

# iChem Workflow: Automation Considerations and Solutions in Disruptive Times

Present Realities Require New Solutions

## Historical Landscape

Lab staffing challenges minimal given community health and active workforce population

Stable volume of clinical studies and known turnaround time expectations; many trials had thousands of samples and less focus on rare-disease trials

Lab space readily available for automation platforms

Routine lab costs and minimal inflation

iChem automation discrete, technically complex and limited in scope:

Purchased stand-alone automation for select and few bespoke assays to be run by lab technicians to gain efficiencies

## Present Landscape

The great resignation and COVID have led to staffing challenges, high turnover and difficulty maintaining work continuity with available staff

The number of clinical studies greatly increased, while samples per trial and turnaround time required has decreased given rare-disease and COVID-19 related clinical study % mix increase

Clinical study virtualization has greatly impacted sample quality and consistency

The number and variety of bespoke assays in iChem has greatly increased

Limited lab space and rising cost pressures on lab performance

iChem automation requires reconceptualization and significant advancement to meet today's challenges:

Fully integrated, scalable and user-friendly automation platforms and reporting mechanisms to overcome staffing/COVID challenges, to increase capacity, to meet study turnaround time requirements and to reduce cost pressure on labs

Modular approach, building upon a common core for bespoke assay development and execution, can drive automation flexibility and efficiencies despite increased variety of bespoke iChem assays

This infographic has been created as part of a Bioanalysis Zone feature in association with Labcorp.