



HIMSS TIGER Committee Informatics Definitions

STATEMENT OF PURPOSE

The purpose of this document is to collaboratively define and document core health informatics terminology in providing context to the global TIGER interprofessional, interdisciplinary community for consideration when terms are referred to on the [TIGER website](#), in official documents, and within the [TIGER Virtual Learning Environment \(VLE\)](#). We acknowledge that as the field of informatics continues to grow and change so will the terms defined within this resource. As the field evolves, our intention is to have this resource serve as a helpful tool for those learning about informatics and informatics competencies.

INFORMATICS DEFINITIONS

Biomedical informatics (BMI) is the interdisciplinary field that studies and pursues the effective uses of biomedical data, information, and knowledge for scientific inquiry, problem solving, and decision making, driven by efforts to improve human health.

Source: [AMIA White Paper](#)

Clinical informatics (aka Health informatics) promotes the design, comprehension, integration, optimization, and use of information technology in healthcare settings. This helps to ensure adequate and qualified support of clinician objectives and industry best practices. HIMSS supports the role of healthcare professionals working in these vital communities by providing clinical informatics job information, degree programs, salary information, research, education and resources.

Source: [HIMSS.org](#)

Clinical informatics is the application of informatics and information technology to deliver healthcare services. It is also referred to as applied clinical informatics and operational informatics. AMIA considers informatics when used for healthcare delivery to be essentially the same regardless of the health professional group involved (whether dentist, pharmacist, physician, nurse, or other health professional). Clinical Informatics is concerned with information use in health care by clinicians. Clinical informatics includes a wide range of topics ranging from clinical decision support to visual images (e.g. radiological, pathological, dermatological, ophthalmological, etc.); from clinical documentation to provider order entry systems; and from system design to system implementation and adoption issues.

Source: [AMIA](#)

Dental informatics is a specialization within Health Informatics, a multi-disciplinary field that seeks to improve health care through the application of Health Information Technology (HIT) and information science to health care delivery, health information management, health care administration, research, information gathering and synthesis, and knowledge sharing.

Source: [ADA](#)

Health informatics is the interdisciplinary study of the design, development, adoption, and application of IT-based innovations in public health and healthcare services delivery, management, and planning. It comprises two main sub-disciplines: clinical informatics and public health informatics. It is often used to describe the full range of application and research topics for which biomedical informatics is the pertinent underlying scientific discipline.

Source: Aspects of definition drawn from the [AMIA](#) and [HIMSS](#)

Health informatics is defined as spanning clinical informatics and public health informatics; health care practices, systems, hospitals, healthcare industry.

Source: [US National Library of Medicine](#)

Health or Medical informatics is the scientific field that deals with biomedical information, data, and knowledge - their storage, retrieval, and optimal use for problem solving and decision making. It accordingly touches on all basic and applied fields in biomedical science and is closely tied to modern information technologies, notably in the areas of computing and communication (medical computer science).

Source: [Stanford Medical Informatics](#) via [Open Clinical](#)

Medical informatics is the interdisciplinary study of the design, development, adoption and application of IT-based innovations in healthcare services delivery, management and planning.

Source: [HIMSS.org](#)

Medical information science is the science of using system-analytic tools to develop procedures (algorithms) for management, process control, decision making and scientific analysis of medical knowledge.

Source: [Open Clinical](#)

Medical informatics studies the organization of medical information, the effective management of information using computer technology, and the impact of such technology on medical research, education, and patient care. The field explores techniques for assessing current information practices, determining the information needs of health care providers and patients, developing interventions using computer technology, and evaluating the impact of those interventions. This research seeks to optimize the use of information in order to improve the quality of health care, reduce cost, provide better education for providers and patients, and to conduct medical research more effectively.

Source: [Drexel University](#)

Nursing informatics (NI) is the specialty that integrates nursing science with multiple information management and analytical sciences to identify, define, manage, and communicate data, information, knowledge, and wisdom in nursing practice. NI supports nurses, consumers, patients, the interprofessional healthcare team, and other stakeholders in their decision-making in all roles and settings to achieve desired outcomes. This support is accomplished through the use of information structures, information processes, and information technology.

Source: [Nursing Informatics: Scope and Standards of Practice, 2nd Edition, ANA 2015](#)

Nutrition informatics is the effective retrieval, organization, storage and optimum use of information, data and knowledge for food and nutrition related problem solving and decision-making. Informatics is supported by the use of information standards, processes and technology.

Source: [Academy of Nutrition and Dietetics](#)

Pharmacy informatics is the scientific field that focuses on medication-related data and knowledge within the continuum of healthcare systems - including its acquisition, storage, analysis, use and dissemination - in the delivery of optimal medication-related patient care and health outcomes.

Source: HIMSS.org

Pharmacy informatics has grown to be an integral discipline within the clinical informatics domain, centered on the effective management and delivery of medication related data, information, and knowledge across systems that support the medication-use process.

Source: ASHP

Pharmacy informatics is the use and integration of data, information, knowledge, technology and automation in the medication-use process for the purpose of improving health outcomes.

Source: The University of Texas Health Science Center at Houston

Public health informatics is the systematic application of information and computer science and technology to public health practice, research, and learning.

Source: CDC

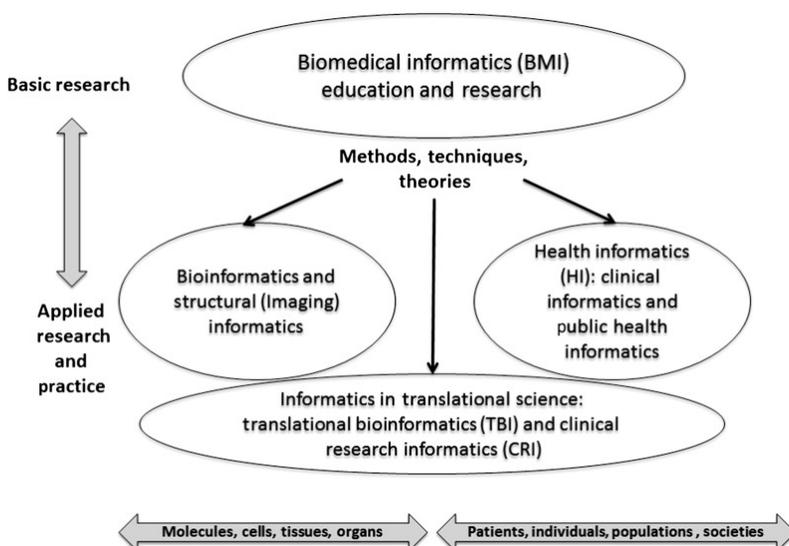
Public health informatics is sometimes referred to as population health informatics and is defined by AMIA as the application of informatics in areas of public health, including surveillance, prevention, preparedness, and health promotion. Public health informatics and the related population health informatics, work on information and technology issues from the perspective of groups of individuals. Public health is extremely broad and can even touch on the environment, work and living places and more.

Source: AMIA

INFOGRAPHICS

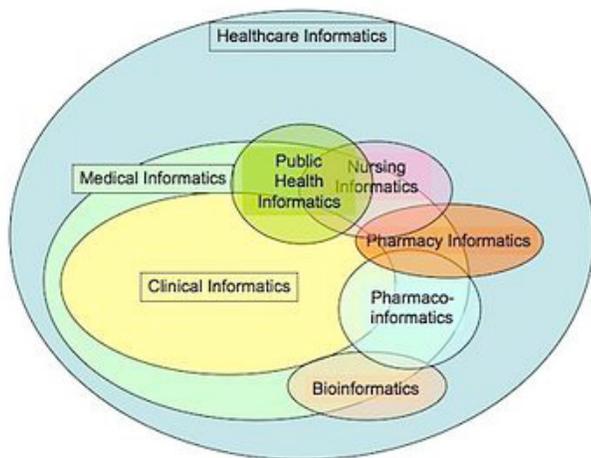
Biomedical Informatics

Drawn from the AMIA resource: JAMIA



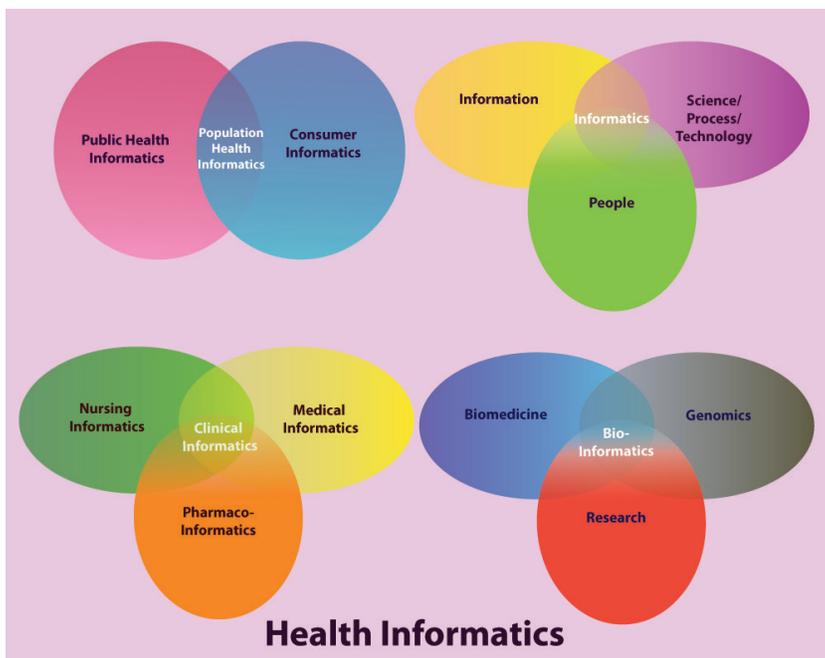
Healthcare Informatics Venn Graph

Resource: [HL WIKI International](#)



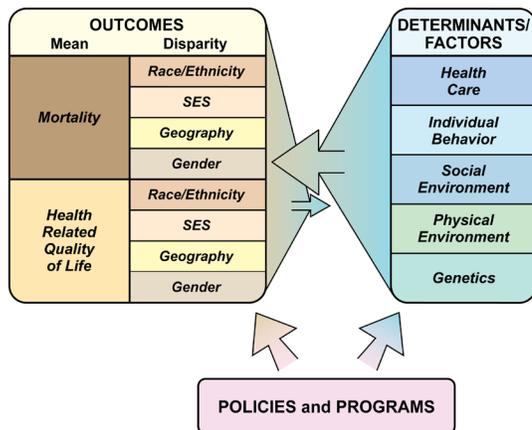
Health Informatics Venn diagram

Resource: [Omni Med Solutions](#) via [HL WIKI International](#) & [Biomed Central](#)



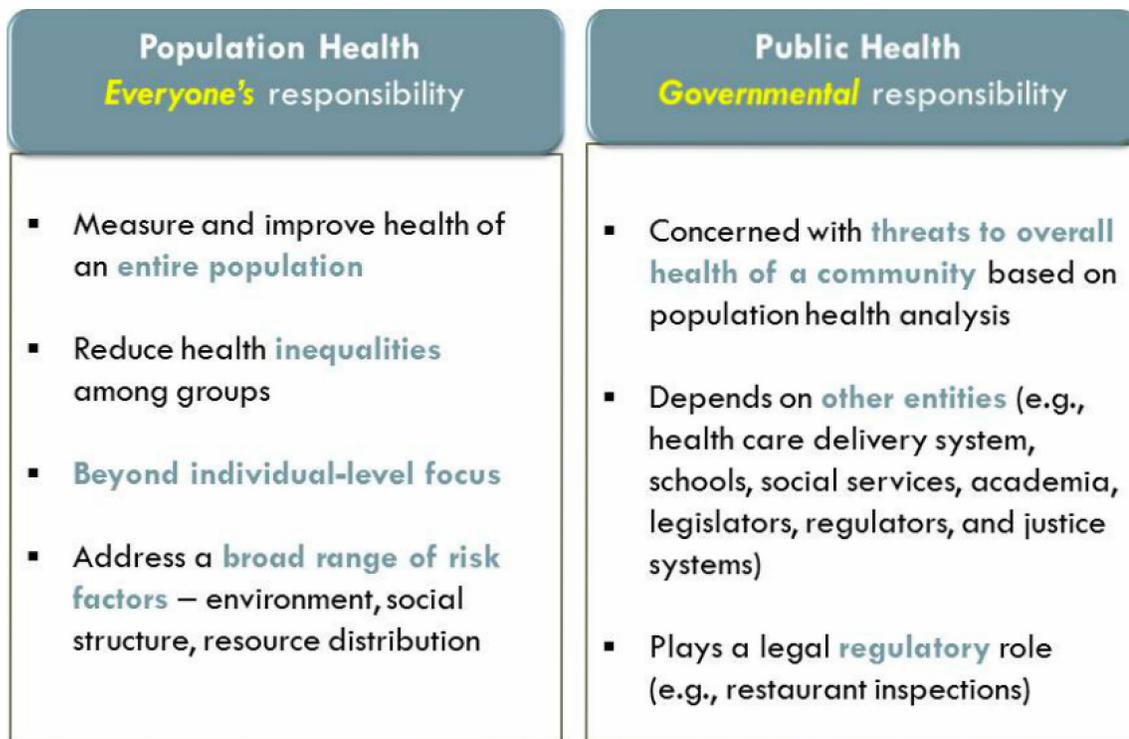
Population Health Infographic

Resource: [Improving Population Health](#)



Population Health vs. Public Health Informatics

Resource: [Sripriya Rajamani](#), Minnesota Department of Health



Sources: Adapted from Minnesota Dept of Health, 2008 – ONC 2010

Population vs. Public Health Informatics

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