

Gastroenteritis and 'doing more with less'

An excellent example of how technology can facilitate 'doing more with less' has appeared in the molecular diagnostics market with the availability of the xTAG Gastrointestinal Pathogen Panel

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Over the past decade or so, increasingly the mantra of healthcare reform has become 'do more with less'. Meeting this challenge is essential to the development of sustainable, high quality medicine in both developed and emerging countries. Unfortunately, if asked how this might be achieved, there are few good answers. One suggestion is the development and application of novel technologies for management of costly care pathways. So far the track record on this approach has not been impressive. For example, new drugs, especially in a 'personalised medicine' environment, tend to be expensive, have niche applications and usually offer only incremental improvements. Technology for other procedures, such as imaging, have fared similarly. Adding to these difficulties is the fact service providers are often slow to adopt new technologies, even where the evidence base is very strong.

Recently an excellent example of how technology can facilitate 'doing more with less' has appeared in the molecular diagnostics market with the availability of the xTAG Gastrointestinal Pathogen Panel (GPP) (Luminex Molecular Diagnostics, Toronto, Canada).



Electron microscopic image of Norovirus

The burden of gastroenteritis

Gastroenteritis in UK hospitals carries a significant economic burden estimated, as of 2003, at more than £115 million annually. Patients presenting with gastroenteritis carry a risk of spreading infection and frequently require expensive hospital-based infection control management including isolation, barrier nursing and specialised testing. Essential to appropriate, cost-effective management of gastrointestinal disease is rapid and correct identification of the cause. But more than 60% of all patients have non-infectious aetiologies and the remaining infectious cases are attributable to a host of different pathogens including viruses, bacteria and parasites. This makes the issue of correct diagnosis difficult and often leads to inappropriate and costly interventions. Compounding this situation is the fact that current testing methods are slow, labour intensive and exhibit low diagnostic

yield. Under these circumstances there is a clear, unmet need for a new diagnostic approach to gastroenteritis.

The xTAG GPP

The xTAG GPP was designed to meet this need. In a single test, and with a turnaround time of less than six hours, it provides results for fifteen of the most common causes of gastroenteritis. In the last year, across multiple labs the test has shown an average increase of 300% in detection of pathogens, highlighting the limitations of the status quo. It also revealed significant differences in the spectrum of pathogens found in the hospital and community suggesting its use in helping better manage these patients. Negative results have a predictive value >99%, allowing for rapid and accurate sorting of infectious and non-infectious cases and critically reducing the need for expensive infection control measures. A new economic study estimated that the test could reduce the costs of managing these patients by as much as 45%. Finally, an additional benefit is the reduction in the overall test volumes required for correct diagnosis, in some cases by as much as 70%.

Conclusions

In a world where we expect the very best care, but where resources are increasingly constrained, xTAG GPP appears to reduce costs, improve diagnostic accuracy and speed-up treatment, offering a real opportunity to 'do more with less'. ♦