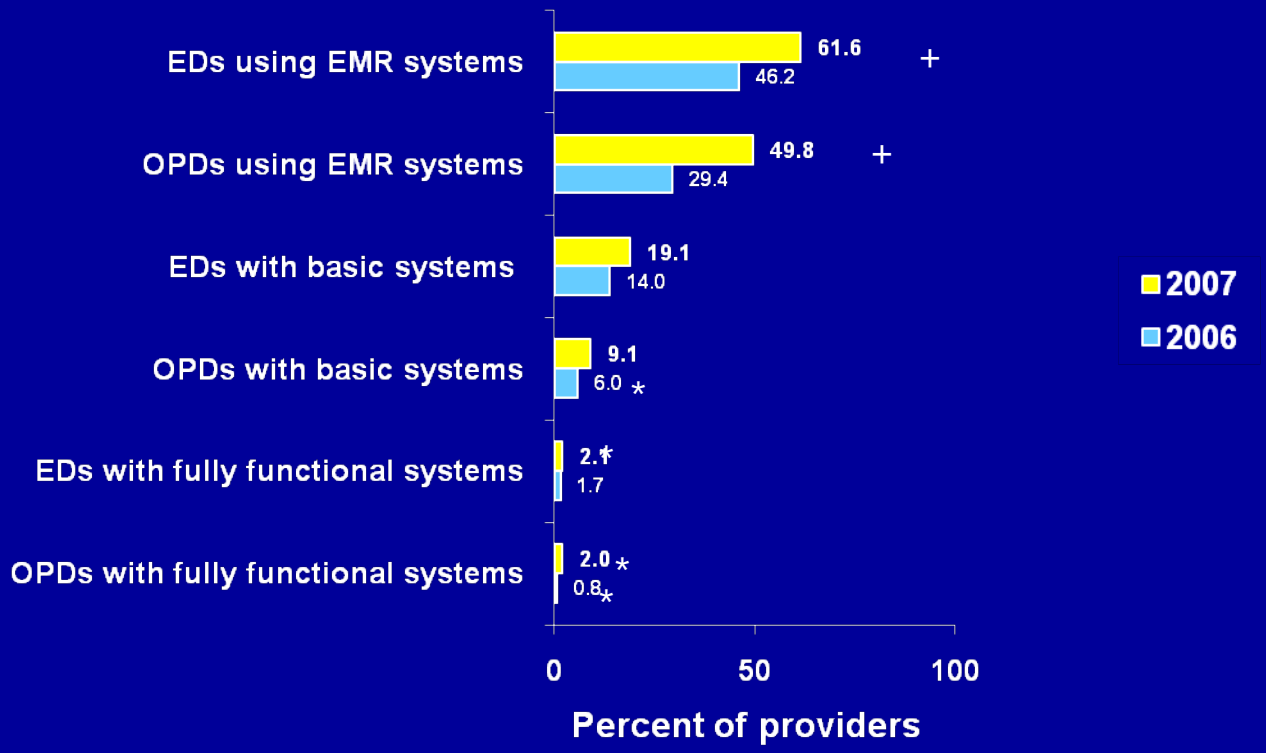
SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey, National Hospital Ambulatory Medical Care Survey, National Home and Hospice Care Survey.

Other estimates of electronic medical record system use

Survey	Type of provider	Data year analyzed	Percent of providers using electronic medical record systems	Percent of providers with basic systems
National Survey of Ambulatory Surgery	Freestanding ambulatory surgery centers	2006	22.3%	3.2% *
National Survey of Ambulatory Surgery	Hospital-based ambulatory surgery centers	2006	62.4%	18.6%
National Nursing Home Survey	Nursing homes	2004	42.7%	19.9%

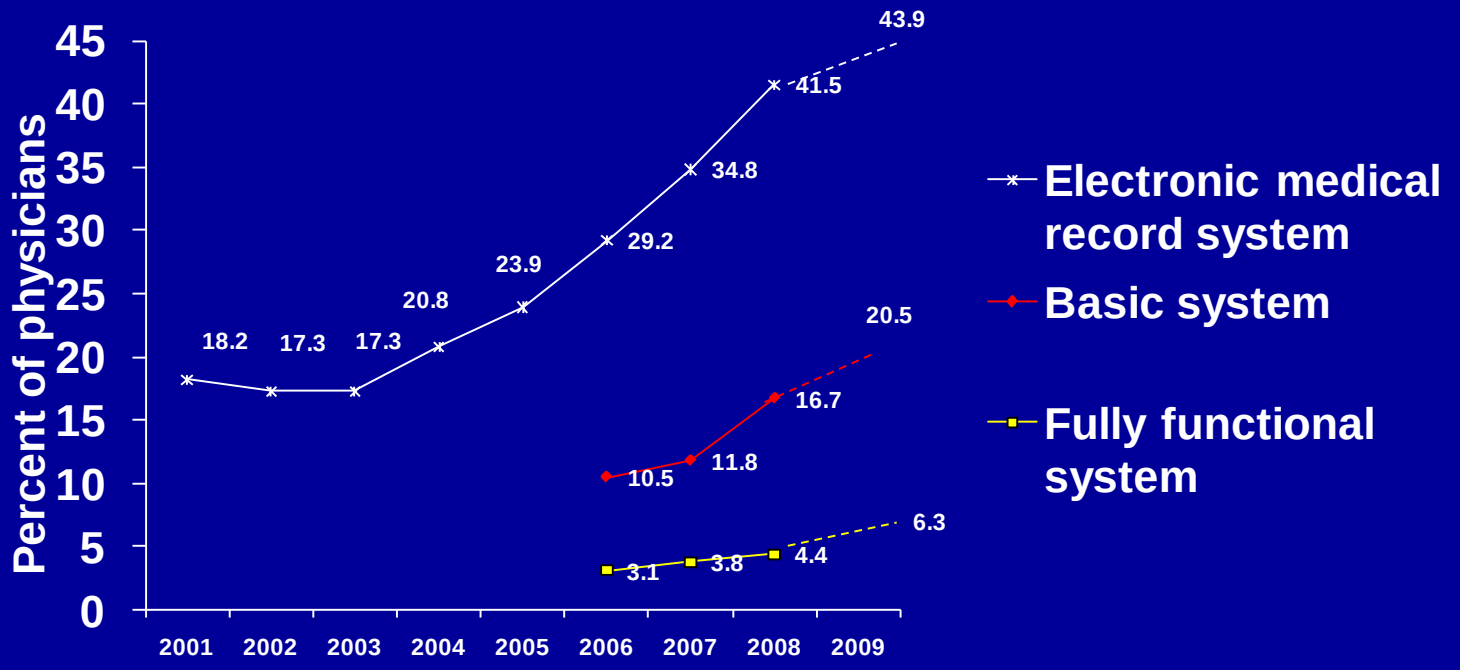
NOTE: * Figure does not meet standards of reliability or precision.

Percent of hospital outpatient and emergency departments with types of electronic record systems, 2006 and 2007



+ Difference between 2006 and 2007 is statistically significant (p<0.05).
*** Figures does not meet standards of reliability or precision.**
NOTES: OPD is outpatient department, ED is emergency department.
SOURCE: CDC/NCHS, National Hospital Ambulatory Medical Care Survey.

Percent of office-based physicians with types of electronic record systems, selected years

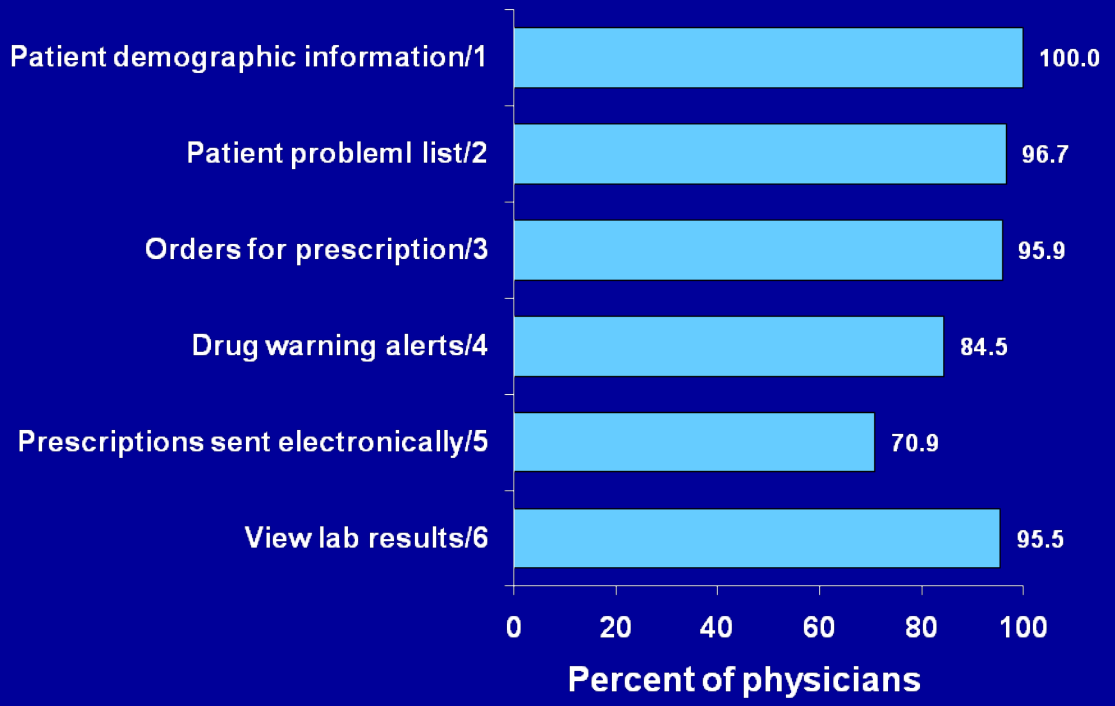


NOTE: 2009 estimates are preliminary and are based on a mail survey. 2008 estimates includes personal interview and mail survey data.
SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey.

Demonstrating Stage 1 "Meaningful Use"

- Stage 1 requirements
  - Use of certified EHR technology
- Physician reports on 15 Core Set and 5 of 10 Menu Set Measures.
  - All 15 Core Set Measures need to be demonstrated
  - Menu Set includes 5 of 10 tasks providers can choose to implement

Preliminary percentage of office-based physicians with basic systems using function needed to meet selected Stage 1 Meaningful Use (MU) criteria



1/ MU criteria: More than 50% of patients' demographic data recorded as structured data.
2/ MU criteria: More than 80% of patients have at least entry recorded as structured data.
3/ MU criteria: More than 30% of patients have at least one Rx ordered through computerized provider order entry (CPOE).
4/ MU criteria: Drug-drug and drug-allergy interaction alerts enabled.
5/ MU criteria: More than 40% of prescriptions transmitted electronically.
6/ MU Menu Set criteria: More than 40% of lab test results incorporated into EHR as structured data.
NOTE: Estimates based on 20.5% of office-based physicians with basic systems.
SOURCE: CDC/NCHS, 2009 National Ambulatory Medical Care Survey.

Conclusions

- In 2007, adoption of EMR systems among hospital OPDs (49.8%) and EDs (61.6%) was at a higher level than among physicians (34.8%).
- Basic systems were available more frequently among EDs (19.1%) than in physician offices (11.8%) or OPDs (9.1%); this suggests hospitals adoption of these systems vary by department.
- Availability of fully functional systems was low in all three settings (2.0% to 3.8%) in 2007.
- Use of EMR, basic, and fully functional systems among hospital-based ambulatory surgery centers (ASCs) in 2006 followed a similar pattern as EDs in 2007.
- Availability of basic systems in long-term care settings is similar to availability in physician offices.

Conclusions

- Based on 2009 NAMCS estimates, it appears most physician offices with basic systems can meet Stage 1 “Meaningful Use” (MU) criteria.
- However, only 84.5% of physicians reported using the drug alerts for drug interactions or contraindications.
- Ability of basic systems to exchange data with other health providers is problematic: Although 95.9% of physicians with basic systems used CPOE to order prescriptions, only 70.9% transmitted prescriptions to pharmacy electronically.

Policy implications

- As of 2009, 20% or less of physician offices and hospital units (EDs, OPDs, and hospital-based ambulatory surgery centers) had adopted a basic EHR system; more widespread adoption is needed for many of these providers to demonstrate “meaningful use” of EHR systems.

- Based on 2009 NAMCS estimates, it appears most physician offices with basic systems potentially could meet Stage 1 “Meaningful Use (MU)” criteria.

- Actual percentage of patients that MU criteria was applied to, however, was not collected. For example, we did not collect the percent of prescriptions ordered using CPOE, nor the percent of patients with entries as structured data.