Testimony
for
National Committee on Vital and Health Statistics

Subcommittee on Standards
February 24, 2009

Rosemary Kennedy, MBA, RN, FAAN
ANI - Alliance for Nursing Informatics
Chief Nursing Informatics Officer, Siemens Healthcare

Agenda

1. Background on the Alliance for Nursing Informatics

2. Recent HIT standards development, selection, and/or implementation achievements and enabling processes

3. Remaining challenges related to HIT standards, development, selection, and/or implementation

4. Future model for HIT standards development, adoption, and implementation and necessary key players

The term "standard" refers, but is not limited to Specifications, Implementation Guides, Code Sets, Terminologies & Integration Profiles

Alliance for Nursing Informatics

- A collaboration of organizations, representing a unified voice for nursing informatics

- Provides a single point of connection between nursing informatics groups, and the broader nursing and healthcare community

- Members of ANI include standards nursing terminology groups such as NANDA International and SNOMED CT Nursing Working Group

- Represents thousands of nurses and brings together 26 nursing informatics groups in the United States

- Crosses academia, practice, industry, and nursing specialty boundaries and works in collaboration with the nearly 3 million nurses in practice today.

Sponsored by **AMIA** & **HiMSS**

Member Organizations

- American Medical Informatics Association (AMIA)
- American Nursing Informatics Association
- Alabama Society for Clinical Informatics
- Association of periOperative Registered Nurses
- Association of Women's Health, Obstetric & Neonatal Nurses
- CARING
- Center for Nursing Classification and Clinical Effectiveness
- Central Savannah River Area Clinical Informatics Network
- Cerner Nursing Advisory Board
- Connecticut Healthcare Informatics Network
- Croatia Nursing Informatics Association
- Delaware Valley Nursing Computer Network
- Health Informatics of New Jersey

- Healthcare Information and Management Systems Society (HIMSS)
- Informatics Nurses From Ohio
- MEDITECH Nurse Informatics Program
- Midwest Nursing Research Society - NI Research Section
- Minnesota Nursing Informatics Group
- NANDA International
- New England Nursing Informatics Consortium
- North Carolina State Nurses Association Council on NI
- Perinatal Information Systems User Group
- Puget Sound Nursing Informatics
- SNOMED CT Nursing Working Group
- South Carolina Informatics Nursing Network
- Utah Nursing Informatics Network

Also affiliated with the American Nurses Association and American Nurses Credentialing Center
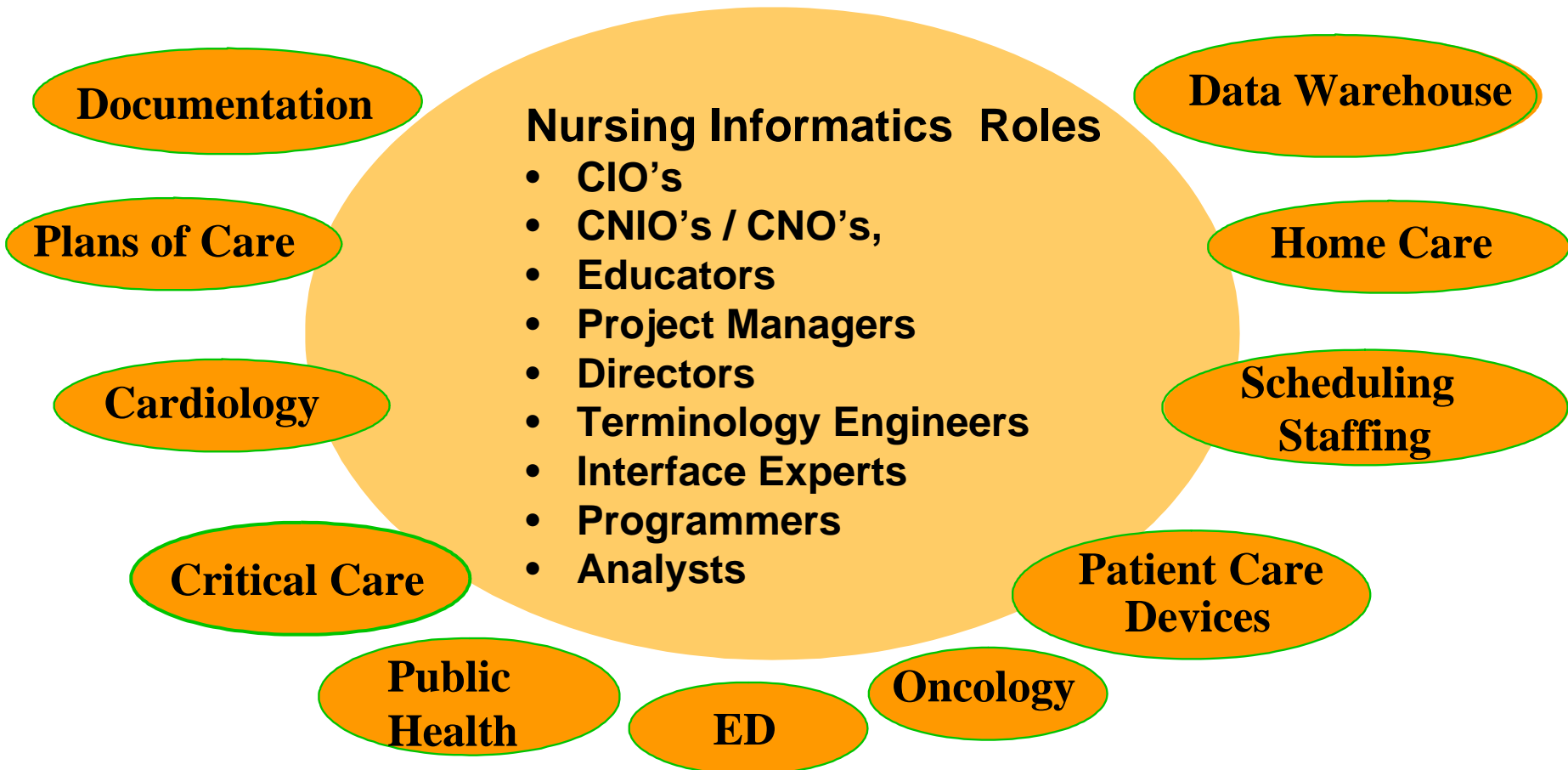
Alliance for Nursing Informatics

Nurse Informaticists

- Domain experts in standards development and deployment within EHR systems today

- Engaged in all levels of EHR standards development, testing and integration, spanning all aspects of care delivery

- Responsible for driving implementations for interoperable systems within healthcare delivery organizations

Sponsored by **AMIA** & **HiMSS**

Nursing Informatics Direct Impact
Electronic Health Record

Documentation

Data Warehouse

Nursing Informatics Roles
- **CIO's**
- **CNIO's / CNO's,**
- **Educators**
- **Project Managers**
- **Directors**
- **Terminology Engineers**
- **Interface Experts**
- **Programmers**
- **Analysts**

Plans of Care

Home Care

Cardiology

Scheduling Staffing

Critical Care

Patient Care Devices

Public Health

ED

Oncology

Standards Achievements and Enabling Processes

Enabling Processes with Quantifiable Value

- ANI has processes for reaching out to stakeholders and experts in informatics and clinical practice

- ANI outreach to AHIC Successor about the pivotal role of nursing, is an example of an enabling process in defining health information infrastructure

- Result: ANI nurses appointed to the National eHealth Collaborative (NeHC) Board and Committees
  - Membership and Communication Committee
  - Value Case Committee

Nationwide Health Information Network (NHIN)

- Nursing representation on the NHIN Governance Workgroup

Standards Achievements and Enabling Processes

ANI Investment in the Healthcare Information Technology Standards Panel (HITSP)

- Recently, the ANI-appointed nurse representative to HITSP was elected as co-chair to the
  - Care Management and Health Records Technical Committee

- Enabling processes
  - ANI communication channel to nursing experts nationally for specification input and subject matter expertise
  - Facilitation of the use and re-use of multiple interoperable specifications across all venues of care

Standards Achievements and Enabling Processes

ANI investment in HITSP

- Nurses play an integral role in the development, review, and verification of HITSP specifications.

- A nurse serves in a lead role as the HITSP Standards Implementation Technical Manager

HITSP Interoperability Specifications
IS08 -Personalized Healthcare
IS09 -Consultations and Transfers of Care
IS10 -Immunizations and Response Management
IS11 -Public Health Case Reporting
IS12 -Patient-Provider Secure Messaging
IS77 -Remote Monitoring
TN901 -Technical Note for Clinical Documentation
IS02 –Biosurveillance
IS03 -Consumer Empowerment and Access to Clinical Information via Networks
IS04 -Emergency Responder Electronic Health Record
IS05 -Consumer Empowerment and Access to Clinical Information via Media
IS06 - Quality

Standards Achievements and Enabling Processes

Nursing Investment in Health Level Seven (HL7)

- HL7 Nursing representation
    - Board
    - Patient Care Technical Committee
    - Structured Document Technical Committee
    - Clinical Interoperability Council

- Newly formed HL7 nursing group to foster collaboration between the committees

- Enabling processes
    - Collaboration between all disciplines driving towards patient centered standards

Standards Achievements and Enabling Processes

IHE (Integrating the Healthcare Enterprise)

- International standards profiling organization and liaison to ISO/TC215

- Global initiative by healthcare professionals and industry to drive the adoption of standards to address specific clinical needs

- IHE Integration Profiles

  - Specify precisely how standards are to be used to address specific clinical needs

  - Reduce configuration and interfacing costs

  - Ensure higher level of practical interoperability.

Standards Achievements and Enabling Processes

IHE Patient Care Coordination Nursing (PCC) Sub Committee

- Member of the PCC Technical Committee and formally admitted to the IHE patient care domain

- Concentrate on the implementation of standards based interoperability solutions to improve information sharing within the context of care

- Projects
  - IHE functional assessment and coded nursing documentation
  - Profile utilizing efforts from SNOMED Nursing SIG on nursing scales
  - Structure for the inter-disciplinary plan of care

- Enabling processes
  - Cross disciplinary and organizational collaboration

Standards Achievements and Enabling Processes

IHE North America Connectathon and HIMSS Interoperability Showcase

- Nurses active in the Connectathon weeklong interoperability-testing event held annually and subsequently showcased at HIMSS

- Thousands of vendor-to-vendor connections and transactions have been passed among real systems with multiple vendors

- IHE Connectathon 2009

  - Includes HITSP participation

  - 77 companies are registered to test 126 systems

Standards Achievements and Enabling Processes

TIGER (Technology Informatics Guiding Education Reform)

- **Standards and Interoperability Collaborative**
- Provide strong recommendations for nurses to adopt standards in all areas of practice – therefore moving standards into day to day implementations
- Achievements
  - Health IT Standards Catalogue
  - Tutorials on standards and interoperability
  - Awareness campaigns in national conferences
  - Case studies

Standards Achievements and Enabling Processes

ISO / TC215 Health Informatics Work Group 3

- Purpose is to develop standards in the area of Health Concept Representation.

- United States input into ISO 18104 Reference Terminology Models for Nursing

- The ISO reference terminology model has informed terminological systems (nursing elements of SNOMED CT, International Classification for Nursing Practice ICNP, Clinical Care Classification)

- Active integration within terminology structures and electronic applications within the EHR

Standards Achievements and Enabling Processes

SNOMED

- **Nursing Special Interest Group (SIG)**
  - Coordinating nursing content integration
  - ISO 18104 to SNOMED model comparison work for problems

- **International Health Terminology Standards Development Organization (IHTSDO)**
  - Plays an important role in ongoing development of the SNOMED CT clinical terminology.
  - Four standing IHTSDO committees (nursing is represented in quality assurance and content)

Standards Achievements and Enabling Processes

Nursing Terminology Summit

- Annual event to promote the development and integration of a reference terminology for nursing within applications and terminological systems.

- Achievements

  - Integration of nursing concepts and leadership into HL7 and LOINC
  - Integration of nursing reference terminology models into ISO work, and their submission for future balloting as an ISO standard.
  - Use of terminology models to guide the integration of nursing terminology within terminology systems
  - Facilitation of the adoption of standards

Standards Achievements and Enabling Processes

American Nurses Association (ANA)

- Committee for Nursing Practice Information Infrastructure (CNPII)

AMIA

- NI-WG Standards Committee

HIMSS

- Nursing Informatics Committee
- NI Standards Task Force

CMS

- Coding work in long term care, rehabilitation and home care related to reimbursement

Agenda

1. Background on the Alliance for Nursing Informatics

2. Recent HIT standards development, selection, and/or implementation achievements and enabling processes

3. **Remaining challenges related to HIT standards, development, selection, and/or implementation**

4. Future model for HIT standards development, adoption, and implementation and necessary key players

The term "standard" refers, but is not limited to Specifications, Implementation Guides, Code Sets, Terminologies & Integration Profiles

Remaining Challenges

Challenges

- Complexity of Information Exchange Unique to Care Delivery

- Implementation of Standards within Provider Organizations

- Standards Development and Testing

- Points of Intersection Between Standards and the Broader Context of Care Delivery

Remaining Challenges

Complexity of Information Exchange Unique to Care Delivery

- **Scenario:** Simple exchange of a discharge document from an acute to ambulatory setting

- ***Not so simple in real life***
    - Workflow variances
    - Many different operational procedures
    - Complex cognitive processes and decision making
    - Linked to clinical decision support
    - Security requirements
    - Patient identity management
    - Terminology standardization
    - Many design options

Factors other than standards enable or hinder data exchange

Remaining Challenges

Implementation of Standards within Provider Organizations

- Provider challenges

  – Creating standards that fit the natural dialog of the clinician without increasing documentation burden

  – Leveraging existing information technology while moving towards interoperability (migration challenges)

  – Developing implementation plans showing the value on investment

- Creating repeatable best practice adoption methods to reduce implementation cycle times

- Developing educational programs for all levels of the provider organization to facilitate standards adoption

Remaining Challenges

Standards Development and Testing

- **Reducing complexity inherent within standards development and testing**

    – There is no consistent way to access or define data elements

    – Existing models use different frameworks making harmonization labor intensive

    – Methods / tools for obtaining input from all members of the clinical team

    – Costly for provider segment to participate in standards development, yet their input is essential

    – Funding for standards research in environments that are "close to real life"

    – Communication between standards committees (decisions in one group impact other groups)

    – Consistent device interoperability protocols

Remaining Challenges

Points of Intersection Between Standards and the Broader Context of Care Delivery

- Creating a balance between standards adoption and the feature/function necessary for meeting quality and safety goals

- Moving towards a solution approach whereby decision support can be enhanced during the information exchange process (as well as process improvement)

- Standards should liberate not constrain, therefore making it easier to develop HIT

- Allowing for extensibility in the design of standards, so future changes in healthcare delivery methods can be accommodated

- Developing tools for measuring the clinical effectiveness of standards adoption

Agenda

1. Background on the Alliance for Nursing Informatics

2. Recent HIT standards development, selection, and/or implementation achievements and enabling processes

3. Remaining challenges related to HIT standards, development, selection, and/or implementation

4. **Future model for HIT standards development, adoption, and implementation and necessary key players**

The term "standard" refers, but is not limited to Specifications, Implementation Guides, Code Sets, Terminologies & Integration Profiles

Connecting Information within Decision Support and Workflow

- Integration within all educational curricula

Develop Standards

- Combined collaboration between all stakeholders to integrate into practice
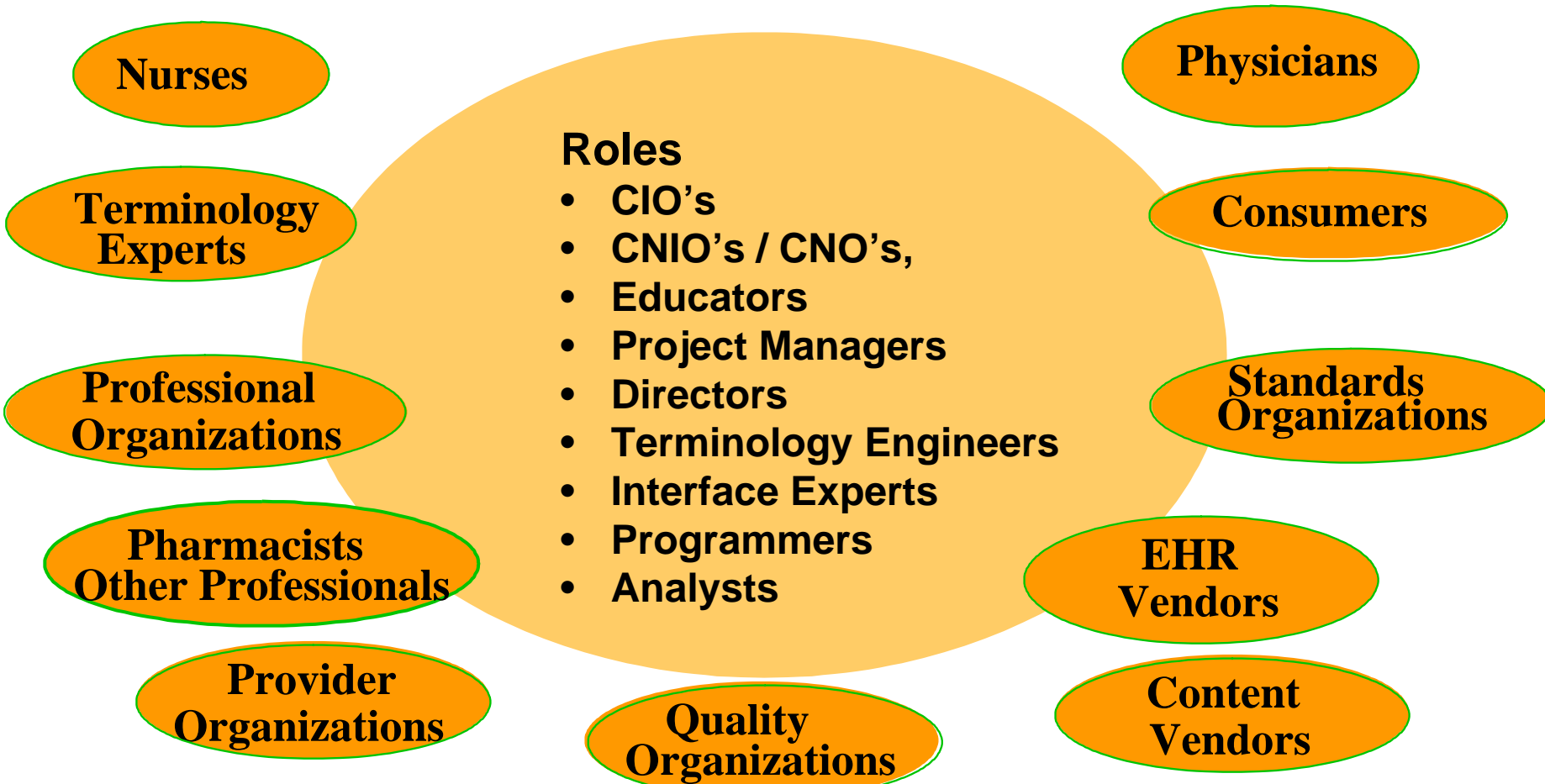
Wellness Prevention Illness Recovery

Evaluate Impact

Harmonize Test

- Tight connection between standards and professional practice

- Input from all stakeholders – fast cycle turnaround

Implement

Pilot

- Build Tools to Measure Impact and Clinical Effectiveness
- Integrate within decision support

Future Models and Players Needed

- A model that integrates standards within a broader framework including decision support and workflow processes

    - The contextual representation of data within templates impacts decisions and ultimately what is transmitted

    - The standardization of data may influence the ability to access and use data which impacts clinical effectiveness, quality and safety

    - Quality and safety outcomes should be integrated into the testing and implementation of data standards

    - Prioritization of standards that enhance cognitive decision making and processes of care delivery can facilitate total solution impact

Concluding Remarks

- Nurses are effecting change in the development and adoption of interoperable systems across the nation, showing quantifiable impact on national health

- In general, combined collaboration between all stakeholders is needed to develop, adopt, and integrate standards into practice

- The healthcare environment is ready to adopt standards and they are seeking tools, methods, and success stories, in order to move forward in improving the health of the nation

Questions and Discussion

For more information go to www.allianceni.org/

Sponsored by AMIA & HIMSS