**Study Protocol**

ECONOMIC EVALUATION OF 3D PRINTING APPLICATIONS IN SURGERY: A SYSTEMATIC REVIEW

**Aims**

* To identify the costs associated with of 3D printing applied in surgery
* To highlight the first economic quantitative data available

**Methods**

**Data sources**

* PubMed, Embase and National Health Service Economic Evaluation Database (NHS EED) at the University of York

**Search terms**

* "3D printing and costs and surgery",
* "Cost-Benefit Analysis and 3D printing",
* "Economics and 3D printing",
* "Costs and Cost Analysis [Mesh] and 3D printing",
* "Health Care Economics and Organizations [Mesh] and Printing, Three-Dimensional"[Mesh]".

**Limitations**

* Language : English and French
* Date of publication : 2009 to 06/2019

**Study designs**

* Case report
* Case series
* Comparative study
* Feasibility study
* Technical note

**Study eligibility**

* P: Patients treated with a surgical technique using 3D printed medical devices
* C: With or without a comparator group
* I: For any surgery
* O: Measuring costs
* S: In a hospital setting

**Inclusion process**

* Screening based on titles and abstracts
* Two independent reviewers

**Exclusion criteria**

* **Study design:** study reviews
* **Subject :** fundamental research studies or those with no hospital application, and those involving bio-printing, dentistry and external prosthesis
* **No full text available**

**Data extraction**

* First author, year of publication, country of origin, study design, number of patients
* Surgery domain
* 3D-printing technique, materials and applications
* Place of production and professionals involved
* Cost or savings items evaluated

**Data synthesis**

* Cost items evaluated and their quantitative results