

# THE IMPACT OF COMORBIDITIES IN PEOPLE LIVING WITH CANCER

## Prevalence and outcomes of cancer patients with other chronic health conditions in Wales

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### Background

Investigating the impact of comorbidities in people living with cancer is increasingly important. More people are developing cancer due to the ageing population, and these older patients often have a higher number of coexisting diseases. As GPs are crucial in their patients' management of multiple long-term conditions, we examined the association between comorbidities and cancer incidence, and prevalence for patients registered with groups of GP practices in 60 Cluster Networks, across seven health boards in Wales. As comorbidity is associated with worse health outcomes, more complex clinical management, and increased health care costs, this new data has the potential to improve patient experience and inform management and delivery of service.

### Methods

We extracted data on prostate, breast, colorectal and lung cancers from the Welsh Cancer Intelligence and Surveillance Unit's cancer registry for diagnosis periods 2011-2015 (incidence) and 1995-2015 (prevalence). Each case was linked to a GP Cluster Network and to the Patient Episode Database for Wales hospital data for the preceding year to establish comorbidity types. We used the Charlson Comorbidity Index scoring system that includes weighting factors on the basis of disease severity to allocate patients a score. The higher the Charlson score the more coexisting diseases a patient has. For incidence and 21-year prevalence, we calculated the proportion of patients with a Charlson score of 0, 1 and 2+ for Cluster Networks by cancer type.

### Results

The initial analysis presented here reflects the national picture, however further work is underway to look at results at GP Cluster Network level.

There was wide variation in the Charlson score when looking at age, cancer type, deprivation, stage and time since diagnosis. As part of our analysis rurality was investigated, but this appeared to have no effect on the Charlson score. When looking at all cancers (excluding NMSC) men are more likely to have a higher Charlson score at diagnosis, with the proportion of men having a score 2+ being 14% compared to 10% of women. Patients aged 75+ are 7 times more likely than those aged 0-49 to have a Charlson score of 2+. Staging data showed that although a similar percentage, around 18%, of stage 1 and 2 patients have a non-zero Charlson score, a larger proportion of stage 1 patients have a score of 2+. Lastly, the proportion of patients with a non-zero Charlson score increases between each quintile when going from the least deprived to the most deprived.

When looking at different cancer types, 90% of female breast cancer patients have no comorbidities (as scored by Charlson) at the time of diagnosis. However, age plays a factor in a patient's Charlson score with 10% of female breast cancer patients who are 75+ having a score of 2+. Of the four cancer sites considered, lung cancer patients are the most likely to have comorbidities at diagnosis, with just under half of men and over a third of women having a Charlson score above 0. We also found that almost a quarter of lung cancer patients aged 75+ have a Charlson score of 2+.

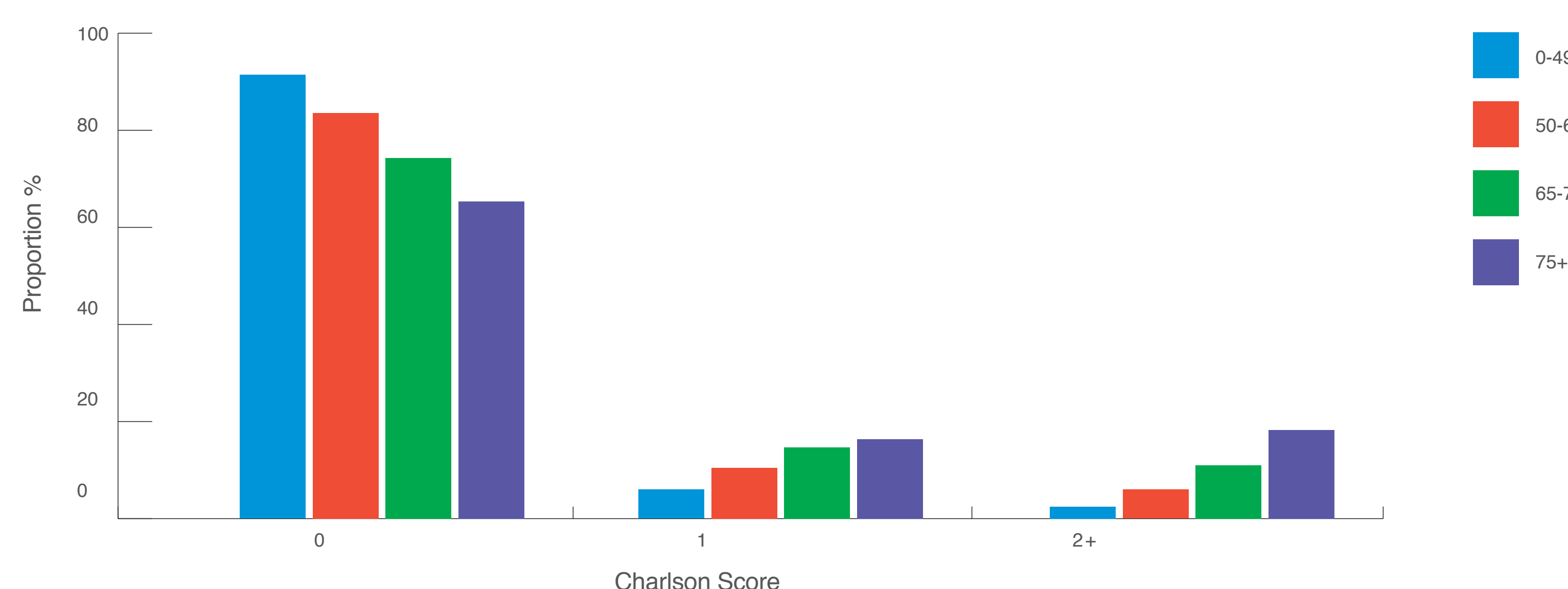


Figure 1: Charlson score at diagnosis by age

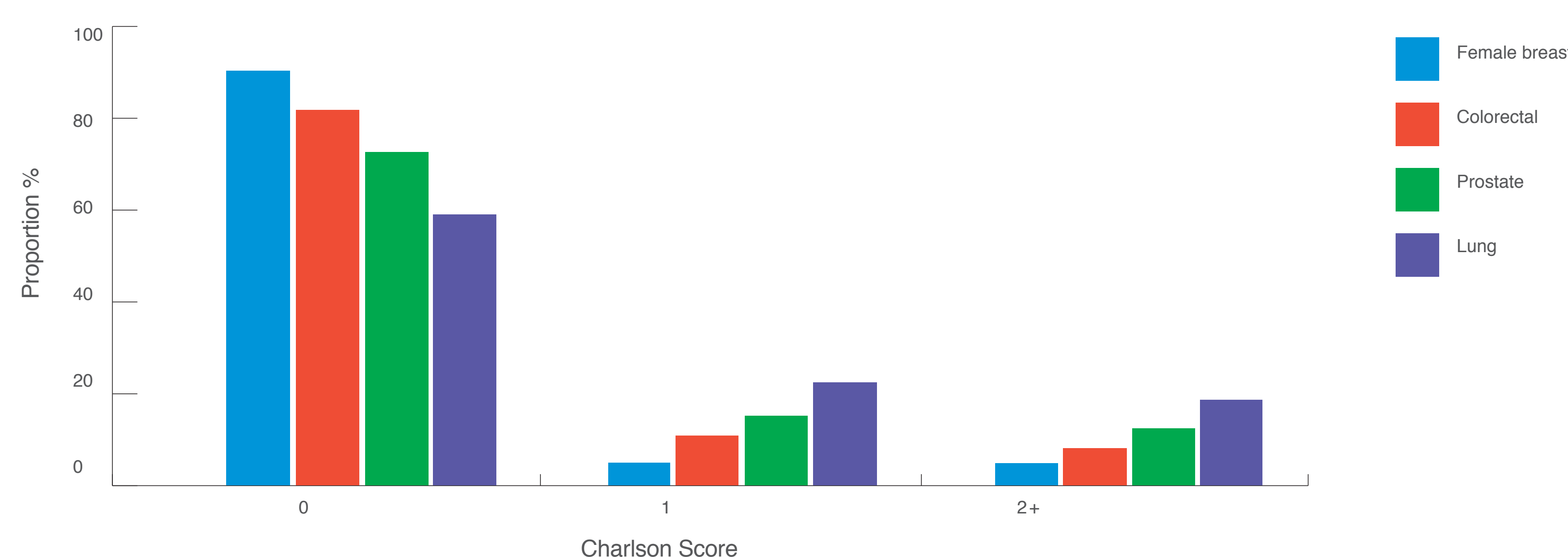


Figure 2: Charlson score at diagnosis by cancer type

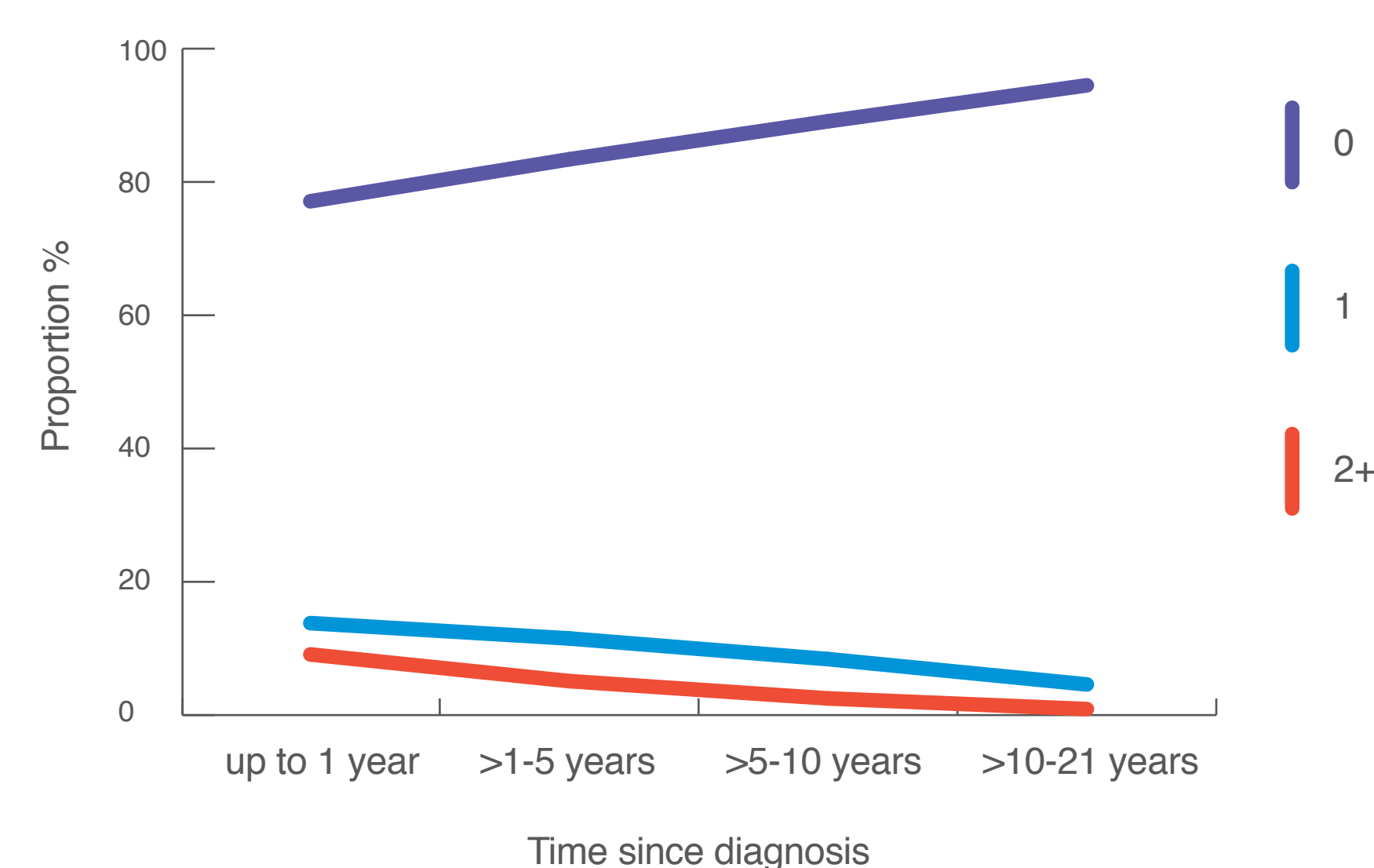


Figure 3: Charlson score by time since diagnosis in men

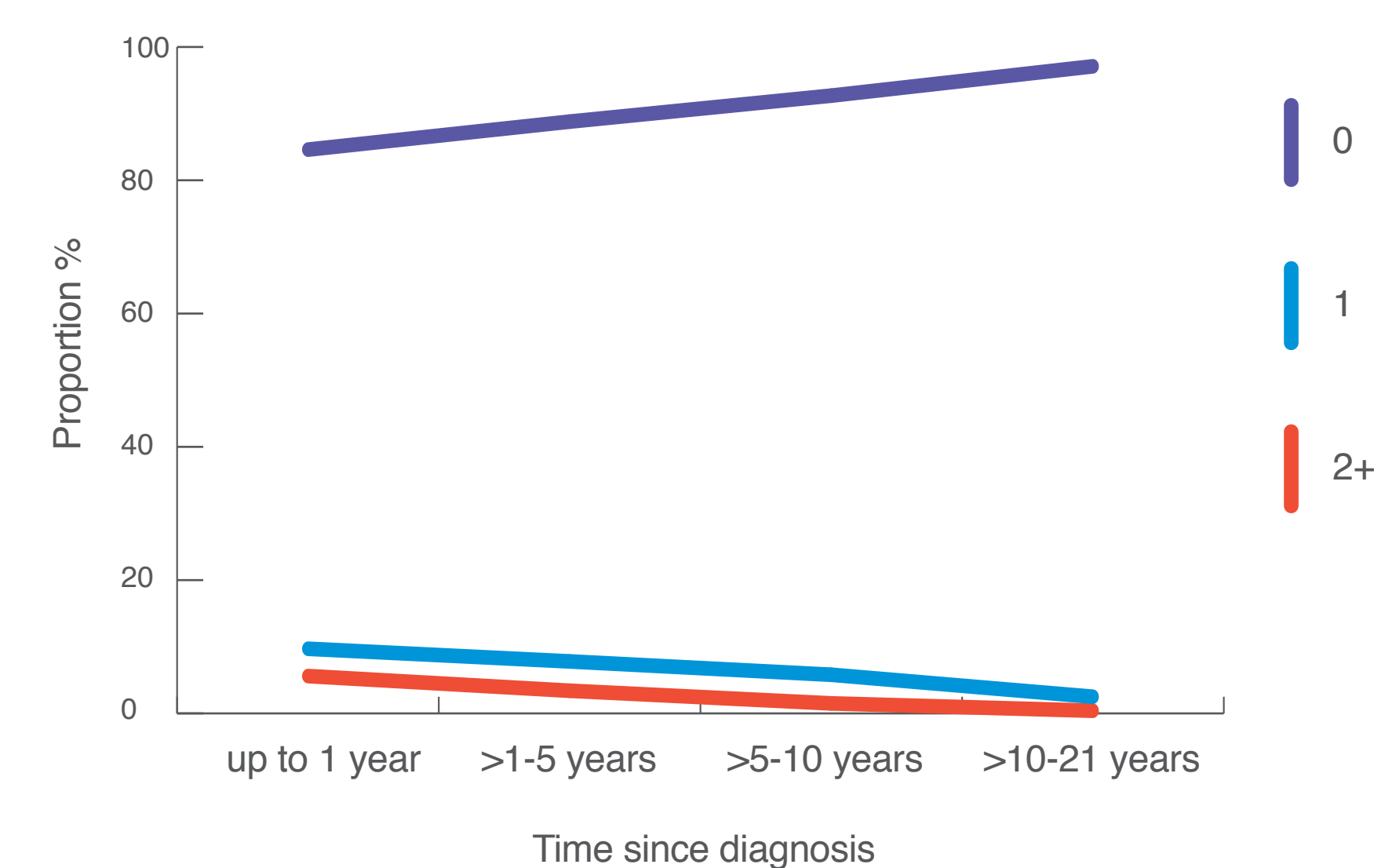


Figure 4: Charlson score by time since diagnosis in women

When looking at prevalence amongst the GP registered patients in Wales almost 95% of men and 97% of women surviving between 10 and 21 years after their cancer diagnosis had no comorbidities at the time of diagnosis compared to 77% of men and 85% of women surviving up to a year after their cancer diagnosis. This is possibly due to these patients having fewer competing health needs compared to those more recently diagnosed. Our work also showed that on average men have a higher Charlson score than women, regardless of the time since diagnosis.

Over 98% of women alive 10-21 years after a diagnosis of breast cancer had no comorbidities at the time of diagnosis, and less than 4% of women who survived up to one year after their breast cancer diagnosis had a Charlson score of 2+. For patients living with a lung cancer diagnosis, the gap between those surviving up to a year and those surviving between 10 and 21 years is the largest of the four cancer

sites considered, with only 1% of patients with a Charlson Score of 2+ surviving for 10-21 years. Patients living with or beyond female breast or prostate cancers had the lowest Charlson scores at the time of diagnosis.

### Conclusions

Cancer patients with comorbidities often have more complex needs. This work will increase understanding of the type of patients most at risk, informing medical management and treatment decisions. The new information at GP Cluster Network Level will support the planning and delivery of local services, improving the experience of cancer patients where comorbidities can contribute to the overall severity and efficacy of treatment in individual patients and require coordinated support by all involved in their care.

#### Acknowledgements

This analysis uses data shared by patients and collected by the NHS as part of their care and support.