



Informing the
future of health
care: Nursing
Informatics 101

Connie Ajah-Ayang,
MSN, RN, NI-BC

09/18/2024





Introduction

- ▶ Nurse 15 years
- ▶ Clinical Experience
- ▶ Management Experience
- ▶ Educational Preparation
- ▶ Professional involvement



From Africa to Dover, Bayhealth nurse pursues her passion

Black History Month spotlight focuses on nursing informatics analyst Connie Ajah-Ayang

February 21, 2022

From Cameroon, West Africa, to Dover, Bayhealth nursing informatics analyst Connie Ajah-Ayang, MSN, RN, had a vision for her life, but she found a new path in nursing.

After immigrating to the U.S. almost 20 years ago, Ajah-Ayang found her passion in healthcare. Now she's part of a team that works hard to improve patient care, the patient experience, nursing workflows and much more through the use of technology. And she's doing it all while inspiring others.

Ajah-Ayang's story is part of a series presented by Bayhealth called Black Excellence That Inspires. These personal tales spotlight team members and celebrate Black History Month, and a collection of them will be shared on Bayhealth's social media pages.

Ajah-Ayang grew up in Africa in a family of nine. Her parents worked to keep the family grounded and made sacrifices to give their children the best possible education. She attended a Christian boarding school and discovered a deep passion for studying law. It truly mattered to Ajah-Ayang to have an awareness of the climate in politics – she was hooked.

She was inspired by a Cameroonian female chief justice – the highest rank in the Cameroonian court system – to become a lawyer. Ajah-Ayang completed a challenging program at a French-speaking university where she learned in both English and French.

When she set her sights on moving to the United States, she had mentors who guided her into the nursing profession, as it is a strong and stable career choice, she said. Ajah-Ayang embraced the new adventure with a positive outlook. She said her late father lived by the mantra, "Whatever you do in life, what truly matters is that you do it well."

Ajah-Ayang recalls the early years in her healthcare career. "My experiences brought out a humanity from within that I didn't realize I had," she said. After a particularly impactful experience with a patient, she knew from that moment on that it was a passion and a responsibility to care for patients. "I have to take care of patients by treating them like family," she said.

She's intentional about how she impacts people's lives. "Any interaction I have with someone, I aim to uplift them in some way," she said. And her passion for people extends beyond Bayhealth's walls. Ajah-Ayang is an active member of the Caregivers Support Foundation, providing family caregivers with support and tools to care for and advocate for their loved ones.

Inspiring others drives Ajah-Ayang. She wants to inspire joyfulness, passion and excellence in others, especially in her beloved peers and patients. "Being excellent doesn't take perfection," she said. After all, no one is perfect. "Excellence is doing the right thing, owning our mistakes, and making sure we learn from them and learn from each other."

The Bayhealth team is proud to honor and share Ajah-Ayang's story during Black History Month.



Connie Ajah-Ayang

Goals & Objectives

At the conclusion of today's talk, students will be able to:

- ▶ Define Healthcare Informatics
- ▶ Define Nursing Informatics
- ▶ Name the two IOM reports driving the need for informatics
- ▶ Name and define the four Meta structures of Nursing Informatics
- ▶ State one reason why Informatics is important
- ▶ Describe one role assumed by an Informatics Nurse

“The effective use of information technology is critical to the future of nursing and healthcare.”

Healthcare Information & Management Systems Society. (HIMSS)

What is Health Informatics?

AMIA “Health informatics (HI) is the science and practice of acquiring, storing, retrieving and using healthcare information to foster better health care and health outcomes”.

This is a growing field that uses technology to improve healthcare outcomes. There are several subspecialties including clinical informatics, pharmacy informatics, nursing informatics etc.



What is Nursing Informatics?

What it isn't – it isn't “using a computer”



Definition

ANA: “A specialty that transforms data into needed information and leverages technologies to improve health and health care equity, safety, quality, and outcomes.

NI supports consumers, patients, nurses, and other providers in their decision-making in all roles and settings. This support is accomplished using information structures, information processes, and information technology

Goal of NI

Health Improvement at all Levels:
Populations, communities,
families, and individuals

- Providing direct care
- Establishing effective administrative systems

Optimize information management and communication

- Managing / delivering education and training

Use of Information and technology in the following:

- Supporting lifelong learning
- Supporting nursing research

Nursing Informatics Conceptual framework

Here are three numbers: 72, 150, 50
Are they Good or Bad?

Knowledge

- 32 yr. old athlete with resting heart rate of 50 is normal
- 39⁵ weeks gestation –

Information

- 72 beats per minute
- 150 beats per minute
- 50 beats per minute

Data

- 72
- 150
- 50

Data:

Discrete

- No interpretation
- Numbers, characters, facts gathered
- Perceived need for analysis and possible later action

Information:

Data interpreted,
organized or structured data

Knowledge:

Information synthesized to
identify and formalize
relationships

Wisdom:

Knowledge applied
in practical way or
translated into action
Synthesis of what we
know, understand,
and experience to
solve human
problems
Knowing WHEN &
HOW to apply
knowledge
Requires HUMAN
EFFORT

Wisdom

- At rest
- At rest in an athlete
- Post surgical event
- Post resuscitation
- Patient is a mother
- Patient is in utero

WHY ?

IOM Reports

▶ 1999 IOM “To Err is Human”

- <https://nap.nationalacademies.org/resource/9728/To-Err-is-Human-1999--report-brief.pdf>

- ▶ 44K – 98K deaths annually (25years ago!) related to medical error → PREVENTABLE
- ▶ Outlined 4–tiered approach to achieving a better health safety record
- ▶ Was the basis for the next important work...



IOM Reports cont.

2001 “Crossing the Quality Chasm”

https://sphweb.bumc.bu.edu/otlt/mph-modules/hpm/americanhealthcare_quality/IOM_Quality_reportbrief.pdf

Call to reinvent the healthcare system

Outlined 6 Aims for Improvement

Safe

Effective

Patient-centered

Timely

Efficient

Equitable

Rules for Redesign

#4 – Knowledge is shared and information flows freely

#5 – Decision making is evidence-based

#6 – Safety is a system property

#7 – Transparency is necessary... includes info on safety performance, evidence-based practice & pt satisfaction



From there...

2002 Summit, “Health Professions Education: A Bridge to Quality”

5 Core Competencies

- Provide patient-centered care
- Work in interdisciplinary teams
- Employ evidence-based practice
- Apply quality improvement
- Utilize informatics

Resulted in educational reform



Nursing Informatics Career Path

Earn a college degree in
Nursing

Obtain a Registered Nurse
License

Gain Work Clinical
Experience

Hone key Skills and Obtain
Relevant Certifications

Nursing Informatics Specialty

Must be a trained registered nurse to work in the role of a nursing informatics

Informatics Nurse Generalist

Informatics Nurse Specialist

Informatics Nurse Consultant

Informatics Nurse Generalist

RN working in area of informatics

Experience or interest in the area, but no formal informatics preparation

Informatics Nurse Specialist

RN with advanced graduate education in Nursing Informatics

Usually certified in specialty in specialty of Informatics Nursing

Role of Nursing Informatics

Informatics nurses and informatics nurse specialists most commonly practice in interprofessional health care environments interacting with a variety of other stakeholders involved in health care delivery. Connecting patient care to technology to drive better patient care and outcomes

Common Practice Areas

Management, Administration, and Leadership

- Clinical Informatics
- Data Management and Analytics
- Patient Safety and Quality
- Research and Evaluation
- Compliance and Integrity Management
- Coordination, Consultation, Facilitation, and Integration



Role of Nursing Informatics Cont.



CLICK THE LINK BELOW TO WATCH THE VIDEO

<https://youtu.be/N5Lsf7RZMTA?si=95PaHblQJrQcKbk0>

Applications of Nursing Informatics

Electronic Health Records (EHRs):

- Digital version of a patient's medical chart

Benefits:

- Improved accuracy, accessibility, and coordination of care

Challenges:

- Data privacy, interoperability, and user adoption

Telehealth and remote monitoring: Delivery of healthcare services using technology

Benefits:

- Expanded access, increased patient engagement, and cost savings

Challenges:

- Technical issues, reimbursement, and regulatory frameworks

Clinical decision support systems:

- software and or algorithms that provides healthcare professionals with clinical guidance

Benefits:

- Improved diagnosis, treatment, and patient outcomes

Challenges:

- data quality, alert fatigue, and integration with EHRs

Data analytics and visualization

- Process of examining data to gain insights and inform decision

Benefits:

- improved patient outcomes, reduced costs, and enhanced quality of care

Challenges:

- data quality, interpretation, and communication of results

Benefits of Nursing Informatics

The time spent by nurses to care for patients is expensive. So, nursing informatics helping to improve how data is handled, makes it easier for nurses to provide safe, quality and efficient care more effectively.

Other Benefits

- Improved patient outcomes
- Enhanced patient safety
- Increased efficiency and productivity
- Better decision-making

Improved patient outcomes:

- Enhanced patient safety
- Better care coordination
- Increased patient engagement

Enhanced patient safety:

- Reduced medication errors
- Improved documentation
- Enhanced surveillance and monitoring

Increased efficiency and productivity:

- Streamlined workflows
- Reduced paperwork
- Improved communication and collaboration

Better decision-making:

- Data-driven insights
- Evidence-based practice
- Informed policy and planning

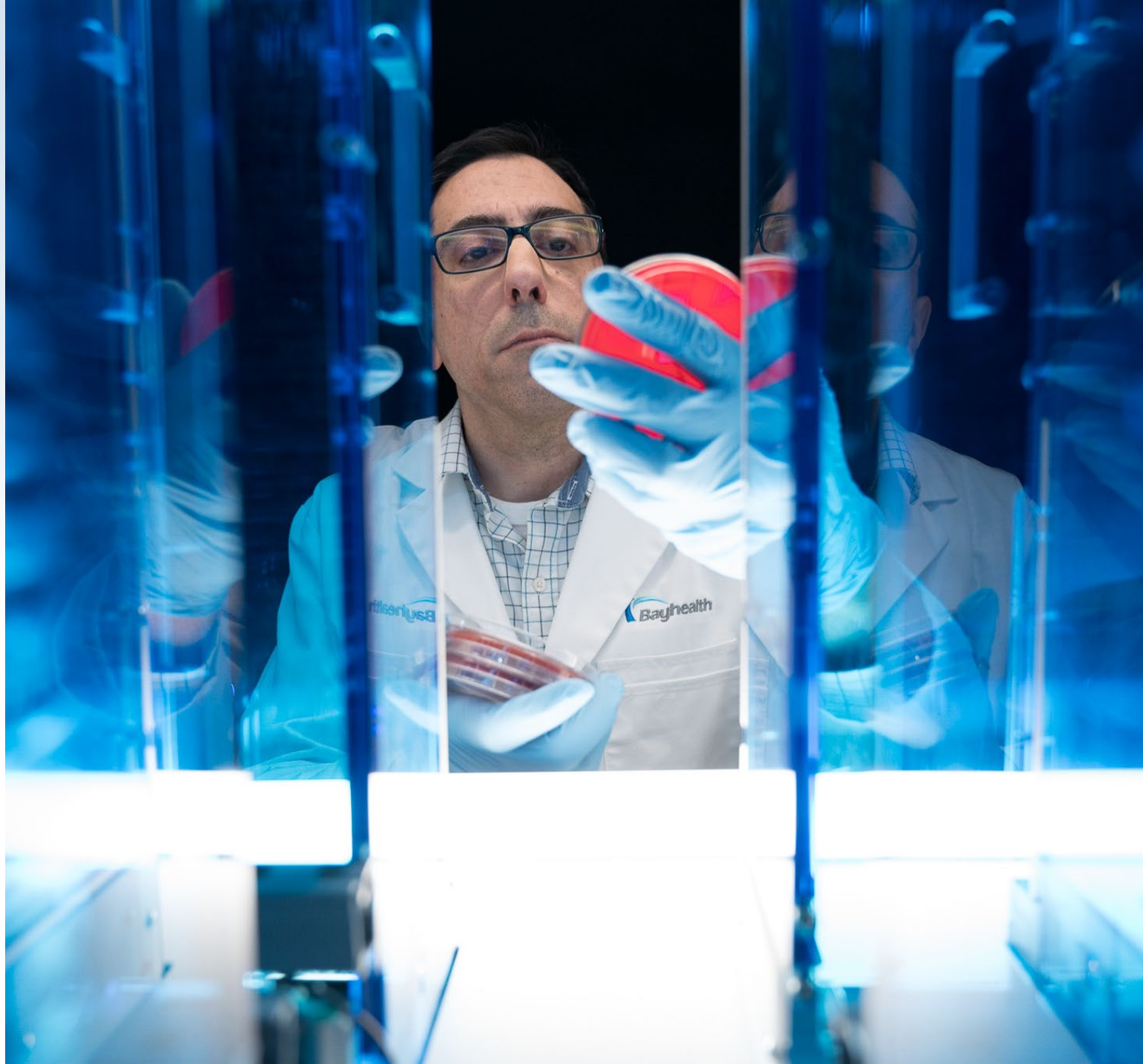
Future Directions

Emerging Trends

- Artificial Intelligence (AI)
- IoT
- Machine learning and their potential impact on healthcare delivery

Potential Applications:

- Predictive Analytics
- Personalized medicine
- Virtual Nursing assistants
- Robotics



Conclusion

Call to Action

“Nursing informatics is essential for the delivery of high-quality patient centered care in the 21st century as it provides nurses with the tools and knowledge to make informed decisions, improve patient outcomes and transform healthcare”

HIMSS, 2020



Conclusion

Nursing Informatics Job Market / Growth

According to the U.S. Bureau of Labor Statistics, the employment of registered nurses in every role and specialty, including nursing informatics, is expected to climb 6% between 2022 and 2032. As the demand for quality healthcare increases, the need for qualified healthcare professionals will grow as well.





Our Commitment Runs Deep