

# Nursing Informatics 101



**HIMSS**  
transforming health through IT™

# Nursing Informatics 101

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# Why Nursing Informatics?

“If we cannot name it, we cannot control it, finance it, teach it, research it or put it into public policy.”

Source: Lang, N. 1993

# Nursing Informatics Defined

Nursing informatics (NI) is a specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, knowledge, and wisdom in nursing practice. NI supports consumers, patients, nurses, and other providers in their decision-making in all roles and settings. This support is accomplished through the use of information structures, information processes, and information technology.

*Nursing Informatics: Scope and Standards of Practice, ANA 2008*

# Who are Informatics Nurses?

- Expert nursing clinicians in utilizing the nursing process
  - Expert analytical & critical thinking skills
  - Understand patient care delivery workflow & integration points for automated documentation
- Clinicians with extensive clinical practice
  - Experienced in utilizing and implementing the nursing process
- Have additional education & experience related to technology and information systems
  - Are excellent project managers because of the similarity between the project management process & the nursing process
  - May be board certified in Nursing Informatics by ANCC

# Nursing Informatics is Nursing!

- NI is was recognized as a specialty by the ANA in 1992
  - 1<sup>st</sup> Scope and Standards of Nursing Informatics Practice published
- Meets Panniers and Gassert's (1996) attributes of a specialty in nursing
  - A differentiated practice
  - A defined research program
  - Organizational representation
  - Educational programs
  - A credentialing mechanism

# Nursing Practice

Nursing Process is the cornerstone of Professional Nursing Practice

- Defines the “What” and “How” of professional practice
- The steps of the process are measurable
- The process steps can also be used by other clinical disciplines

# Nursing Process

Well-documented information provides:

- What care has been provided and what is outstanding
- Outcomes of care provided and responses to the plan of care
- Current patient status & assessments
- Support decisions based on assessments to drive new plans of care



# Automation of Documentation

- Why automate documentation – not only for nursing but for all of patient care?
- Up-to-date, accurate information of each step of the Nursing Process is the *power* behind safe, high quality patient-centered care!

# Successful Automation

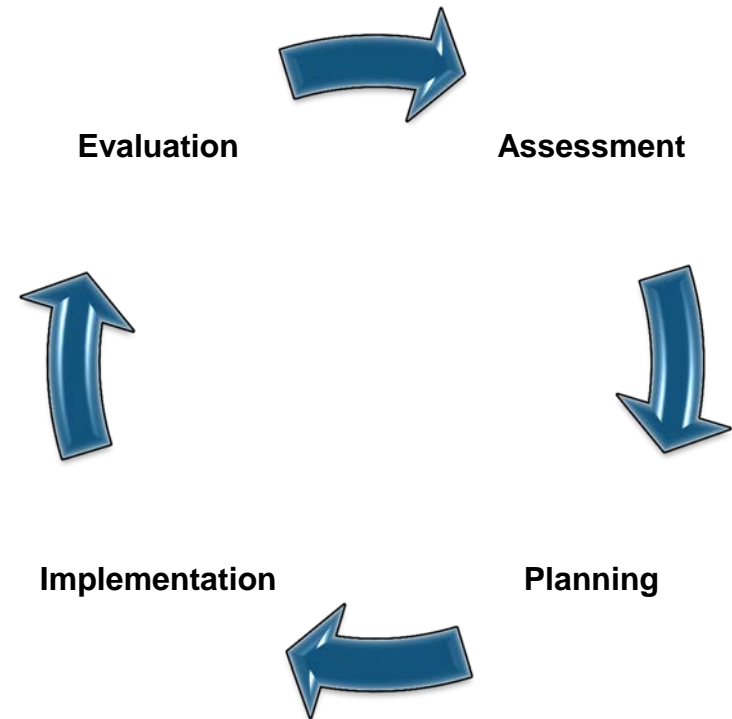
Successful implementation of Electronic Health Records requires:

- Well designed systems that support Nursing Process within the culture of an organization and/or specific care providers
- Acceptance & integration of information systems into the regular workflow of nursing process & patient care
- Resources that can support the above

# How do Informatics Nurses Impact the Nursing Process?

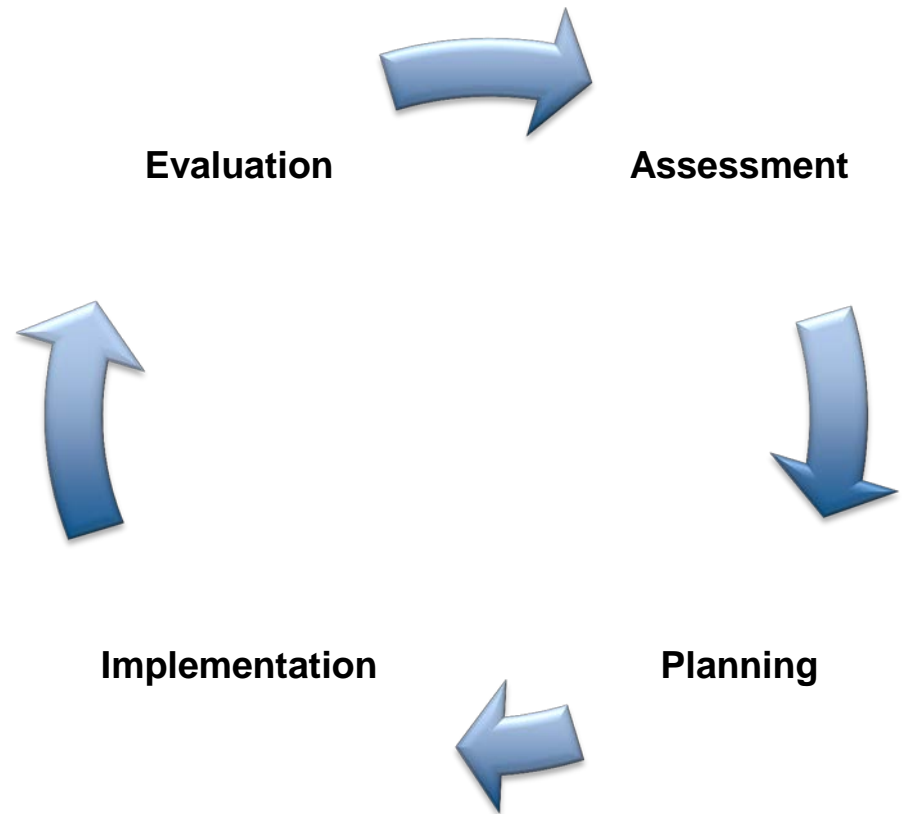
Enable the professional nurse to be the “Coordinator” of each patient’s care

- Communicate & coordinate care with ALL other clinical disciplines
- Coordinate discharge planning, education & teaching, transitions of care
- Manage ALL information related to the nursing process and patient care delivery



# How do Informatics Nurses Impact the Nursing Process?

Because information management is integrated into nursing practice, there are now additional steps in the nursing process





# How do Informatics Nurses Impact the Nursing Process?

- Standardized Documentation
  - The collection tool for information management
- Information Management
  - Key role for Nursing Informatics
  - Key to research and evidence collection
- Process Re-engineering
  - Key to successful implementation
- Research and Evidence Collection
  - Key to repeatable, standardized care and improved outcomes



# The Value of Nurse Informaticists

- Nurse Informaticists are bilingual
- Support nursing work processes using technology
- Re-engineer clinical workflow & facilitate change management

Acute care – all specialties

Ambulatory care

Redesign work flows

Outpatient settings

Home health

Software development

Long-term care

Telehealth



# The Value of Nurse Informaticists

- Analyze clinical and financial data
- Promote and facilitate access to resources and references
- Provide nursing content to standardized languages
- Enhance continuity of care
- Improve relationships between providers and recipients of health care
- Enable cost savings and productivity goals



# The Benefits of Nurse Informaticists

- Nurse Informaticists promote and facilitate access to resources and references
- Support for their mission to deliver high quality, evidence-based care
- Support for better service by facilitating true interdisciplinary care
- Improvement in key relationships with providers & care recipients
- Enable cost savings and productivity goals
- Facilitate change management
- Enhance continuity of care





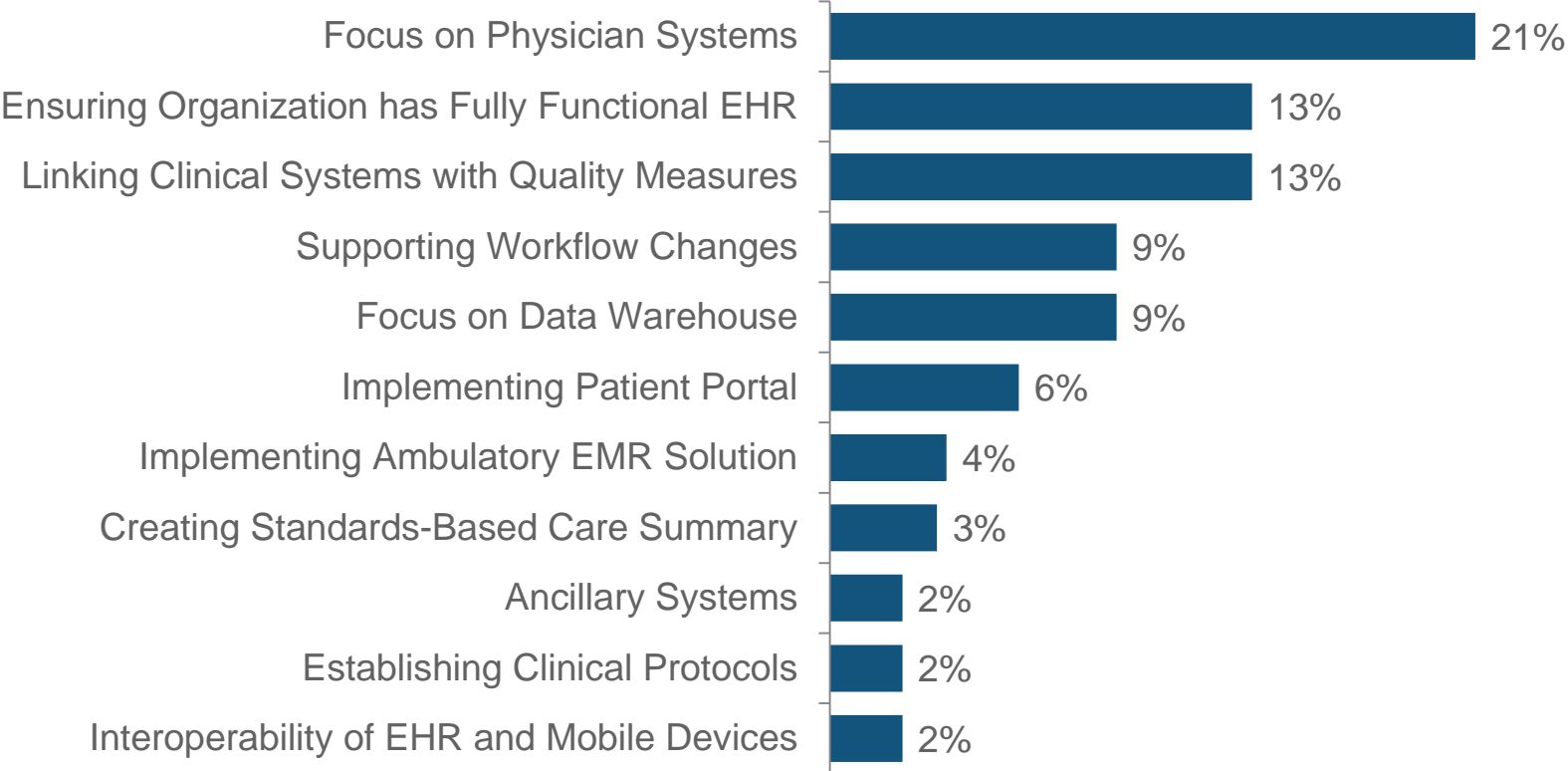
# The Many Roles of a Nurse Informaticist

- Administration, leadership, & management
- Analysis
- Compliance and integrity management
- Consultation
- Coordination, facilitation, and integration
- Development
- Educational and professional development
- Policy development and advocacy
- Research and evaluation

# Data from HIMSS Industry Surveys

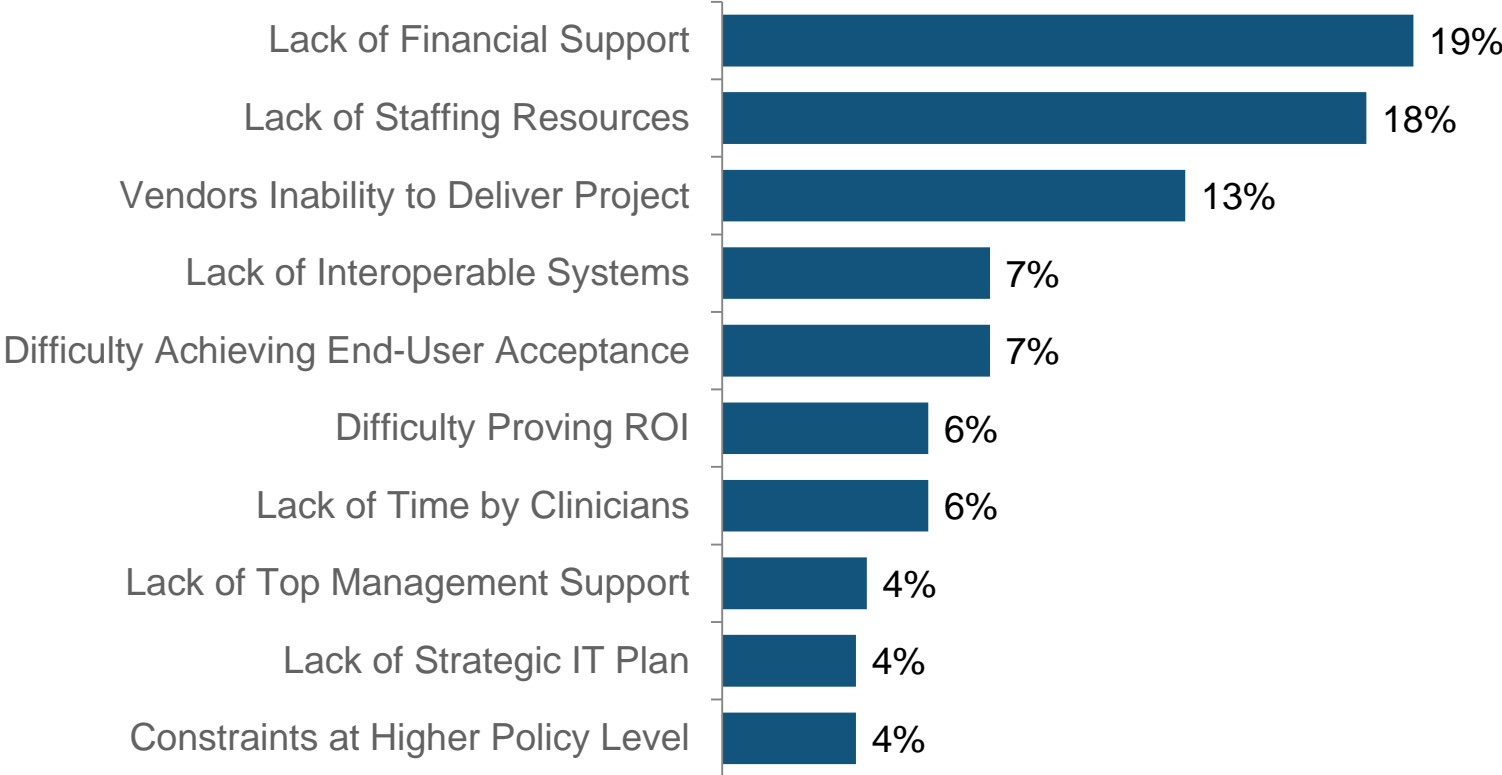
# 25<sup>th</sup> Annual HIMSS Leadership Survey

## Primary Clinical IT Focus – Top Ten



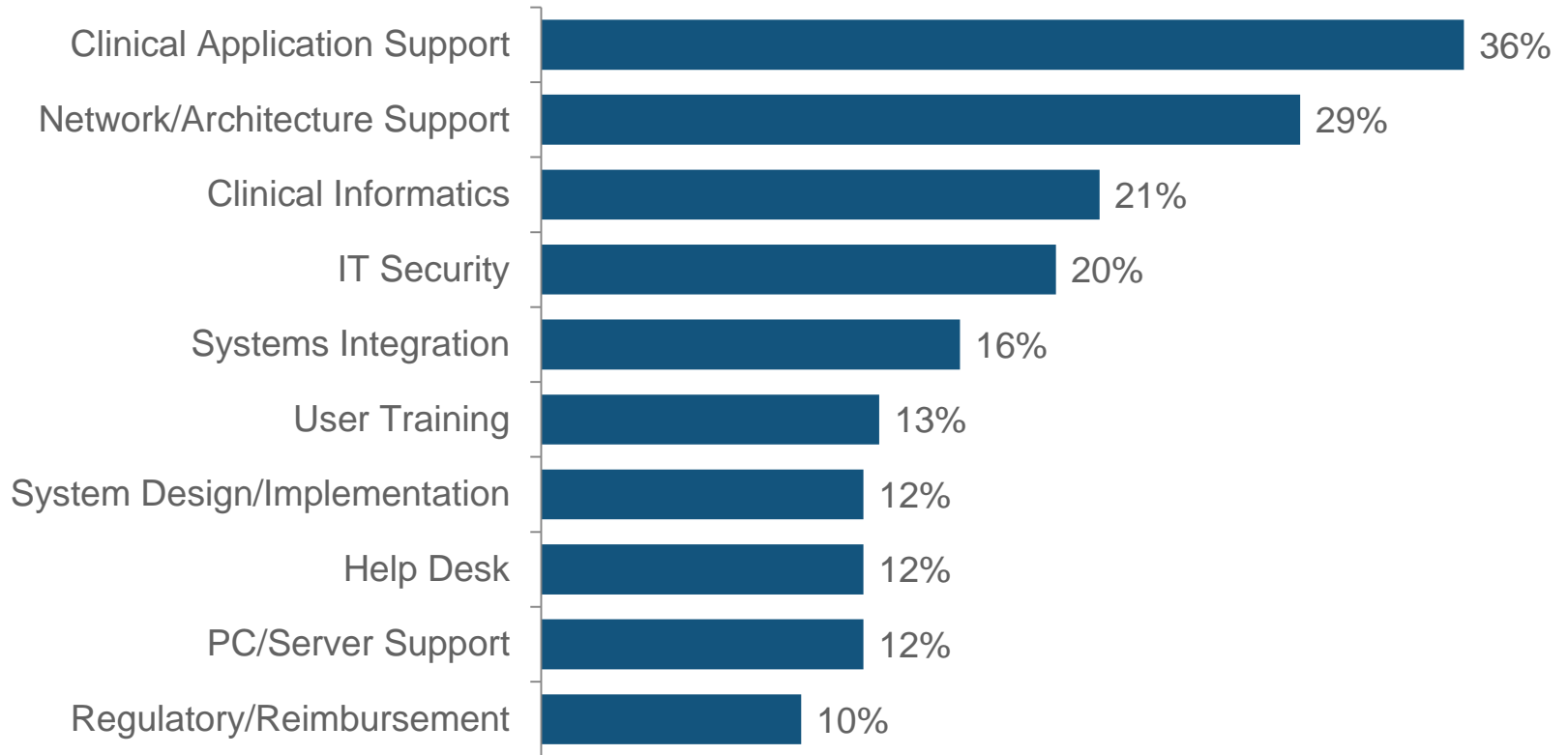
# 25<sup>th</sup> Annual HIMSS Leadership Survey

## Most Significant Barriers to Implementing IT – Top Ten



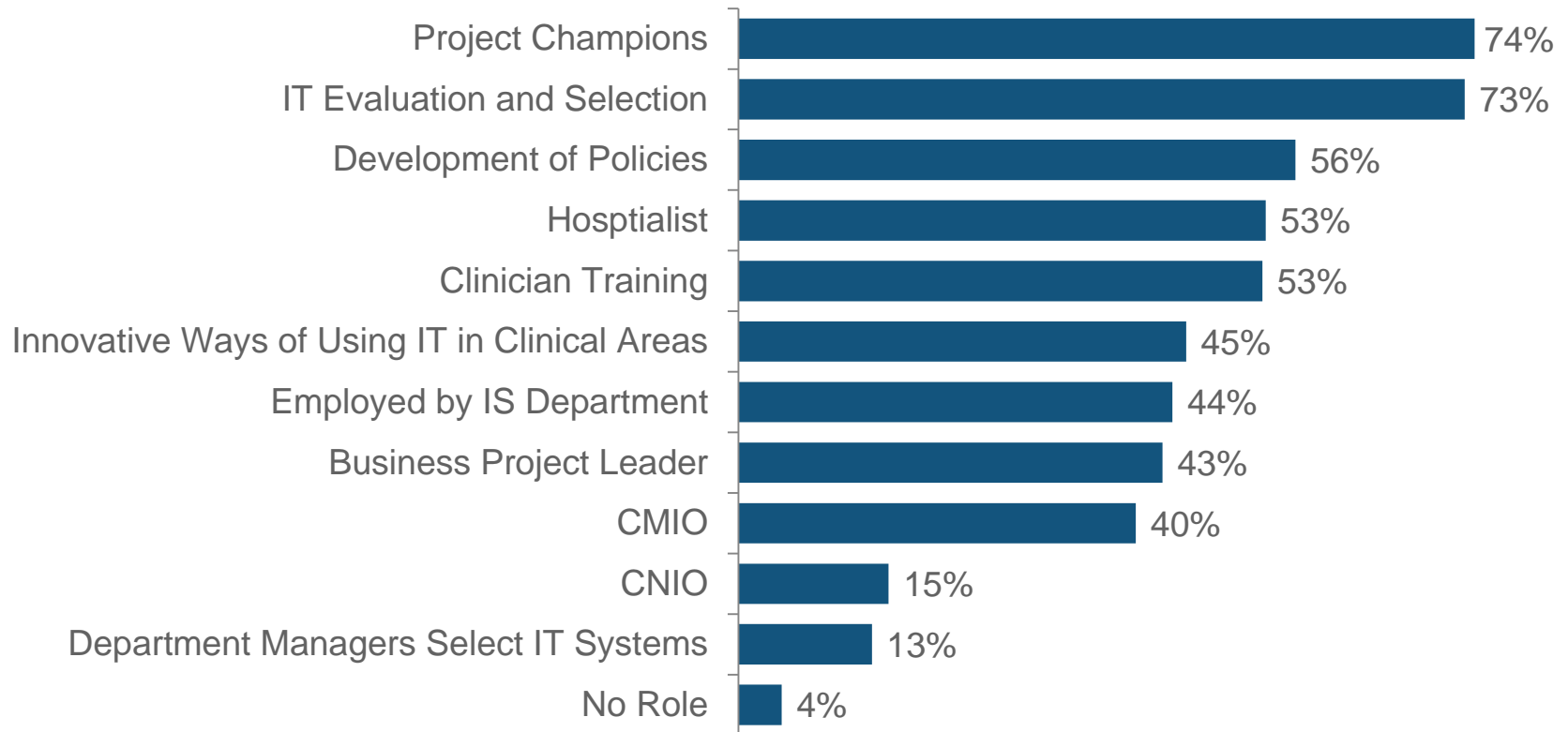
# 25<sup>th</sup> Annual HIMSS Leadership Survey

## 2013 IT Staffing Needs (Top Ten)



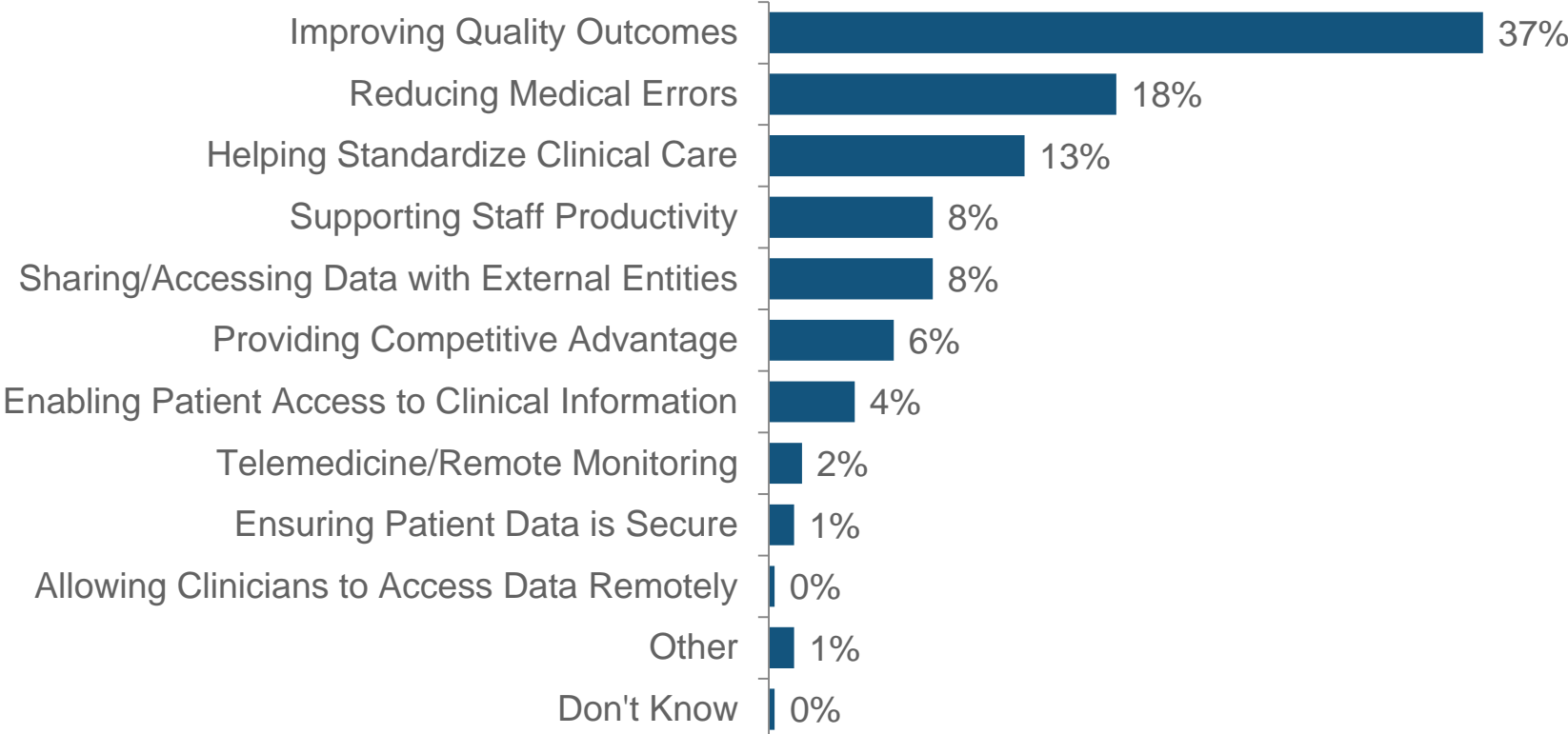
# 25<sup>th</sup> Annual HIMSS Leadership Survey

## Role of Clinicians

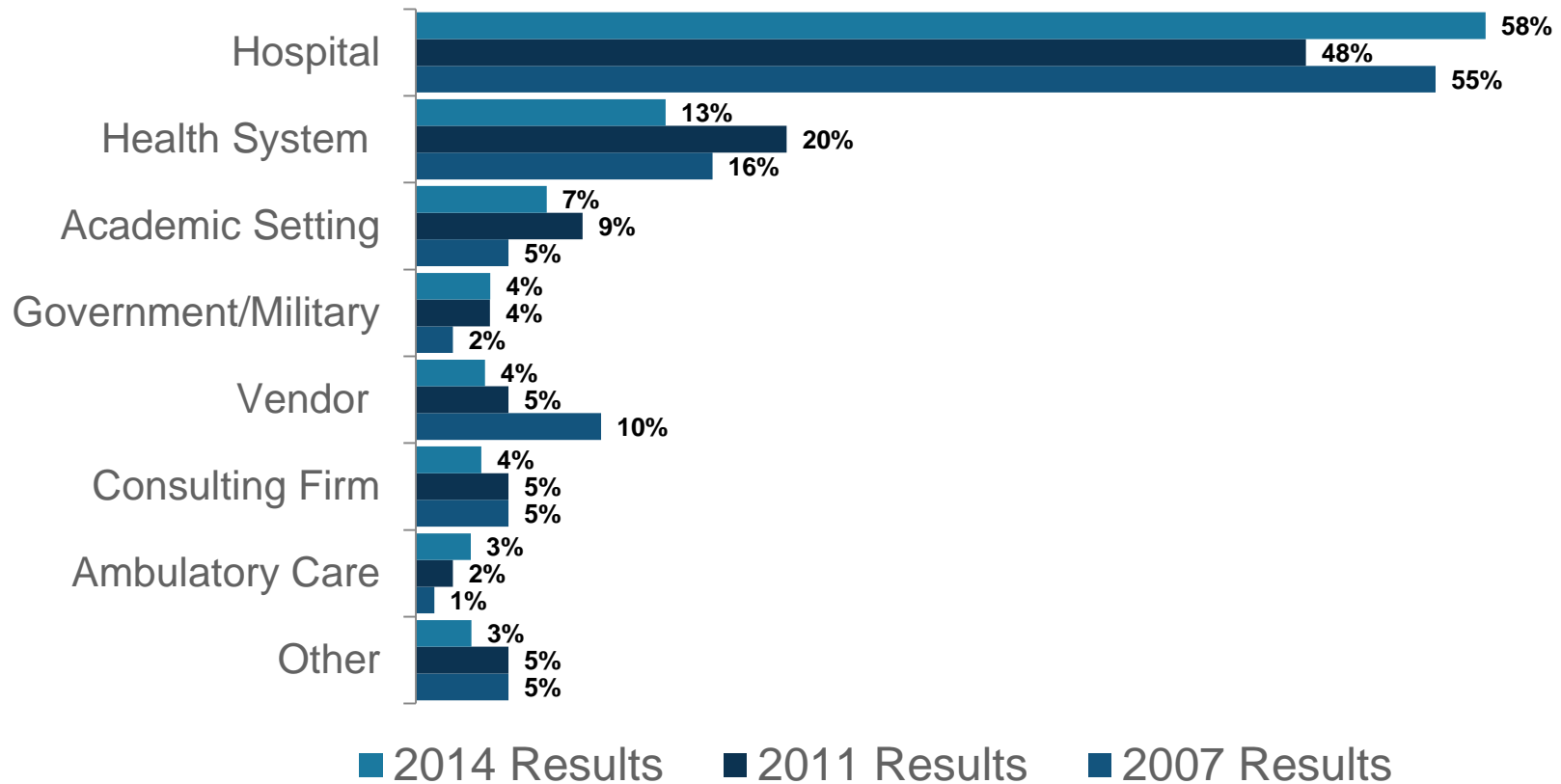


# 25<sup>th</sup> Annual HIMSS Leadership Survey

## Area that Can Most Impact Patient Care



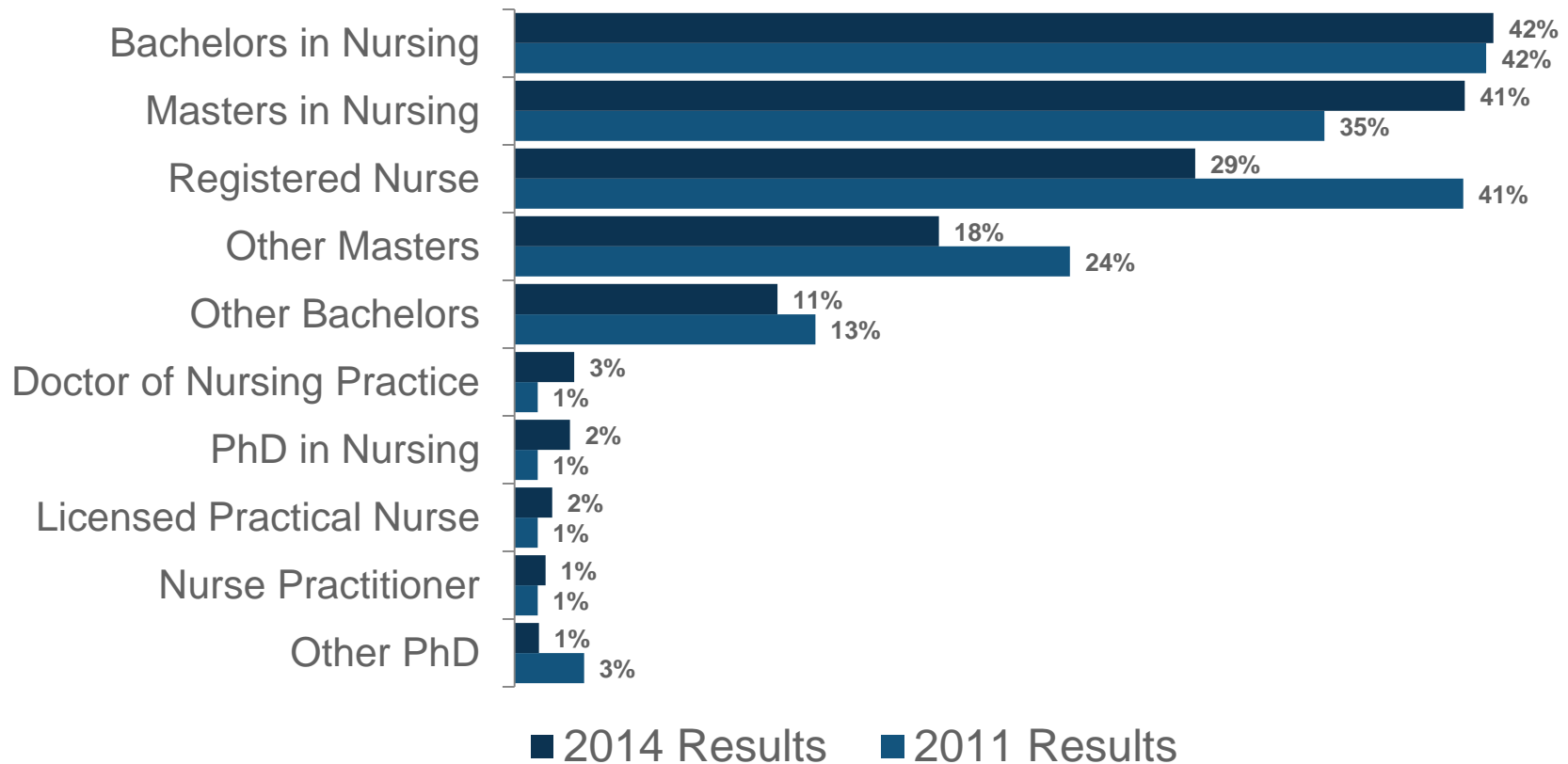
# 2014 NI Workforce Survey Primary Workplace





# 2014 NI Workforce Survey

## Nursing Education



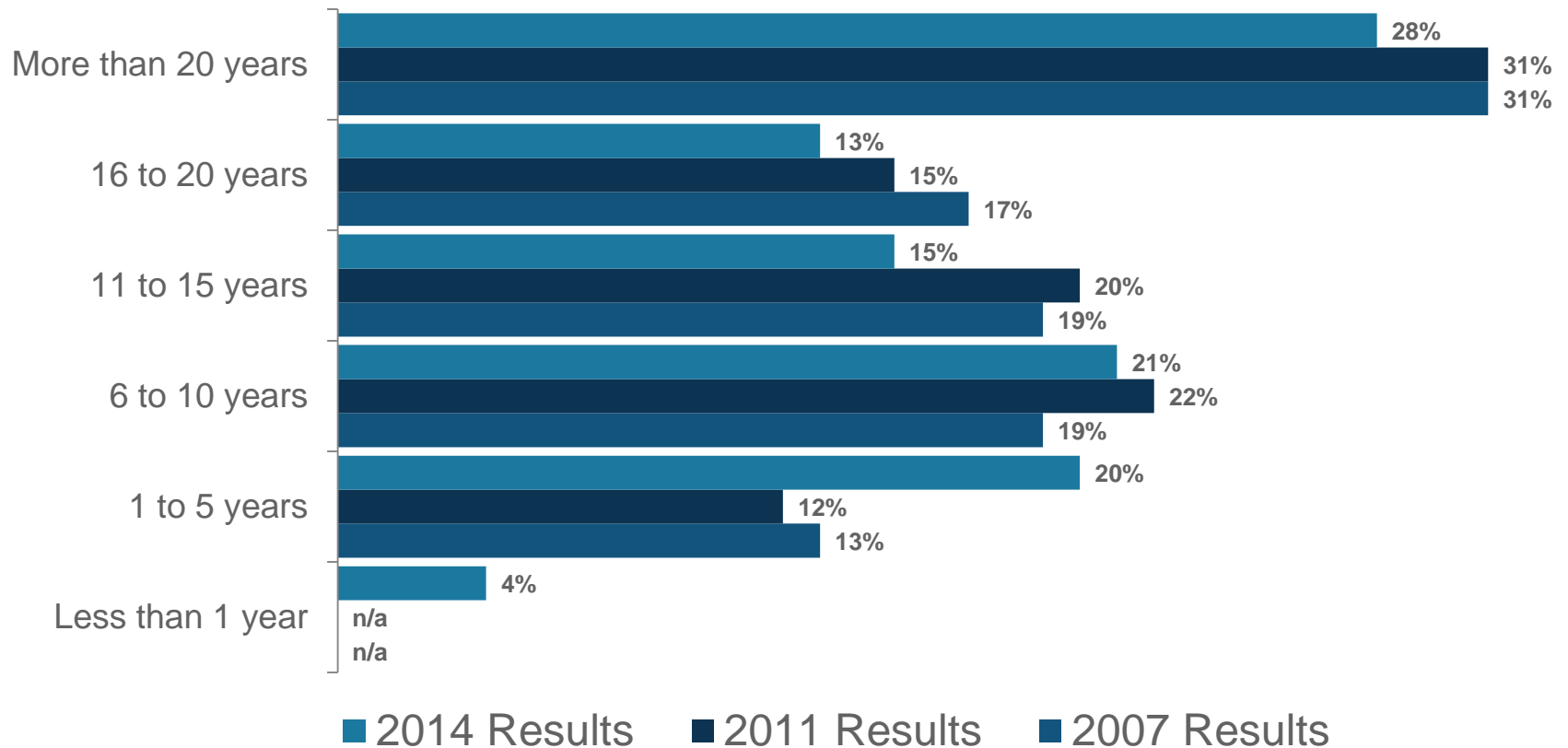


# Nursing Informatics Education

- Nursing Informatics courses at the BSN level
- Specialty in Nursing Informatics – MSN
  - Distance learning – online
  - Traditional
- Certificate programs
- Post graduate degree

# 2014 NI Workforce Survey

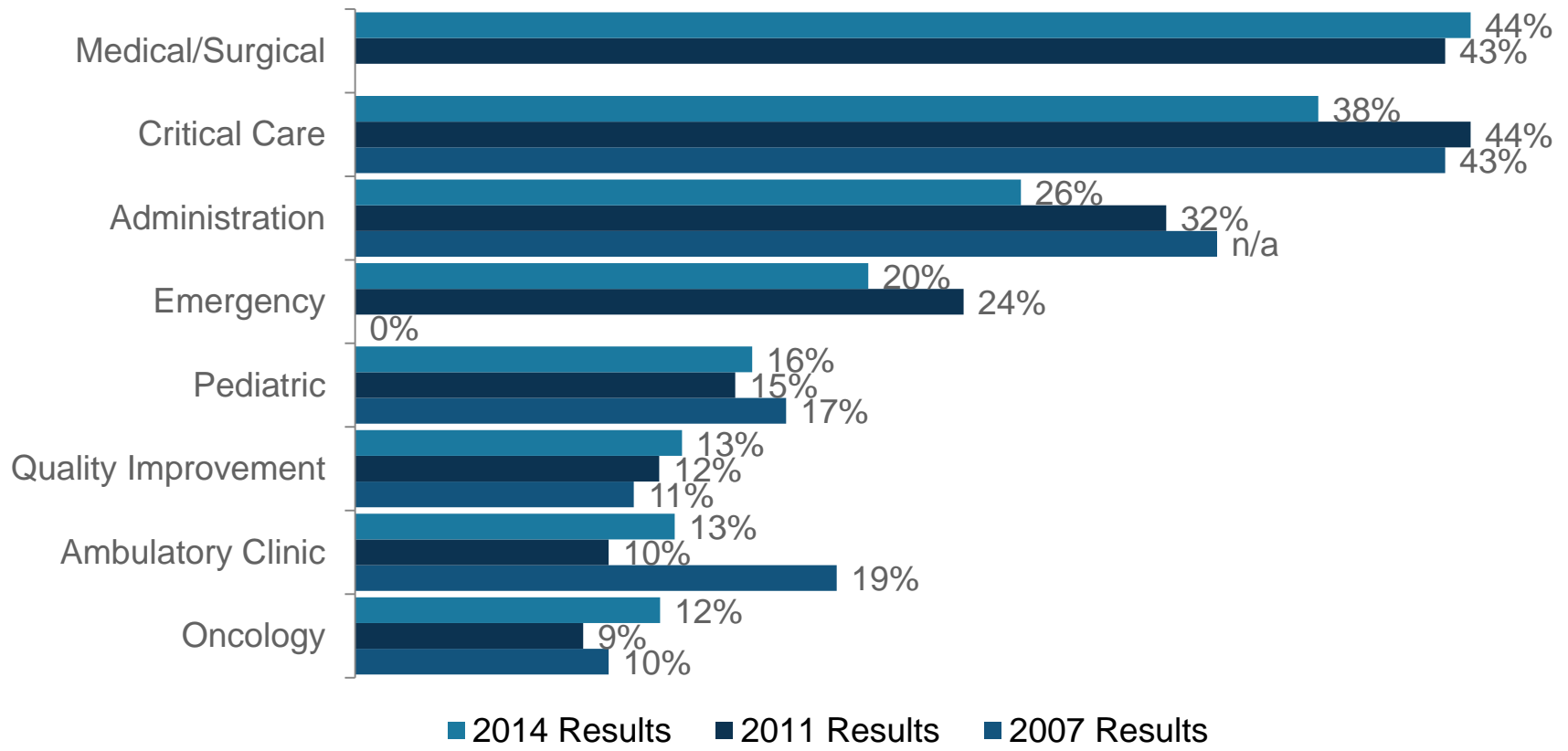
## Years of Clinical Experience





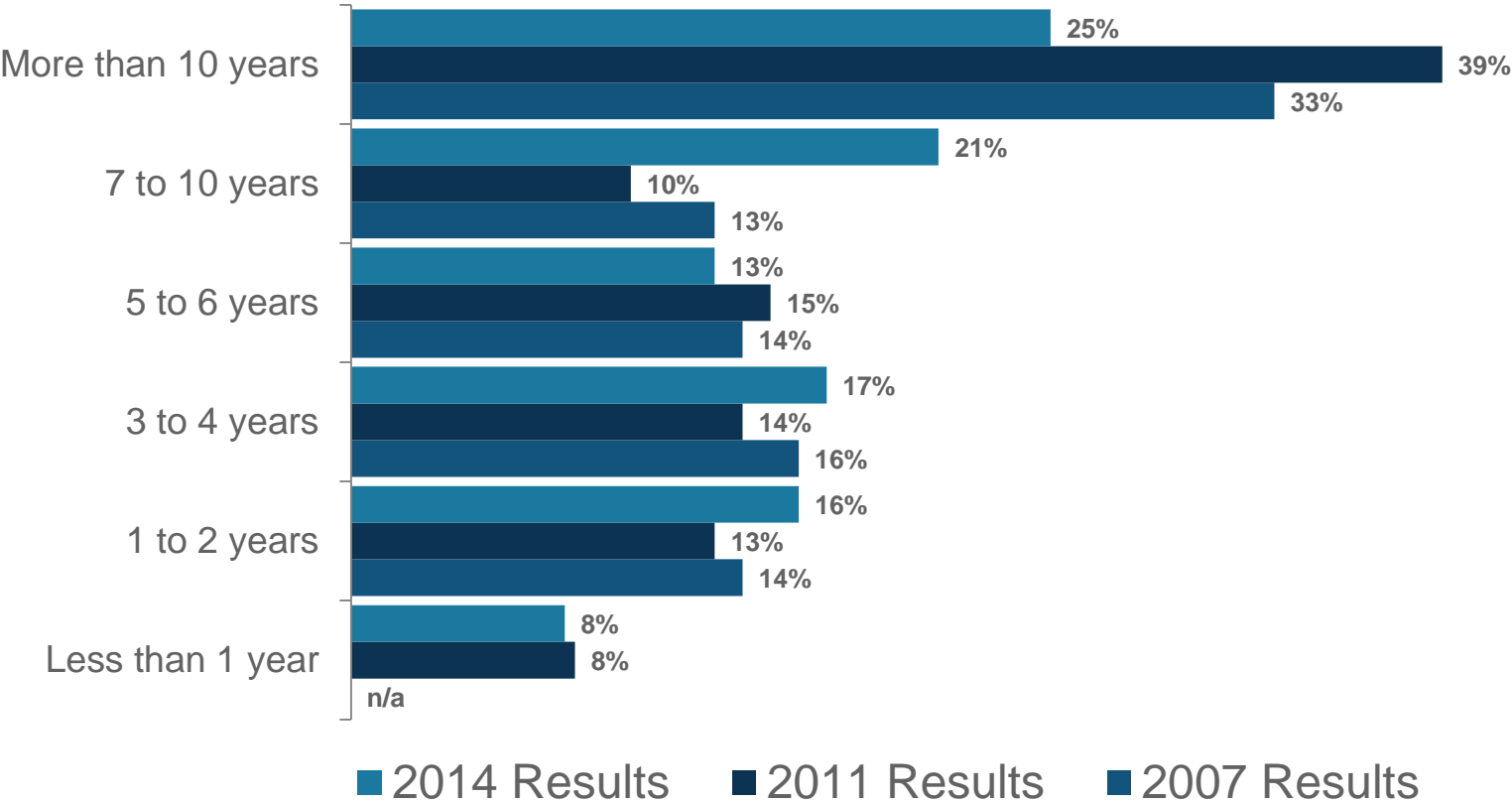
# 2014 NI Workforce Survey

## Nursing Experience



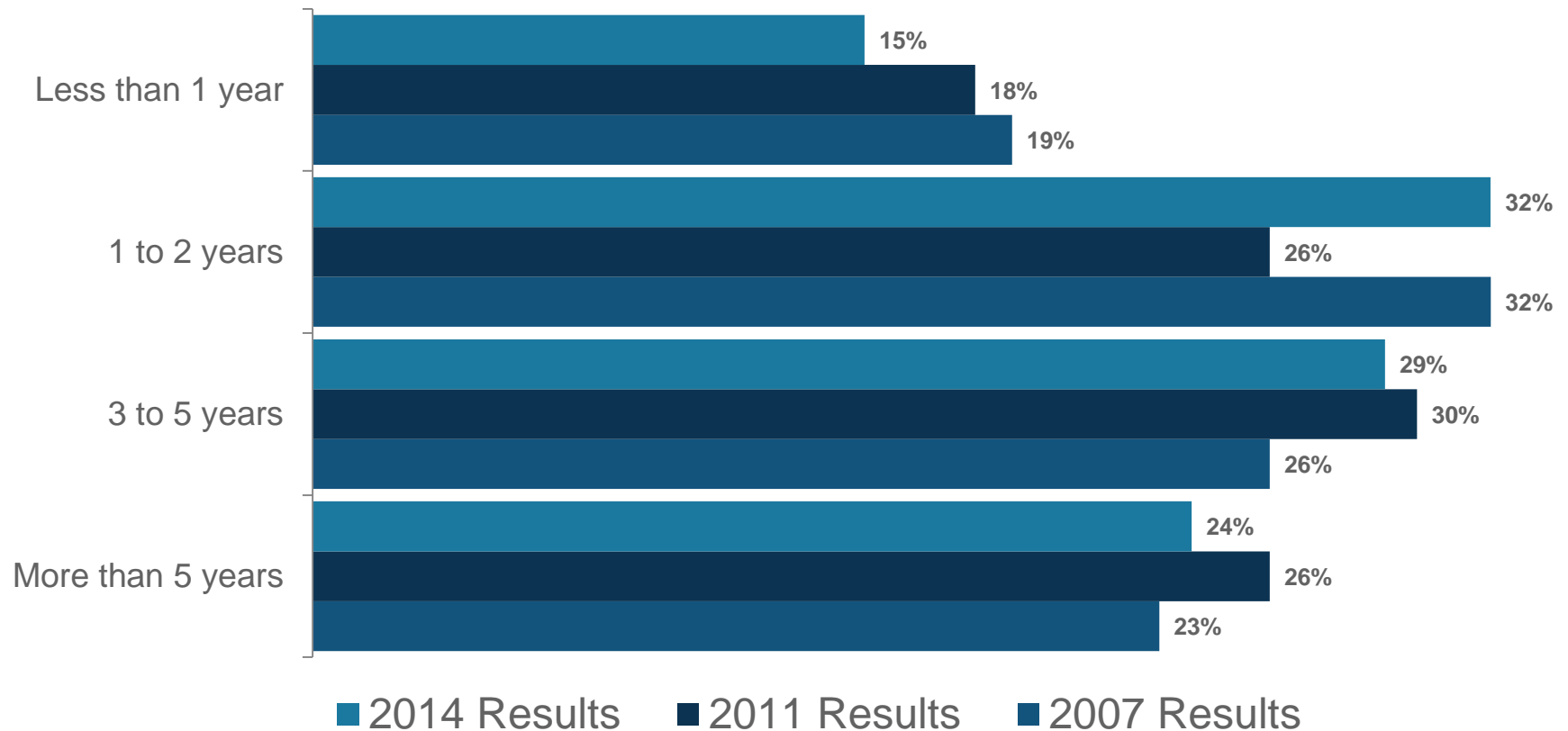
# 2014 NI Workforce Survey

## Years of Informatics Experience



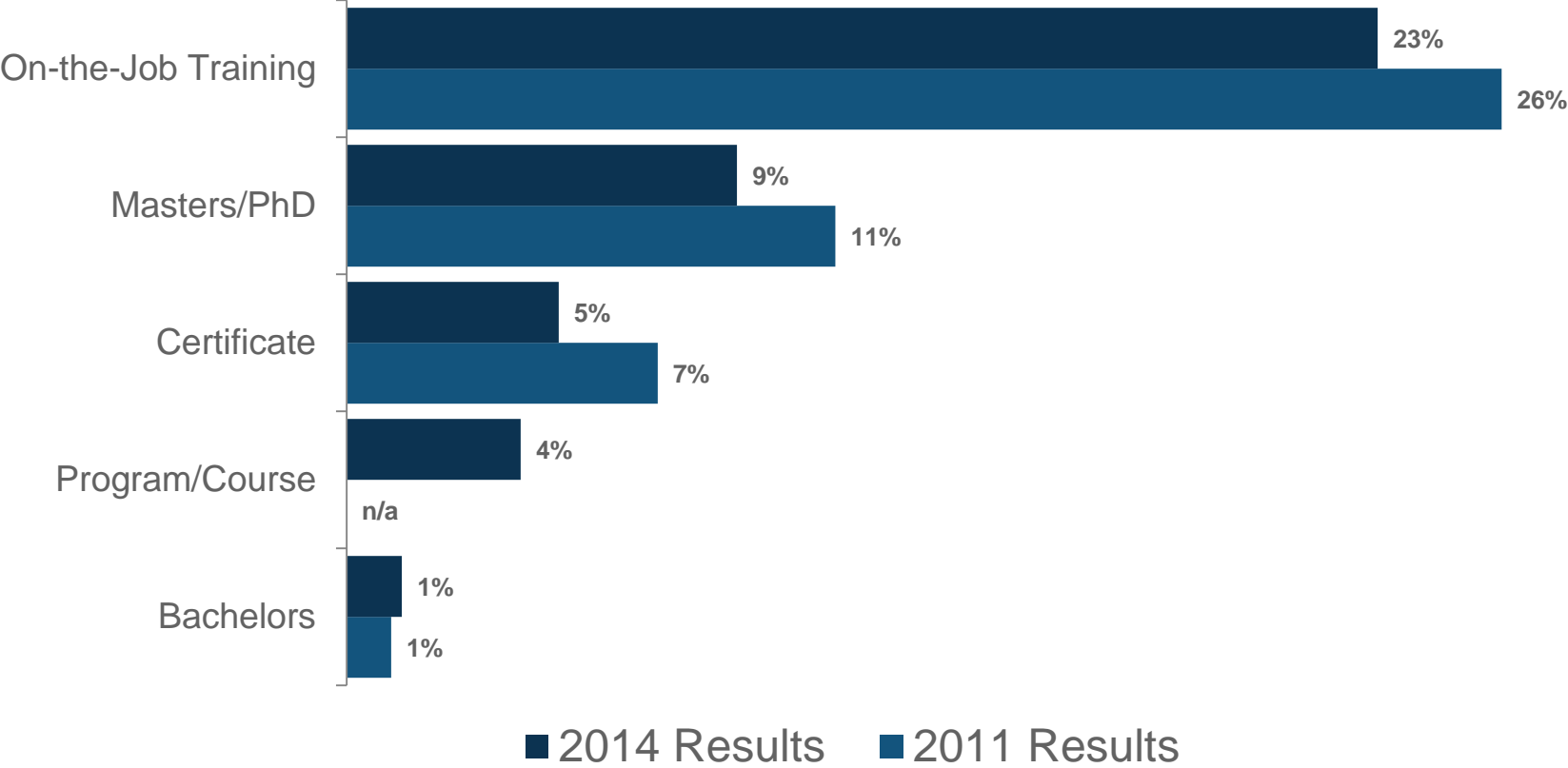
# 2014 NI Workforce Survey

## Years in Current Position



# 2014 NI Workforce Survey

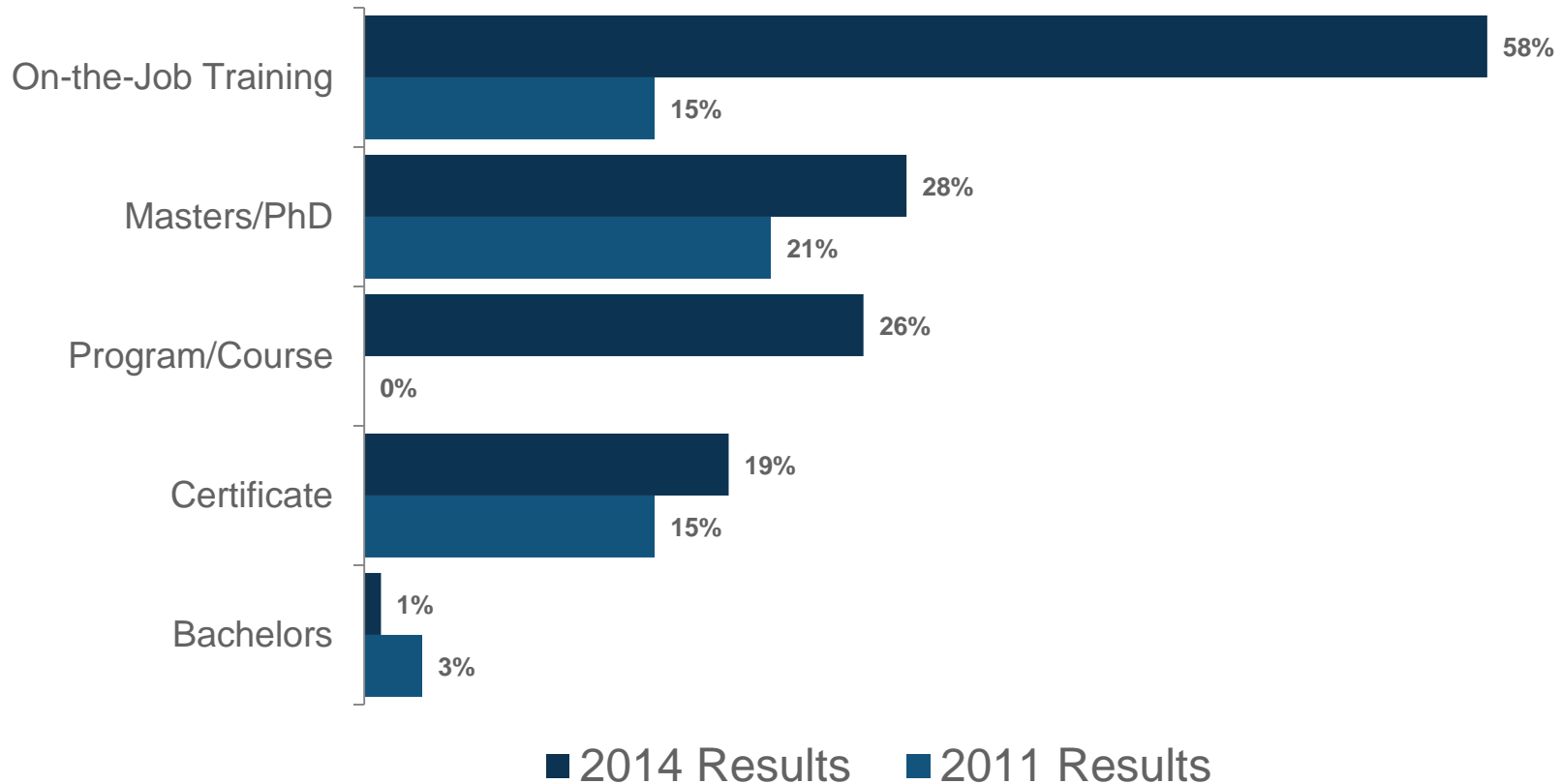
## Current Informatics Education/Training



Survey question was revised in 2011 and not comparable to 2007 survey

# 2014 NI Workforce Survey

## Prior Informatics Education/Training

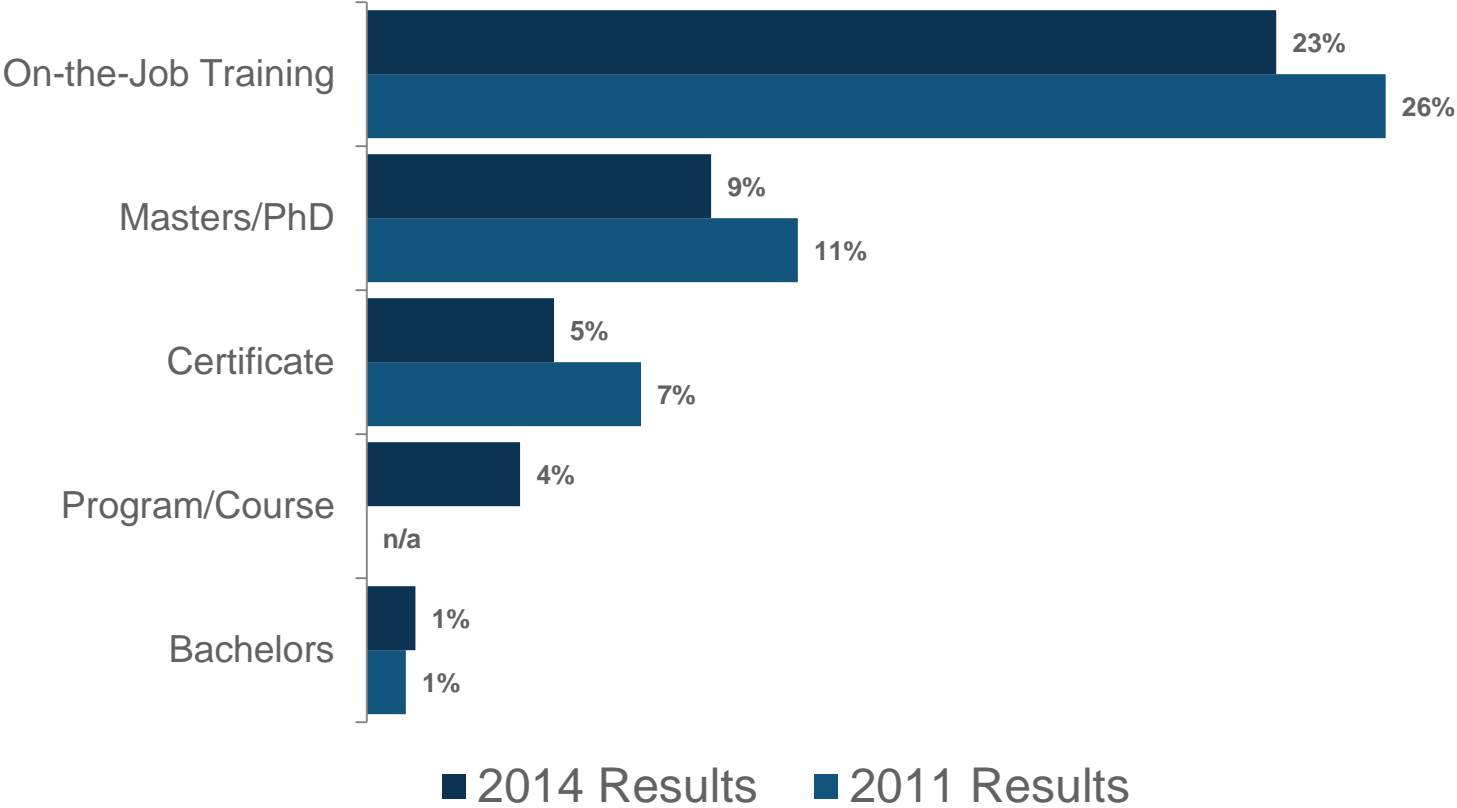


Survey question was revised in 2011 and not comparable to 2007 survey



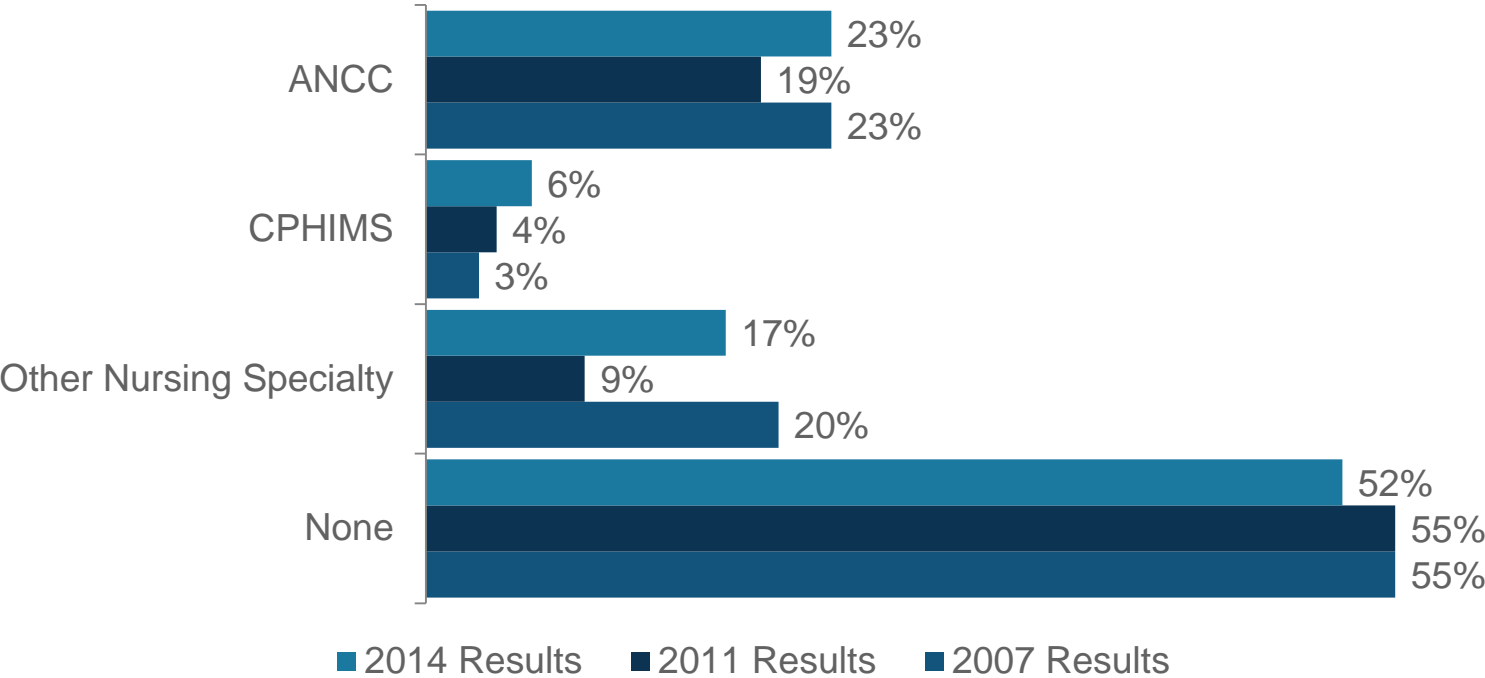
# 2014 NI Workforce Survey

## Current Informatics Education/Training

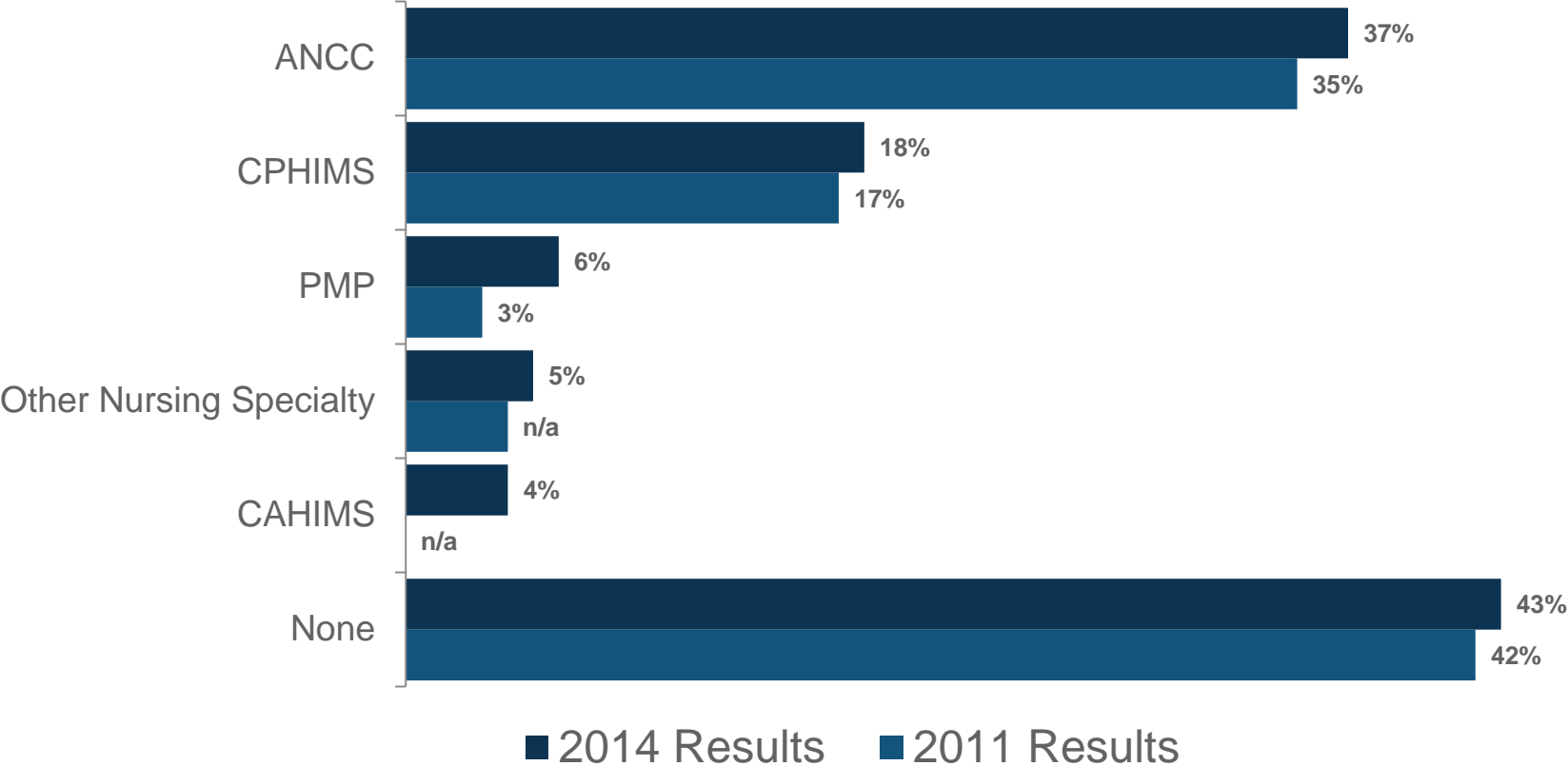


Survey question was revised in 2011 and not comparable to 2007 survey

# 2014 NI Workforce Survey Nursing Certification Held



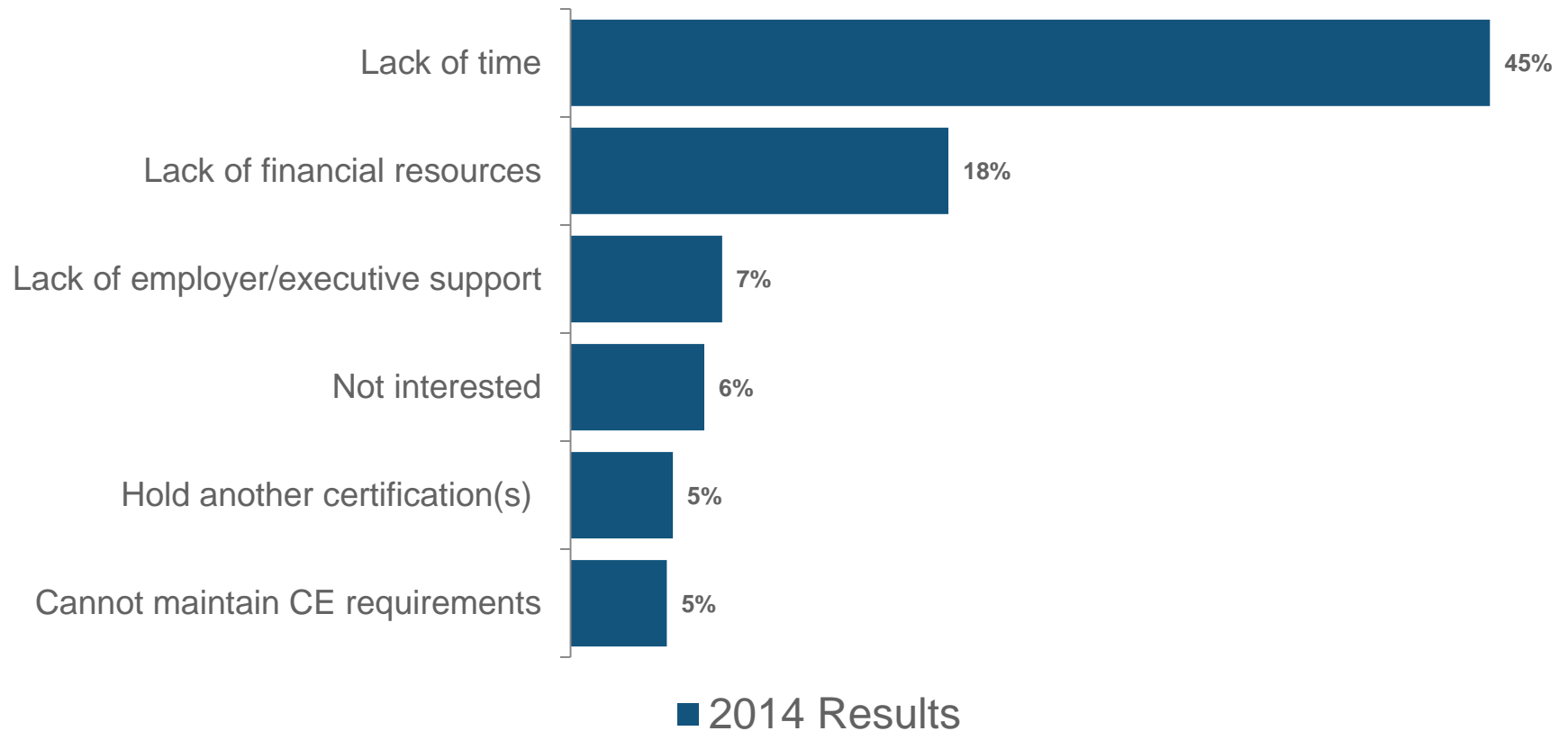
# 2014 NI Workforce Survey Nursing Certification Pursuing



# 2014 NI Workforce Survey Nursing Perceived Value in Holding Certification



# 2014 NI Workforce Survey Nursing Top Barrier to Certification





# Nursing Informatics Certifications

American Nurses' Association Credentialing Center Board  
Certification in Nursing Informatics

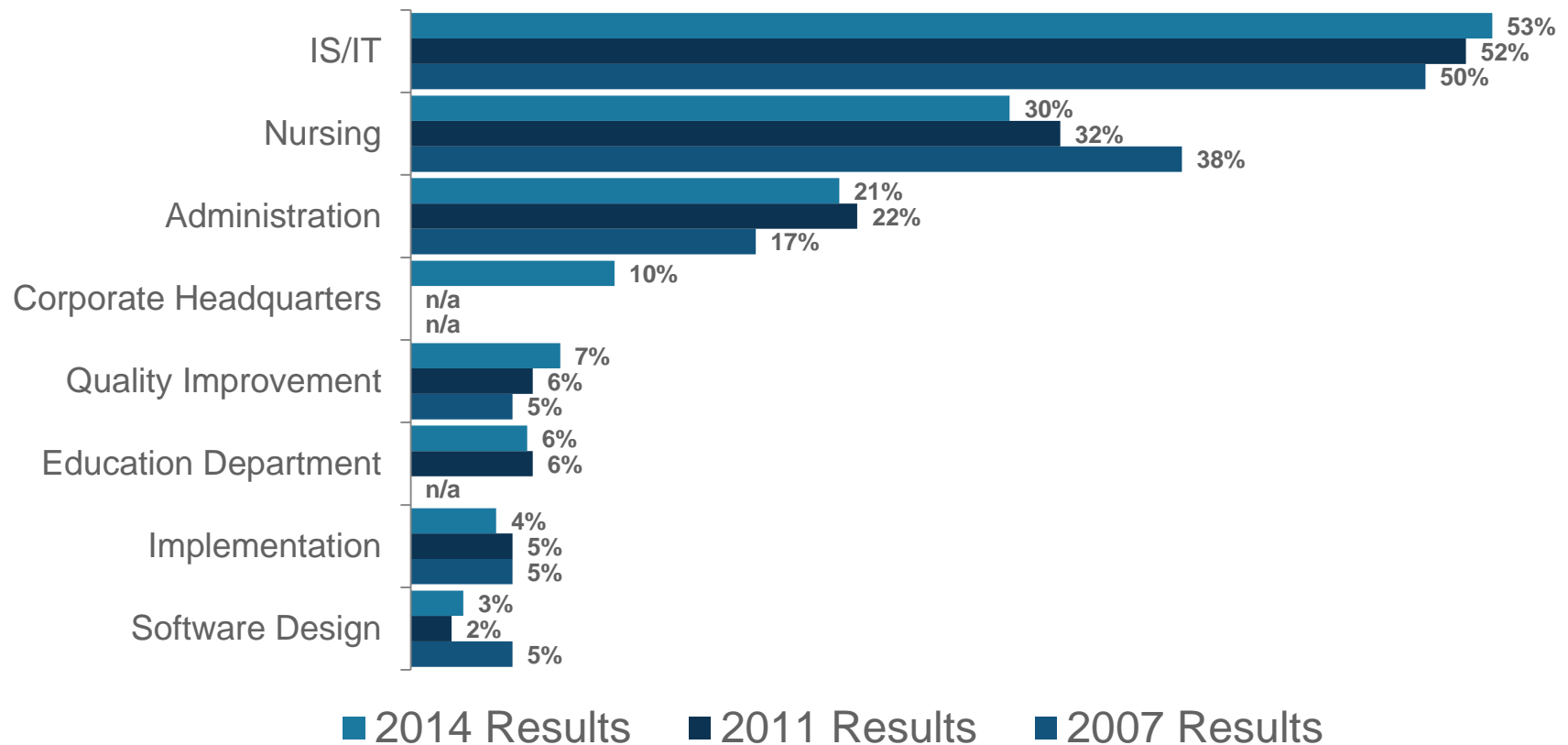
<http://nursingworld.org/ancc/certification/cert/certs/informatics.html>

HIMSS – CPHIMS (Certified Professional in Healthcare  
Information and Management Systems)

<http://himss.org/ASP/certificationHome.asp>

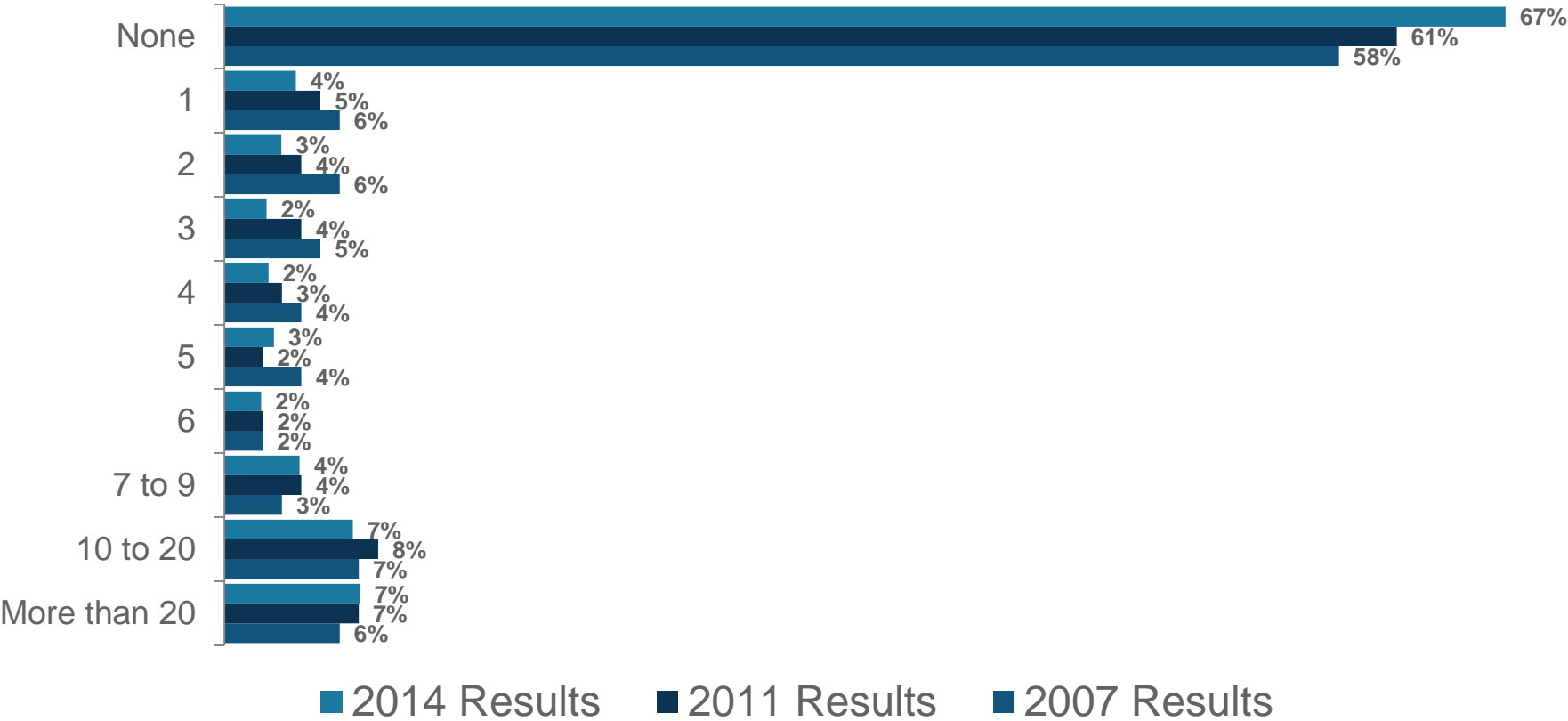
# 2014 NI Workforce Survey

## Department to Which You Report



# 2014 NI Workforce Survey

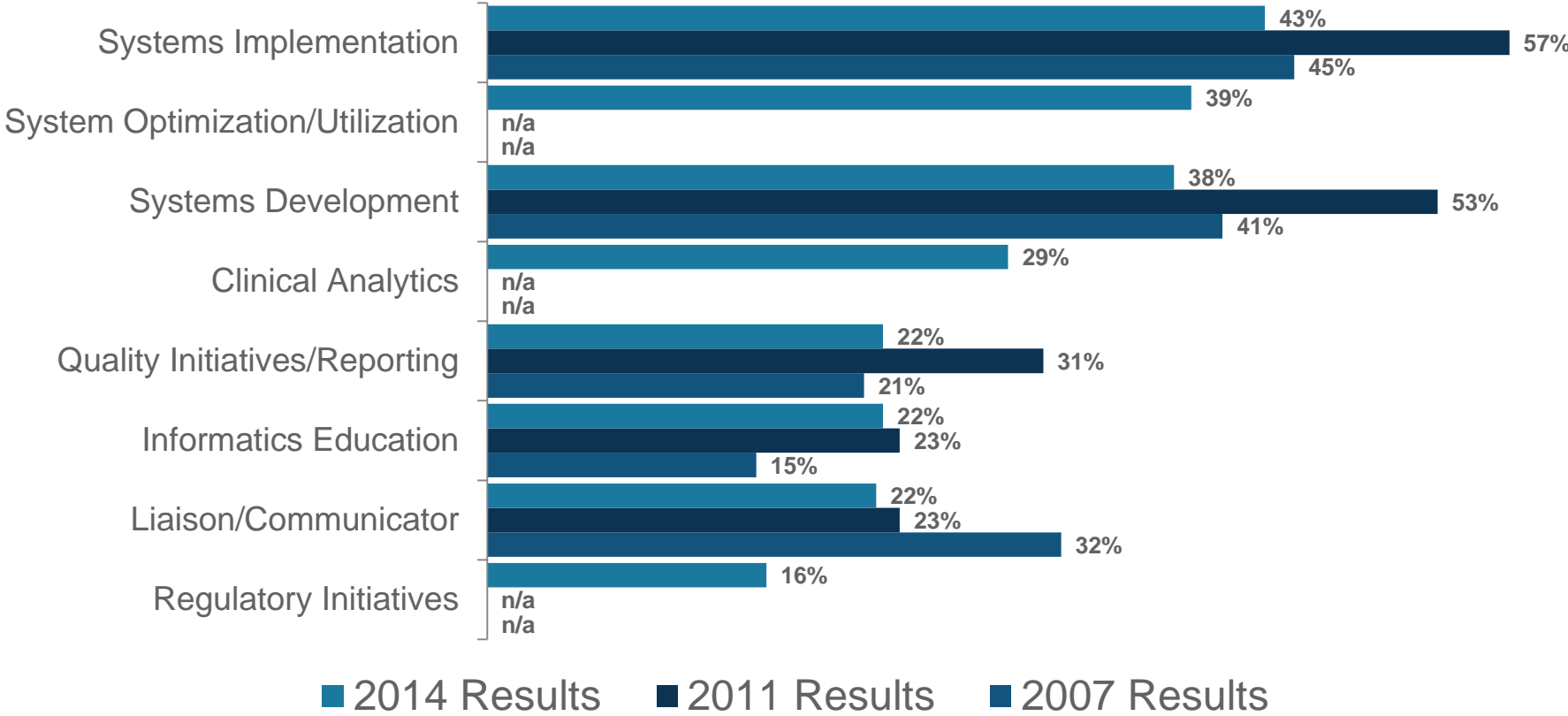
## Total Number of Reports (Direct & Indirect)





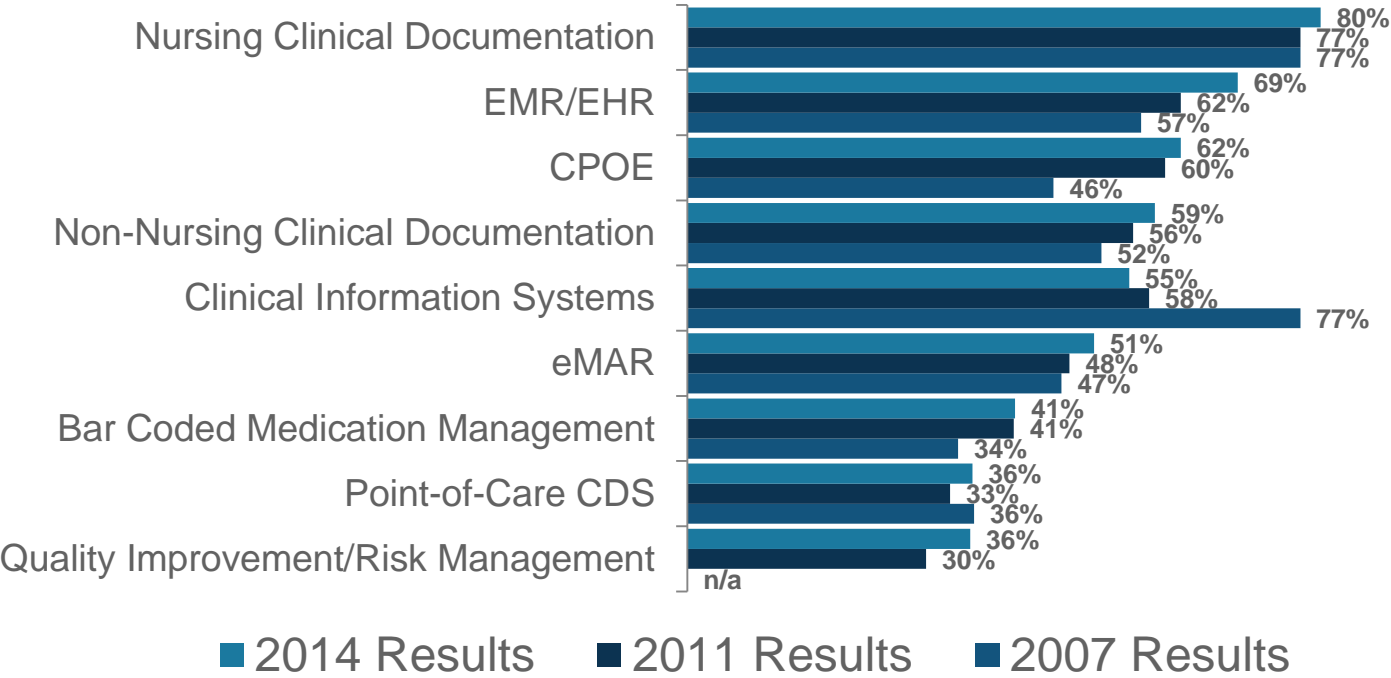
# 2014 NI Workforce Survey

## Job Responsibilities



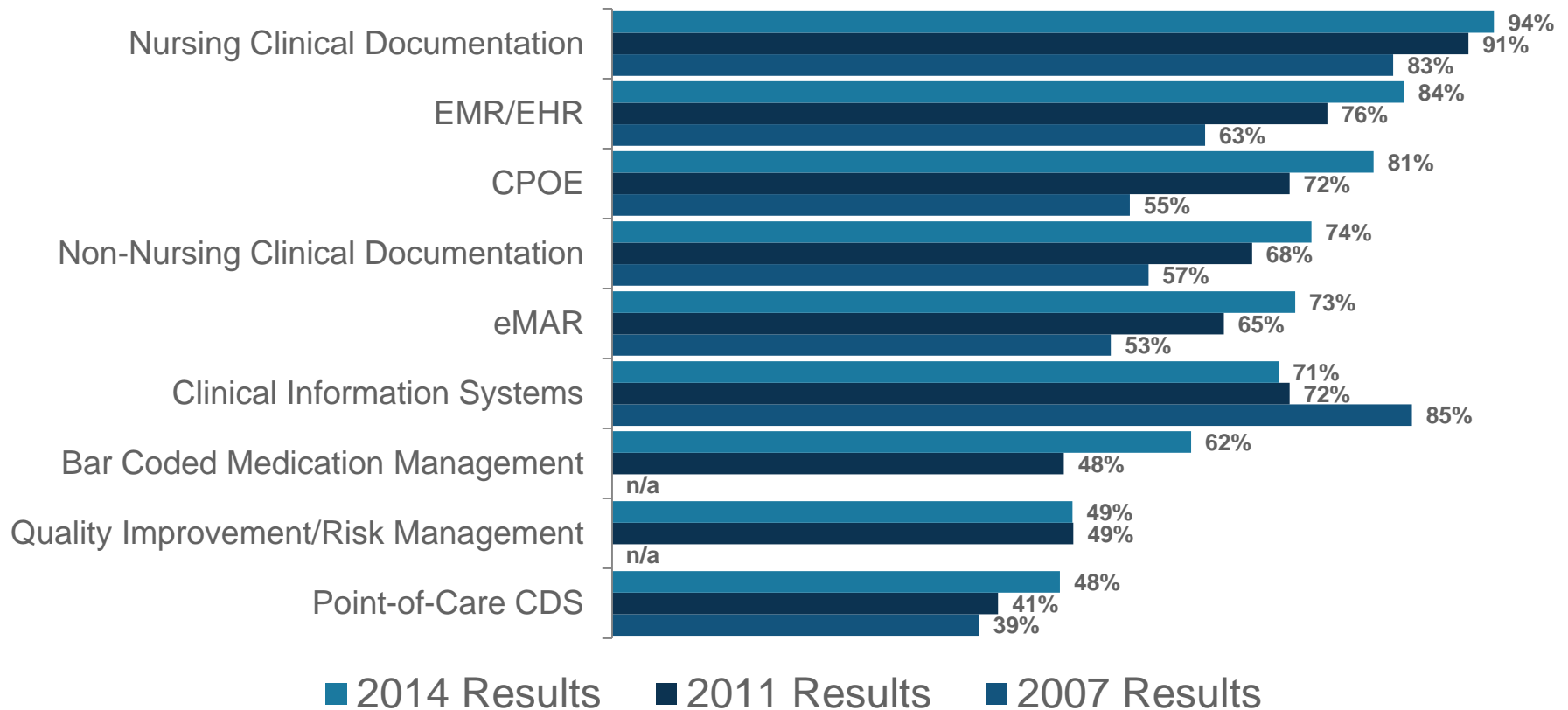
# 2014 NI Workforce Survey

## Applications Currently Developing/Implementing



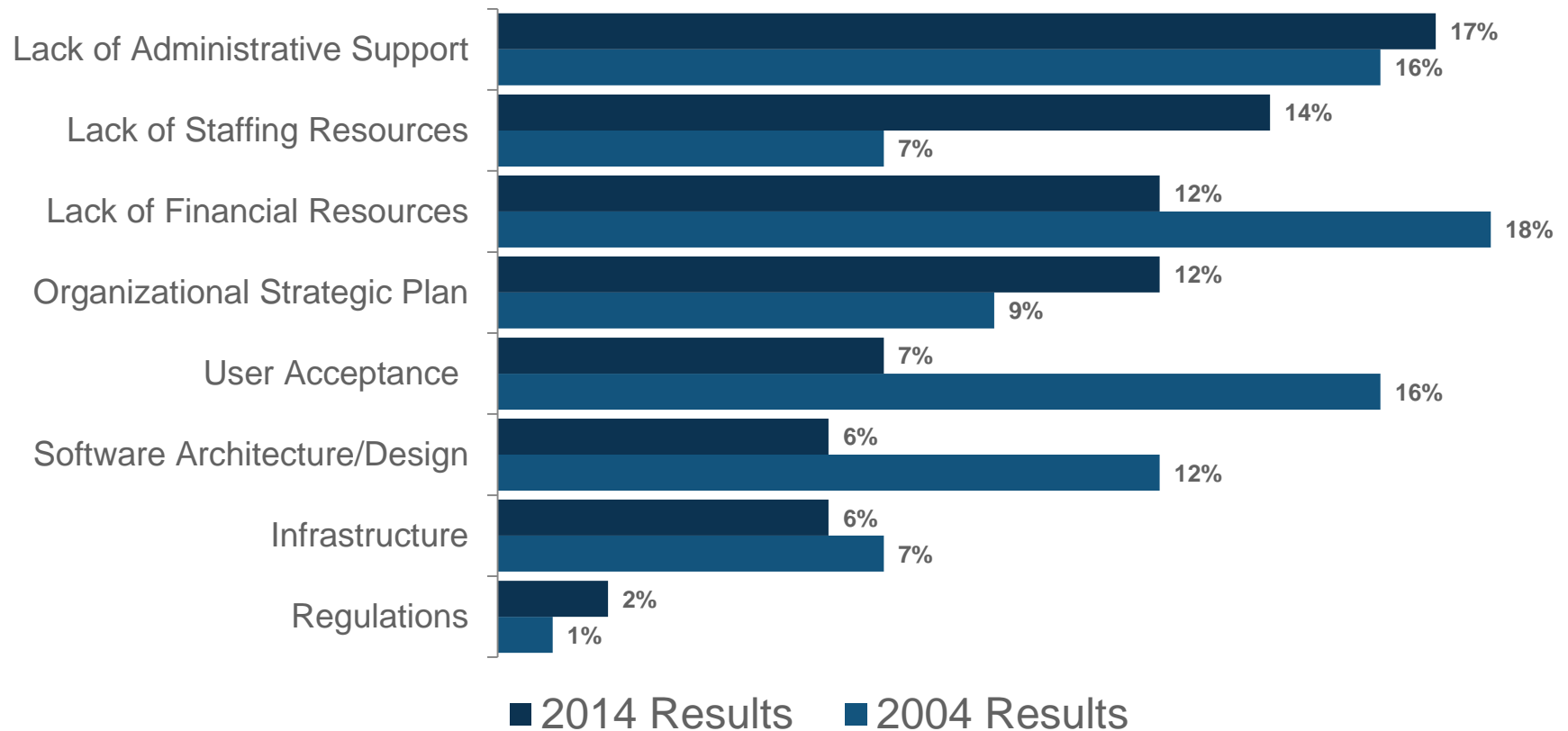
# 2014 NI Workforce Survey

## Application Experience (Background)



# 2014 NI Workforce Survey

## Top Barrier to Success as a Nurse Informaticist – Past 10 Years



Percent of respondents who rated option as the top/largest barrier for select responses appearing in both years

# Healthcare Transformation: Opportunities for Nursing Informatics



# Implications for Informatics

Nurses must be supported by a healthcare environment that adequately enables their knowledge-based work as:

- Leaders in the Effective Design and Use of EHR Systems
- Integrators of Patient Information
- Full Partners in Decision Making
- Care Coordinators Across Disciplines
- Advocates for Engaging Patients and Families
- Contributors to Standardize EHR Infrastructure

Source: ANI Testimony to the October 2009 Forum on the Future of Nursing



# The Future of Nursing: Leading Change, Advancing Health

**Nurses constitute the largest segment of the nation's health care workforce at 3.1 million**

**In their front-line roles, nurses can play a vital role in helping realize the objectives set forth in the 2010 Affordable Care Act**

**A number of barriers prevent nurses from being able to respond effectively to rapidly changing health care settings and an evolving health care system**

**These barriers must be overcome to ensure that nurses are well-positioned to lead change and advance health**



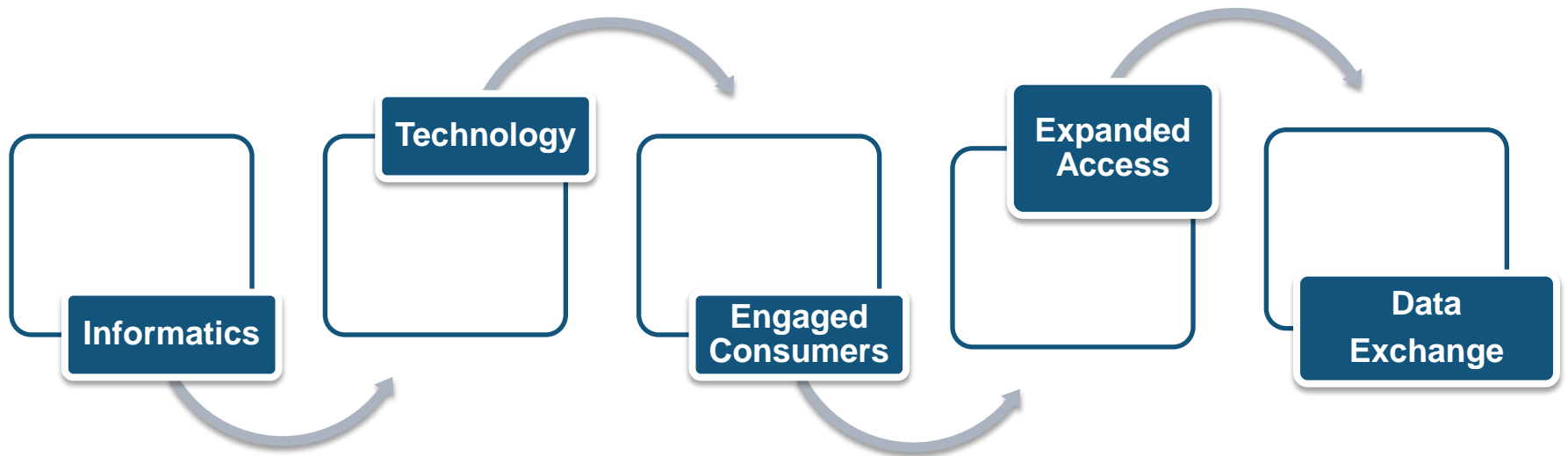
# Robert Wood Johnson Foundation Initiative

## The Future of Nursing

- Nurses should practice to the full extent of their education and training
- Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression
- Nurses should be full partners, with physicians and other healthcare professionals in the redesigning of health care in the United States
- Effective workforce planning and policy making require better data collection and an improved information infrastructure



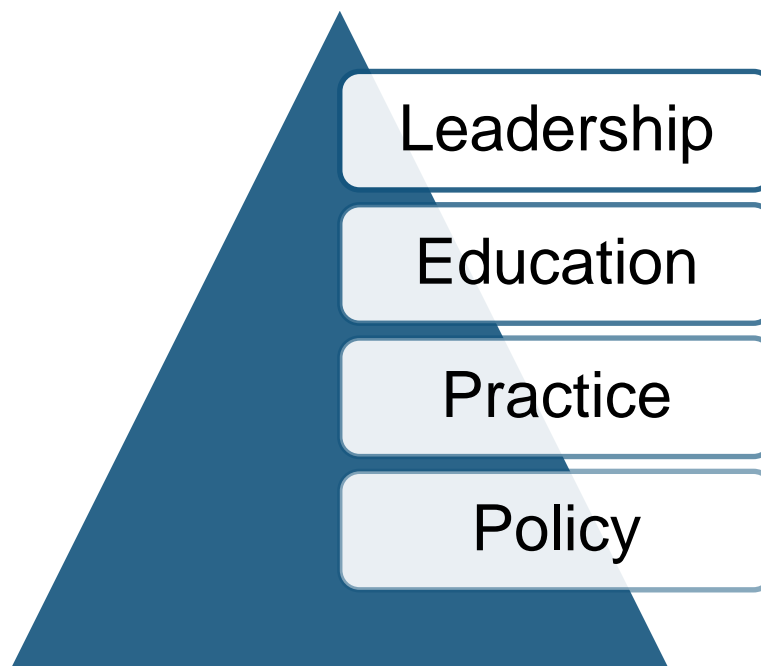
# New Ingredients in Transforming Nursing





# HIMSS Position Statement

- Together, nurses and nursing informatics must lead, and be visible, vocal and present at the table to achieve healthcare delivery transformation.





# Steps for Transformation

## Leadership

- Partner with nurse executives to lead technology changes that advance health and the delivery of healthcare.
- Support the development of informatics departments and nurse informaticists in analyst, leadership and officer roles.
- Foster the evolution of nurse informaticists in leadership roles such as a Nursing Informatics Executive or Chief Nursing Informatics Officer (CNIO).

## Education

- Transform nursing education to include informatics competencies and demonstrable behaviors at all levels of academic preparation.
- Promote the continuing education of all levels of nursing, particularly in the areas of EHRs and health IT.

## Practice

- Ensure that data, information, knowledge and wisdom form the basis of 21st century nursing practice by incorporating informatics competencies into practice standards in all healthcare settings.
- Facilitate the collection and analysis of interprofessional healthcare workforce data by ensuring data can be collected from existing health IT systems.

## Policy

- Enable nursing informatics leaders to be knowledgeable and engaged in current public policy initiatives.
- Government agencies must recognize that regulations and reimbursement policies that remain exclusively physician-focused will not achieve the goals of healthcare transformation in the U.S.

# Improving Nursing Care through Technology

Technologies can create a better work environment for inpatient nurses:

- Improve efficiency, safety and quality
- Add value to the way nurses coordinate and provide care
  - Alarm/event messaging
  - Biomedical device integration
  - Medication administration

Source: California HealthCare Foundation, [www.chcf.org](http://www.chcf.org), 2008

# Improving Nursing Care Through Technology

- Nurses do not want to be passive consumers of technology
- Nurses want devices that are integrated, voice activated, handheld, use biometrics, provide translation, are portable, are wireless, auto populate, and are “smart”
- Greater nurse satisfaction leads to greater patient satisfaction

Source: Cipriano, P., Nurse Scholar in Residence, IOM 2011

# Transforming Practice through Technology & Informatics will:

- Improve safety and efficiency
- Free clinicians from tasks
- Bring evidence for decisions to point of care
- Empower patients to be involved in care
- Enable nurses to:
  - Integrate data into health information
  - Consult in the home, LTC, Assisted living
  - Coordinate care across settings

# Explore the HIMSS Nursing Informatics Community

# HIMSS Nursing Informatics Community

- The first “official community” within HIMSS for Nursing Informatics formed in 2004 – now represents over 6,000 individuals
- Community Framework
  - Clinical Informatics
  - Leadership
  - National Initiatives
  - Informatics Practice
- [www.himss.org/nursing](http://www.himss.org/nursing)

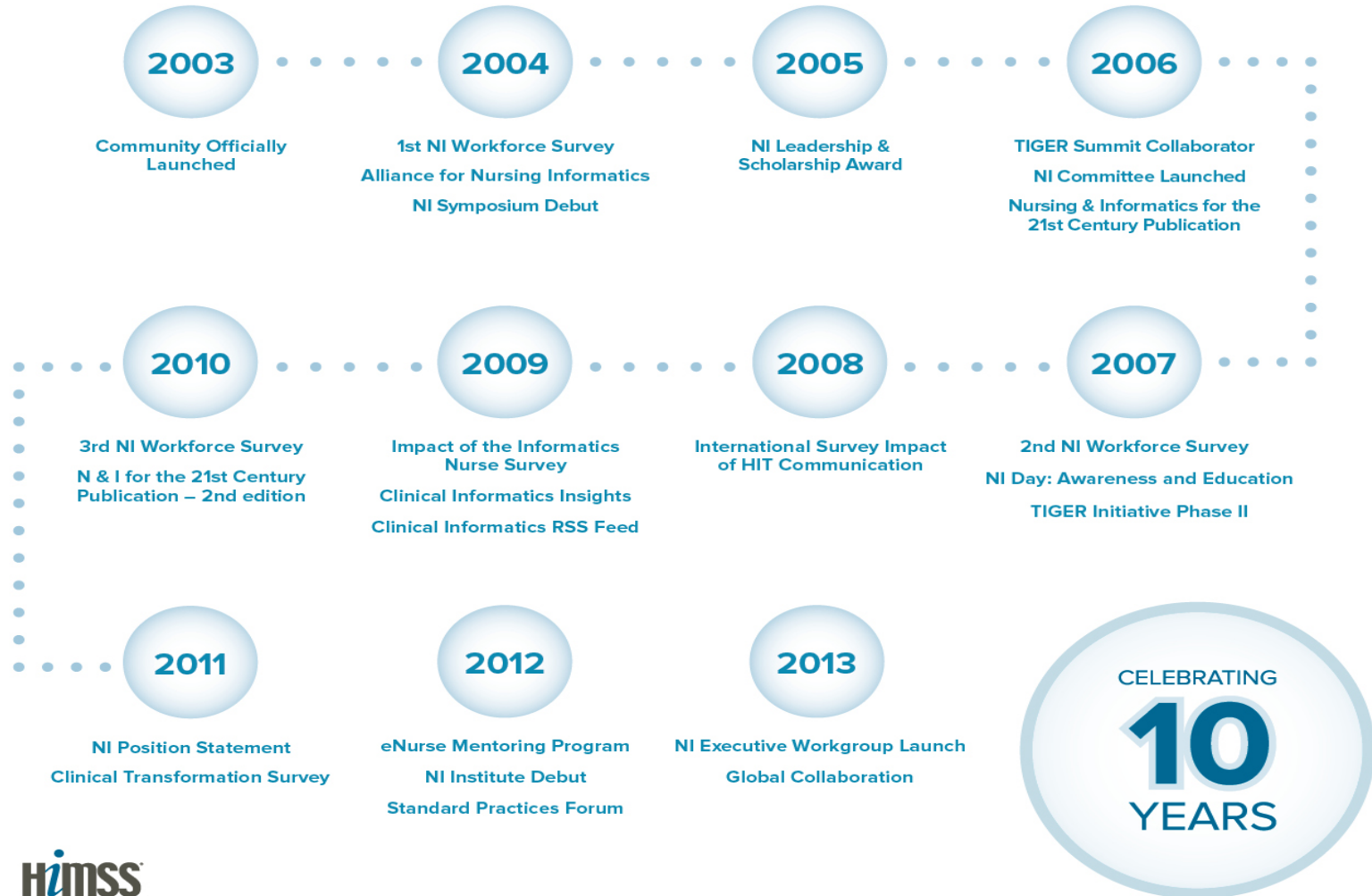


# About HIMSS

- ***Vision*** Advancing the best use of information and management systems for the betterment of health care.
- ***Mission*** To lead healthcare transformation through the effective use of health information technology.

# HIMSS NI Milestones

NURSING INFORMATICS



# Community Participation



- 6000 nurse members at HIMSS



- 5490 list serv subscribers



- 450+ attendees at NI Symposium



- 80+ NI Task Force call monthly participants



- 25 Deliverables

# NI Community Framework

- Committee (*Strategy*)
- Task Force (*Education & Networking*)
- Workgroups (*Participation*)
- Multidisciplinary activities
- External collaborations

# NI Community Tools

- NI Toolbox & NI Knowledge Repository (website)  
[www.himss.org/ni](http://www.himss.org/ni)
- NI Community (website)  
[www.himss.org/nursing](http://www.himss.org/nursing)
- Nursing Informatics List serv  
[NI@List.HIMSS.org](mailto:NI@List.HIMSS.org)
- Task Force Webinars
- Clinical Informatics Insights  
[www.himss.org/files/newsletters/ClinicalInformatics/CI\\_Insights\\_201311.html](http://www.himss.org/files/newsletters/ClinicalInformatics/CI_Insights_201311.html)
- HIMSS Blog  
<http://blog.himss.org>
- HIMSS NI Standards Practices Discussion Forum  
[www.himss.org/niforums](http://www.himss.org/niforums)
- NI Facebook  
[www.facebook.com/HIMSSpage](http://www.facebook.com/HIMSSpage)
- Twitter: @HIMSS | #Informatics

# Resources and References

- Alliance for Nursing Informatics  
<http://www.allianceni.org>
- American Nurses Association  
<http://www.nursingworld.org>
- American Nurses Credentialing Center  
<http://www.nursecredentialing.org/>
- CPHIMS  
<http://himss.org/ASP/certificationHome.asp>
- HIMSS Nursing Informatics  
[www.himss.org/ni](http://www.himss.org/ni)
- HIMSS Nursing Informatics Community  
[www.himss.org/nursing](http://www.himss.org/nursing)