


# Social Determinants of Health, Data, and Population Health



NURSING INFORMATICS IMPACTING PATIENT CARE OUTCOMES

Deborah Chasco, DNP, CCRN, APRN, CNS  
 Director Nursing Informatics  
 University Medical Center of El Paso

## Utilization of Principles


The intent of this presentation is to

- Utilize the model presented today in nursing informatics practice settings
- Share outcomes and experiences
- Document findings

Research is creative, synergistic and systematic work to increase the knowledge of culture, society and human beings in different settings. It entails utilizing this knowledge to develop new methods & approaches to improve current applications that are evidence-based, reliable and valid.

## Objectives


- 1) Describe Nursing Informatics impact on patient care outcomes utilizing data specific to social determinants of health.
- 2) Discuss change management principles.
- 3) Identify Nursing Informatics role in meeting regulatory requirements to improve population health.
- 4) Discuss the future of data analytics in healthcare.



## Nursing Informatics

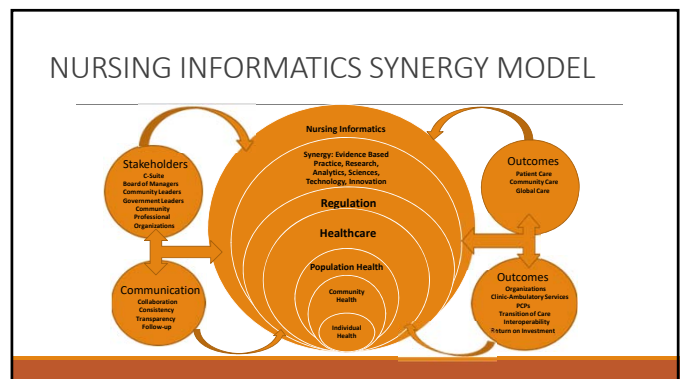
Nursing Informatics is the specialty that integrates nursing science with multiple information and analytical sciences to identify, define, manage, and communicate data, information, knowledge, and wisdom in nursing practice with compassion. (Nursing Informatics, Scope and Standards of Practice, Second Edition, 2014)

Nursing Informatics is the dynamic and systematic driving force of communication, collaboration and consistency integrating nursing science and nursing process with informational, analytical, biomedical, transformational and social sciences to create synergistic innovation that formulates data, information, knowledge and wisdom for the delivery of quality and safe care- every patient/family/community, every encounter, every opportunity, every day. (Chasco, D., 2019).



## Purpose

This presentation will address the conceptualization of a nursing informatics theory and model geared toward change management and process improvement to address social determinants of health utilizing science, research, evidence-based practice, analytics and technology to improve population health.



## Disparities of Care



Disparities of care reach beyond borders. Health care access, social determinants of health, environmental, social, biological and genetic factors make disparities of care a complex and multifocal challenge.


Diversity, language and culture make the world rich and abundant.

Quality care and health care access opportunities exist throughout the world.


Nursing Informatics can lead healthcare organizations through innovation and collaborative efforts in addressing language, culture and disparities of care and in aggregating data that leads to improved patient outcomes while addressing population health.

CDC Definitions:  
<https://www.cdc.gov/nchhstp/socialdeterminants/definitions.html>

## Nursing Informatics at UMC El Paso




- Capture of Preferred Language at all patient entry points  
 Inpatient, Outpatient, Direct Admissions, Clinics  
 Preferred Language discrete data element modifications in the EMR/EHR  
 Power Form Modifications to capture preferred language in both inpatient and outpatient populations  
 Interoperability
- Modifications in Spanish patient literature in the EMR (Spanish translations vary)
- Medical Interpreter Power Forms
- Patient Portal access in Spanish and English with customization
- DSRIP (Delivery System Reform Incentive Payment) and quality measure data analysis (AI)
- IMAGINE the Internet of Things: Mobile device innovation for vulnerable populations; dictation for improving nursing workflows where nurses can spend time at the bedside; standardization and integration of electronic systems with interoperability, transparency, safe transitions of care



## The “Why” and “How” of Addressing Change

Change Management Principles in addressing social determinants of health, language, culture and disparities of care:

- Wellness versus illness models of care
- Evidence-based practice and research
- Leadership focus on disparity, culture and language (mission and vision statement)
- Nursing leaders at governmental decision-making sessions
- Validation of data that drives change (actionable data analytics)
- Integration and collaboration



## Keeping up with CMS and Regulatory Changes

Meaningful Use now “Promoting Interoperability”

Working with EHR vendors on meeting “Promoting Interoperability” for vulnerable populations

Workflows in healthcare and modifications in the electronic medical record to address disparities of care, language and culture while meeting regulatory compliance

Other opportunities:


- MIPS
- ePHI
- Clinical Decision Support
- CPOE
- Health Information Exchange
- Patient Specific Education
- Medication Reconciliation
- Patient Electronic Access
- Secure Electronic Messaging-Providers
- Public Health Reporting
- Medical Home Referrals
- Centralized data repository (real-time data)



Big Data- Predictive Analytics, Artificial Intelligence, Deep Learning

## UMC El Paso’s Focus on Disparities of Care

- Implementation of a Medical Legal Partnership to address access to healthcare for the community
- Nine Neighborhood Health Clinics (11 projected clinics) providing care
- Care Plus Program for patients with no ability to pay
- Free Clinic for vulnerable patient population
- Nurse Family Partnership
- Predictive Analytics plans for predicting where care is needed for high risk patient populations
- Weekly meetings addressing high-risk patient populations with community and state collaborator through DSRIP



## Accountable Care Organizations

ACO: Accountable Care Organizations are doing the right thing for the right reason(s) with the right data at the right time for the right price safely and efficiently for the population served (population health).



## Challenges



- Human Factor (driving value, ROI comparisons, organizational culture, comorbidities)
- Workflows (reducing unwarranted variations, standardizing care delivery, mapping processes and workflows, measuring outcomes for improvement)
- Data Governance (data ownership, data validation, data mapping, data sharing)
- Actionable Analytics (visual data tools, accuracy, analytics adoption, data mining, maintaining sustainable outcomes)
- HIE Capability (interoperability, interfaces)
- Social Determinants of Health (disparities of care, community, population health)

### CMS Top Categories for Outcomes

1. Mortality (22 percent)
2. Safety of care (22 percent)
3. Readmissions (22 percent)
4. Patient experience (22 percent)
5. Effectiveness of care (4 percent)
6. Timeliness of care (4 percent)
7. Efficient use of medical imaging (4 percent)

### Hospital Star Rating for 2018

**Three Measures: Transparency, Transition of Care, Interoperability**

Tinker, A. (2018). The Top Seven Healthcare Outcome Measures and Three Measurement Essentials. <https://www.healthcatalyst.com/insights/top-7-healthcare-outcome-measures>

## References

- American Nurses Association. (2015). (2<sup>nd</sup> Ed.). Nursing Informatics: Scope and Standards of Practice , American Nurses Association. Silver Spring, Maryland, 1-9.
- Centers for Disease Control and Prevention. (2014). NCHSNTP Social Determinants of Health. <https://www.cdc.gov/nchhstp/socialdeterminants/definitions.html>
- HealthIT.gov. (2018). Interoperability Standards Advisory. <https://www.healthit.gov/isa/sites/default/files/2018%20ISA%20Reference%20Edition.pdf>
- Sas. (2017). <http://www.sas.com/iot>
- Mindstream Theme on Genesis Framework. (2015). What are the Software Development Life Cycle (SDLC) phases? <http://istabexamcertification.com/what-are-the-software-development-life-cycle-sdlc-phases>
- Tinker, A. (2018). Top Seven Healthcare Outcome Measures and Three Measurement Essentials <https://www.healthcatalyst.com/insights/top-7-healthcare-outcome-measures>

## The Internet of Things (IoT)

The Internet of Things is gathering and analyzing data in real time. It is not just communication from one machine to another. It is more global than this. It is about sensor and machine communication and leveraging, analyzing the data and validating the data to make a difference in patient outcomes.

Tools are available to all of us. It is in how we interpret and use the tools in real-time via the cloud (some say it is not the Internet of Things (IoT) if it is not cloud based). It is not about just machine to machine connectivity.

If it is not interpreted and analyzed in real-time, how useful is the data. We are focusing on patient care and patient outcomes. In order for the data to be utilized effectively, efficiently and validated, it must be real-time data.

Disruptive Innovation- IoT is an example.

## Contact Information

Deborah Chasco, DNP, CCRN, APRN, CNS  
 Director Nursing Informatics  
 University Medical Center of El Paso  
 915-471-6493 (Business) 915-867-5409 (Home)  
[dchasco@umcelpaso.org](mailto:dchasco@umcelpaso.org) (Business) or  
[dchasco10@gmail.com](mailto:dchasco10@gmail.com) (Home)

## Video: The Internet of Things in Health Care

