Collaboration for medical device innovation in South Africa: Focus areas and keyword networks
Context

- Medical device innovation is collaborative in nature.
- Role of actors and sectors (healthcare, university, research institutions, industry)
- Importing of medical devices (90%) VS local activity (?)
  - Who is involved?
  - What are they working on?
  - Are they collaborating?
Objectives
Focus areas: Methodology

- Exploratory bibliometric search (Google Scholar and PubMed)
- South African organisations – universities, healthcare facilities, registered companies.
- Medical device classification system – 11 physiology systems, 1 non-specific
- What are the focus areas of the South African organisations?
Focus areas: Results

Number of local and foreign organisations in medical device development in South Africa
Orthopaedic devices: Methodology

- Bibliometric study (*Scopus* and *Thomson Reuters Web of Knowledge*)
- Co-authorship used as a proxy for collaboration
- Actors classified into four sectors – healthcare, universities, industry and science councils
- Collaboration networks
Orthopaedic devices: Actor network

Node = Actor; Edge = Co-authorship
Orthopaedic devices: Methodology

- Keywords of publications used to identify:
  - Medical device
  - Area of innovation
  - Cause/anatomy addressed
- Keywords streamlined
- Measures: Popularity and Degree centrality
Orthopaedic devices: Collaboration opportunities

Node = Actor; Edge = Co-authorship

Node = Actor; Edge = Keyword

Node = Healthcare

Node = University

Node = Science Councils

Node = Industry

Node = Local

Node = Foreign
Conclusions

- Prevalent focus areas: Cardiovascular, Nervous and Skeletal

- Actor network identifies local and foreign organisations

- Keyword network identifies areas of interest

- Presented a tool to explore collaboration opportunities
Thank You