Prostate Cancer Early Detection 2.0: prediction models and eHealth
Prostaatkanker vroegdetectie 2.0: Predictiemodellen en eHealth

Nuno Miguel Pereira Azevedo

Propositions:

1. mHealth apps developed with expert urological input have a higher level of downloads than those developed by laity. *(this dissertation)*

2. Healthcare professionals should apply Hippocratic principles to mHealth development, assuring that apps "first do no harm", by safeguarding their up-to-date scientific evidence, and concurrent preservation of user safety and privacy. *(this dissertation)*

3. The European Randomized study of Screening for Prostate Cancer (ERSPC) Rotterdam Prostate Cancer Risk Calculator (RPCRC) smartphone app can decrease unnecessary biopsies and, consequently, reduce overdiagnosis and overtreatment, as compared to a PSA based screening strategy. *(this dissertation)*

4. The digital rectal examination based ERSPC RPCRC is an inexpensive and effective tool for prostate cancer screening (i.e., it is able to identify men at risk of having clinically significant disease). *(this dissertation)*

5. A head-to-head comparison of various risk calculators developed to predict prostate biopsy outcome provides important quantitative and qualitative information about the tools themselves, and how discrimination, calibration and net benefit influence clinical impact. *(this dissertation)*

6. Strengthening citizen empowerment and individual care through digital services should be a priority for eHealth activities. *European Commission. eHealth: Digital health and care. Accessed through: https://ec.europa.eu/health/ehealth/ overview_en on June 15, 2018.*

7. New surgical procedures, devices, and other complex interventions need robust evaluation for safety, efficacy, and effectiveness: this should prevail over marketing pressure. *Hirst A, Philippou Y, Blazeby J, Campbell B, Campbell M, Feinberg J, et al. No surgical innovation without evaluation: evolution and further development of the IDEAL framework and recommendations. Ann Surg. 2018 Apr 24.*

8. Brazil (e.g., Pele) and Argentina (e.g., Messi) have the names, but Portugal (e.g., Ronaldo) and the Netherlands (e.g., Cruijff) have the talents. *Monique Roobol, WhatsApp. 2018 Jun 15.*

9. A field that honours only discoveries and not the hard work of generating useful data will have difficulty encouraging scientists to share their hard-won data: it is precisely those data that would help to power deep learning in the domain. *Ching T, Himmelstein DS, Beaulieu-Jones BK, Kalinin AA, Do BT, Way GP, et al. Opportunities and obstacles for deep learning in biology and medicine. J R Soc Interface. 2018;15(141).*

10. A higher consumption of coffee is associated with a lower risk of death. *Gunter MJ, Murphy N, Cross AJ, Dossus L, Dartois L, Fagherazzi G, et al. Coffee Drinking and Mortality in 10 European Countries: A Multinational Cohort Study. Ann Intern Med. 2017;167(4):236-47.*

11. Ben Graham taught me that "Price is what you pay; value is what you get". *Warren Buffett. Berkshire Hathaway 2008 Chairman's Letter. Accessed through: http://www.berkshirehathaway.com/letters/2008ltr.pdf on June 15, 2018.*