# Toward a Uniform Nursing Terminology: Mapping ICNP and the Omaha System

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## BACKGROUND

At least 12 standardized terminologies represent the domain of nursing knowledge; each having unique, implicit ontologies that describe nursing diagnoses, interventions, and /or outcomes. The need for interoperability across systems supports the development of a uniform blended ontology, based on common semantic interpretation. To attain the goals of data reuse and interoperability, the ontologies that underlie these terminologies must be explicated and mapped.

## PURPOSE

The purpose of this study was to map equivalent concepts within ontologies of the ICNP diagnosis and the Omaha System, in order to enable mapping of the two terminologies..

## International Classification of Nursing Practice

The ICNP® is a unified nursing language system. It is a compositional terminology for nursing practice that facilitates the development of and the cross-mapping among local terms and existing terminologies
ICNP ELEMENTS are Nursing phenomena, (nursing diagnoses), Nursing actions, and Nursing outcomes. ICNP is an integral part of the global information infrastructure informing health care practice and policy to improve patient care worldwide .

International Council of Nurses
Consejo Internacional de Enfermeras
Conseil International des Infirmières
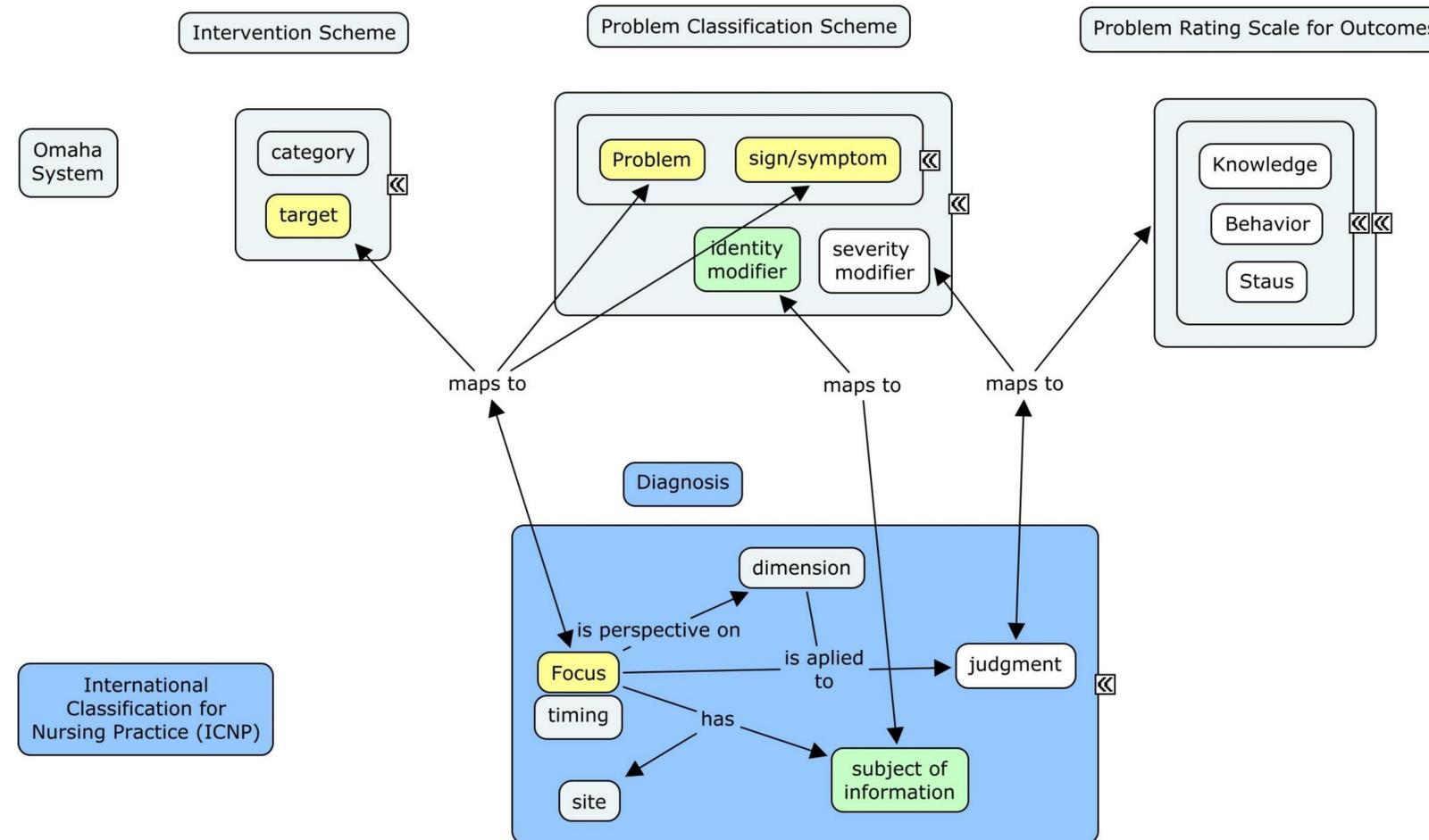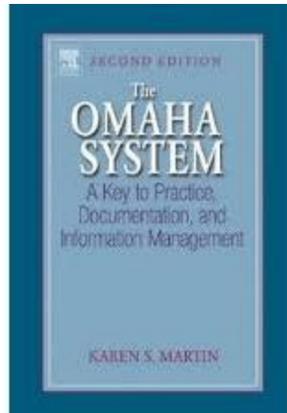
## MAPPING CONCEPTS



## METHODOLOGY

The ontologies of both terminologies were summarized in a diagram depicting concepts and inter-relationships between the terminologies. The diagram was evaluated by a team of health informatics faculty and students through comparison and mapping of pre-coordinated ICNP terms with Omaha System Problem Classification Scheme, Intervention Scheme, and Problem Rating Scale for Outcomes terms.

## Omaha System

The Omaha System consists of three relational, reliable, and valid components designed to be used together, Problem Classification Scheme, Intervention Scheme, and Problem Rating Scale for Outcomes. It is a research-based, comprehensive, standardized taxonomy that exists in the public domain.

It is designed to enhance practice, documentation, and information management for individuals, families, and communities of all ages, geographic locations, medical diagnoses, socio-economic ranges, spiritual beliefs, ethnicity, and cultural values.

## RESULTS

ICNP and Omaha System ontologies were mapped. Many-to-one mappings across concepts were necessary due to the complexity of the combined conceptual structures. ICNP diagnoses mapped to all components of the Omaha System.

## CONCLUSIONS

Prior to mapping terminologies it is critical to understand implicit ontological structures. Further research is needed to develop logic that will elucidate mapping between terms in ICNP and the Omaha System, support interoperability, and advance the science of knowledge representation toward a uniform nursing terminology.