

## Study hints at potential for health conditions to be diagnosed earlier

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Conditions such as celiac disease and Parkinson's disease could be detected in principle up to 10 years earlier than they are currently, suggests a new study by UCL researchers.

The study, published in the *British Journal of General Practice*, reviewed existing evidence on how people's use of health care changed in the weeks, months and years ahead of the diagnosis of a range of conditions. This detectable change in health care use indicates the condition's "diagnostic window"—that is, the point at which diagnosis in some patients may theoretically be possible.

While the concept of diagnostic windows has been developed in <u>cancer</u> <u>research</u>, this study comprehensively examines whether it is relevant for other diseases for the first time.

The review, led by Ph.D. candidate Emma Whitfield (UCL Institute of Epidemiology & Health Care and UCL Institute of Health Informatics), looked at 27 studies containing evidence of how health care use changed among people who went on to be diagnosed with a condition.

It found that, for <u>chronic conditions</u> such as Parkinson's disease, <u>celiac</u> <u>disease</u>, schizophrenia, and <u>inflammatory bowel disease</u> (including <u>ulcerative colitis</u> and Crohn's disease), health care use increased years before diagnosis, suggesting significantly earlier diagnosis might be possible for some patients.

For relatively acute onset conditions such as tuberculosis and herpes simplex encephalitis (infection caused by the <u>herpes simplex virus</u>), the change in health care use occurred only shortly before



diagnosis—between 1 and 6 months.

Lead author Ms. Whitfield said, "In the last 20 years, researchers have put much time and effort into improving the diagnosis of cancer. A body of literature has built up with novel concepts, such as the 'diagnostic window,' that haven't been comprehensively applied to other diseases, and this was the motivation for our study.

"The next step is to analyze comprehensive datasets to determine the length of these diagnostic windows with more certainty.

"More detailed information about the type of changes in health care use before diagnosis can provide new avenues for inquiry as to how earlier diagnosis might be achieved.

"This initial evidence suggests that, if improvements can be made to the diagnostic process, there is potential to diagnose some patients with these conditions earlier."

Senior co-author Professor Georgios Lyratzopoulos (UCL Institute of Epidemiology & Health Care) said, "This study suggests that, in a similar way to what has been found with different types of cancer, diagnostic windows may exist for many other health conditions. The findings hold promise for efforts to improve <u>diagnosis</u> in medicine."

**More information:** Emma Whitfield et al, Diagnostic windows in nonneoplastic diseases: A systematic review, *British Journal of General Practice* (2023). DOI: 10.3399/BJGP.2023.0044

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