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INTRODUCTION OF A NOVEL COVID-19 BIOMARKER PANEL BY COVENTRY AND WARWICKSHIRE PATHOLOGY SERVICES (CWPS)

COVID-19 is heterogeneous in presentation, with cough, fever, dyspnoea and in some cases, acute respiratory distress syndrome documented. Confidence in the interpretation of clinical symptoms and management of patients can be enhanced with the use of biomarkers and could provide clinicians with a tool to predict prognosis and mortality, allowing for earlier interventions and optimal resource allocation.

In March 2020, clinicians approached CWPS requesting the provision of biomarkers, as highlighted in early publications. The aim of this change was to improve the clinical management of patients, remove the need for referral laboratory testing and ensure swift translation of recent evidence into clinical practice. Cost, method availability, IT requirements, assay verification, sample needs and appropriate testing were all considered when extending the scope of service. Continued dialogue with those leading the local COVID clinical pathway ensured the change was clinically supported and that testing was incorporated into the trust ward management strategies.

Royal College of Pathology guidelines later published in April 2020 supported the service change and literature reviews continue to highlight the role of inflammatory markers for patient stratification; with a recent systematic review finding some of the included biomarkers increased in more severe infections. The Association of Clinical Biochemistry have also made a statement encouraging this type of innovation, utilising both scientific and medical staff in the improvement of patient care.

In collaboration with statisticians from local universities, biomarker data is being interrogated so that any findings may be translated into practice. Currently, multiple regression analysis has allowed the creation of models to explain association of analytes with outcomes and it is hoped continued work will allow the creation of decisions trees and clinical reference values.