Nursing Informatics Research Year in Review

Spring 2017 – Winter 2018

Trends in Clinical Informatics: A Nursing Perspective
April 27, 2017
Conflict of Interest

Andrew Phillips
Has no real or apparent conflicts of interest to report.
Learning Objectives

• Evaluate themes that impact nursing informatics.
• Identify gaps in nursing informatics research.
• Generate logical next steps in advancing nursing informatics research.
Arksey and O’Malley¹

- Step 1 – Identify the Research Question
- Step 2 – Identify Relevant Studies
- Step 3 – Study Selection (Iterative process which can change over time)
- Step 4 – Charting the Data
- Step 5 – Collating, summarizing, and reporting the results
- Step 6 – Consultation – This is you guys

Step 1: Research Question

• What trends and themes emerge from a survey of the published literature in the area of nursing informatics during the past year

• Make meaning of current and past themes – historical context.
Step 2: Identify Relevant Studies

• Search Strategy
  − Databases: PubMed and CINAHL
  − Search terms
    • ("nurse" or "nursing") AND "informatics") OR "nursing informatics"
    • Publication Dates 3/1/2017 – 2/28/2018
Step 3: Study Selection

Inclusion and Exclusion Criteria

• Inclusion criteria: Research, contributes to nursing informatics knowledge base, prototype development and testing, clinical care delivery focus; informatics

• Exclusions: Articles that focused on informatics education programs, nursing education, nursing students
Search Results (flow chart)

PubMed (624)  CINAL (102)

Total (726)  Duplicates (40)

Available for Review (686)  Abstract Review (479)

Full Text Review (207)  not retrievable or did not meet criteria after full text review (44)

Articles Evaluated (163)
Step 4: Charting the Data
Research by Setting (%) 2017-2018

- Ambulatory: 12%
- Community/Public Health: 21%
- Continuum of Care: 27%
- Health Professional/Expert Panel: 6%
- Hospital: 0%
- LongTerm Care: 0%
- Other (Theory/Design/Standards): 33%
By Country (%)  
2017-2018

- USA: 49%  
- UK: 17%  
- Korea: 3%  
- Middle East: 2%  
- Canada: 1%  
- Tiawan: 1%  
- China: 1%  
- Australia: 1%  
- Other: 2%
Research Country (%) By Year
By Topic (%)

- Transitions: 2%
- Standards/Terminologies/HIE: 2%
- Technology Acceptance: 7%
- TeleHealth/Mobile: 25%
- Social Media: 0%
- Implementation/Workflow: 0%
- Human Factors: 0%
- Patient Empowerment: 11%
- Clinical Documentation/CDS: 15%
- Big Data/Data Use: 3%
- Public Health: 4%
- Simulation: 4%
- Other: 7%

Documentation/CDS: 24%
Topic (%) by Year

- Transitions
- Terminologies/HIE
- Technology Acceptance-Patient
- TeleHealth/Mobile
- Implementation/Workflow
- Social Media
- Human Factors
- Patient Empowerment
- Clinical Documentation
- Clinical Decision Support
- Big Data/Data Use
- Public Health
- Hand Offs
- Communication
- Simulation
- Technology Development
- Other

Yearly Breakdown:
- 2014 - 2015
- 2015 - 2016
- 2016 - 2017
- 2017 - 2018
- 2018 - 2019
Step 5 – Collating, summarizing, and reporting the results
<table>
<thead>
<tr>
<th>Themes Identified</th>
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<tbody>
<tr>
<td>1. Clinical decision support (errors) and clinical documentation still main focus ~50% of studies.</td>
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<tr>
<td>• Use of EHR data greater for predictive tools – disease progression, deterioration</td>
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<td>• New tools related to AI and machine learning, natural language processing</td>
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<tr>
<td>2. Patient Empowerment/Self-care</td>
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<td>• Disease management</td>
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<td>• Continuum of care (keep patients out of hospital)</td>
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<td>3. Technology Acceptance by Patient (Portals, Telehealth, Mobile)</td>
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<td>4. Social Media lacking from data (buried in telehealth?)</td>
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<td>5. Use of telehealth to address health disparities and access</td>
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<td>6. Patient Reported Data</td>
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<td>• Sustainability of patient facing technologies</td>
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<td>7. Patient clearly recognized as stakeholder</td>
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<td>8. Big Data Continues</td>
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<td>• Data Mining and Use, AI, Machine learning</td>
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<td>• Public and Population Health genomic, pharm, other</td>
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<td>9. Inter-professional Care, Care Coordination, Shared Decision Making</td>
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Representative Citations


Step 6 – Consultation

Feedback and Professional Input…