International Journal of Population Data Science

Journal Website: www.ijpds.org

Using linked English cancer registration data to assess variation in diagnostic pathway length

Fraser, J^{1*}, Pearson, C¹, Shelton, J², and Moffat, J²

¹Cancer Research UK - Public Health England

²Cancer Research UK

Background

For the majority of cancer patients, the length of the diagnostic pathway is unknown. Only those on a specific pathway are monitored. Quantifying pathway length is important in understanding which patients may benefit most from an expedited pathway.

Aim

This study aimed to develop a novel methodology using linked cancer registration data to calculate the Secondary Care Diagnostic Interval (SDCI): the period from first interaction with secondary care to receiving a cancer diagnosis. Subsequently variation in SCDIs across twenty-five cancer sites were analysed.

Methods

English cancer registrations (2014-15) from Public Health England's National Cancer Registration and Analysis Service were linked to three routine health datasets: Hospital Episode Statistics, Diagnostic Imaging Dataset and Cancer Waiting Times.

The SCDI was calculated as the difference between the earliest event relating to the secondary care diagnostic process (comprised of referral into/secondary care appointment or diagnostic procedure in the 6 months before diagnosis) and the diagnosis date.

SDCI length was stratified by stage at diagnosis, route to diagnosis (e.g. emergency presentation, GP referral) and patient characteristics.

Results

The median SCDI (days) was shortest for acute lymphoblastic leukaemia (ALL) (2) and longest for kidney (45). In general, SCDIs decreased with later stage (for example stage 1-4 colorectal: 35 to 20, lung: 75 to 25). Patients diagnosed after

routine GP referrals had longest SCDIs compared to urgent referrals, for all sites except ALL. Geographical variation in SCDIs exists by Cancer Alliance, with the greatest differences compared to the England average observed for prostate cancer (median national SCDI: 28, Cancer Alliance range: 21 - 42).

Conclusion

Substantial variation exists in SCDIs by cancer site, stage and presentation route. Many patients are experiencing SCDIs over 28 days, even those diagnosed via urgent GP referrals. Understanding variation can support creation of targeted initiatives to expedite diagnostic pathways where appropriate.

*Corresponding Author:

Email Address: jess.fraser@phe.gov.uk (J Fraser)