Initial steps of an online search tool development for diagnostic and prognostic factors in prostate cancer


Background

- PIONEER is part of the Innovative Medicine Initiative’s (IMI’s) “Big Data for Better Outcomes” (BD4BO) umbrella programme.
- PIONEER aims to transform the field of prostate cancer (PCa) care with particular focus on improving prostate-cancer related outcomes, health system efficiency and the quality of health and social care across Europe by maximising the potential of Big Data.

Introduction

- One of the major challenges in the field of diagnostic and prognostic factors is the variety of clinical data being published at rapid pace.
- This makes it difficult to incorporate real-world clinical diagnostic and prognostic outcome data into the management of prostate cancer (PCa).
- We set out to develop an online search tool to assess the current evidence on diagnostic and prognostic factors for PCa.

Methods

- We summarised preliminary results of the first step of this development process: A systematic review covering all diagnostic and prognostic factors for PCa.
- The systematic review followed a four-step approach:

  **Stage 1:** Comprehensive systematic literature review of diagnostic and prognostic factors for all stages of PCa from 2014 onwards

  **Stage 2:** Assessment and identification of final list of diagnostic and prognostic factors by a multidisciplinary expert panel

  **Stage 3:** Evaluation of quality of studies using the risk of bias tools PROBAST (Prediction model Risk Of Bias Assessment Tool), QUIPS (prognostic factors) or QUADAS-2 (diagnostic factors) as appropriate.

  **Stage 4:** Determination of whether additional quantitative assessment is required based on the Classification from the Oxford Centre for Evidence Based Medicine.

Results (continued)

- Figure 1: Results of Stage 1 and Stage 2

  - Search: Ovid
  - 3140 results

  - Expert meeting outcome
    - Concern to miss diagnostic or prognostic factors
      - 3464 results
    - EAU guidelines
      - 1169 results

- Diagnostic factors/models
  - 154 papers
- Prognostic factors/models
  - 644 papers
- e.g. NLR, PHI, nomograms, ...
- e.g. BSI, Capra score, CTC, ...

Conclusion

- A vast amount of data is available for diagnostic and prognostic factors of prostate cancer and hence the process set out above will systematically review the quality of the evidence.
- Ultimately, we will convert all the information obtained as part of this four-step approach into an online search tool available to all stakeholders.