

Galvin D.J.¹, Dooley C.², Gordon N.², Murphy A.², Watson W.², Sharp L.³, Sullivan F.⁴, Mcdermott R.M.C.D.⁵

¹Mater and St. Vincent's University Hospitals, Dept. of Urology, Dublin, Ireland, ²University College Dublin, IPCOR, Dublin, Ireland,

³Newcastle University, Dept. of Epidemiology, Newcastle, United Kingdom, ⁴Galway University, Dept. of Radiotherapy, Galway, Ireland, ⁵St Vincent's University hospital, Dept. of Medical Oncology, Dublin, Ireland

Introduction & Objectives: Prostate cancer remains the commonest cancer detected in Irish men, and the third commonest cause of cancer death. The detection of early prostate cancer often requires radical therapy, however, in the absence of clinically significant cancer, men can often avail of active surveillance or deferred therapy. Therefore accurate detection of low grade (Gleason 3+3) prostate cancer through biopsy and pathological analysis is important.

Materials & Methods: Using data from the IPCOR study, we examined the proportion of low grade prostate cancer as a percentage of all prostate cancer detected over the duration of the study (2016-2020). The data was examined from each hospital and per year. We also examined the effect of age, PSA levels and MRI availability may have had on low grade prostate cancer detection.

Results: About one-third (33.7%) of patients were diagnosed with Gleason 3+3. This proportion did not vary significantly by year of diagnosis. However, there was a significant variation in Gleason 3+3 diagnosis proportion between hospitals ranging from 13.7% to 49.3% ($p<0.001$). A variation was noticed between Dublin hospitals (ranging from 13.7% to 37.9%) and Galway and Cork hospitals (ranging from 35.8% to 39.5% and 42.5% to 49.3%, respectively, $p<0.001$). Age and PSA did not vary significantly between hospitals. Pre-biopsy MRI availability was found to vary between hospitals and may be related to this variation in Gleason scores. Low grade disease is largely managed by active surveillance, with little variation between Regions.

Conclusions: Significant differences in the detection of Gleason 3+3 prostate cancer were identified across both public and private hospitals in Ireland. Methods to reduce the detection of low-grade disease and variations between regions need to be implemented.