USE OF ICNET IP&C SOFTWARE DURING THE COVID-19 PANDEMIC

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BACKGROUND

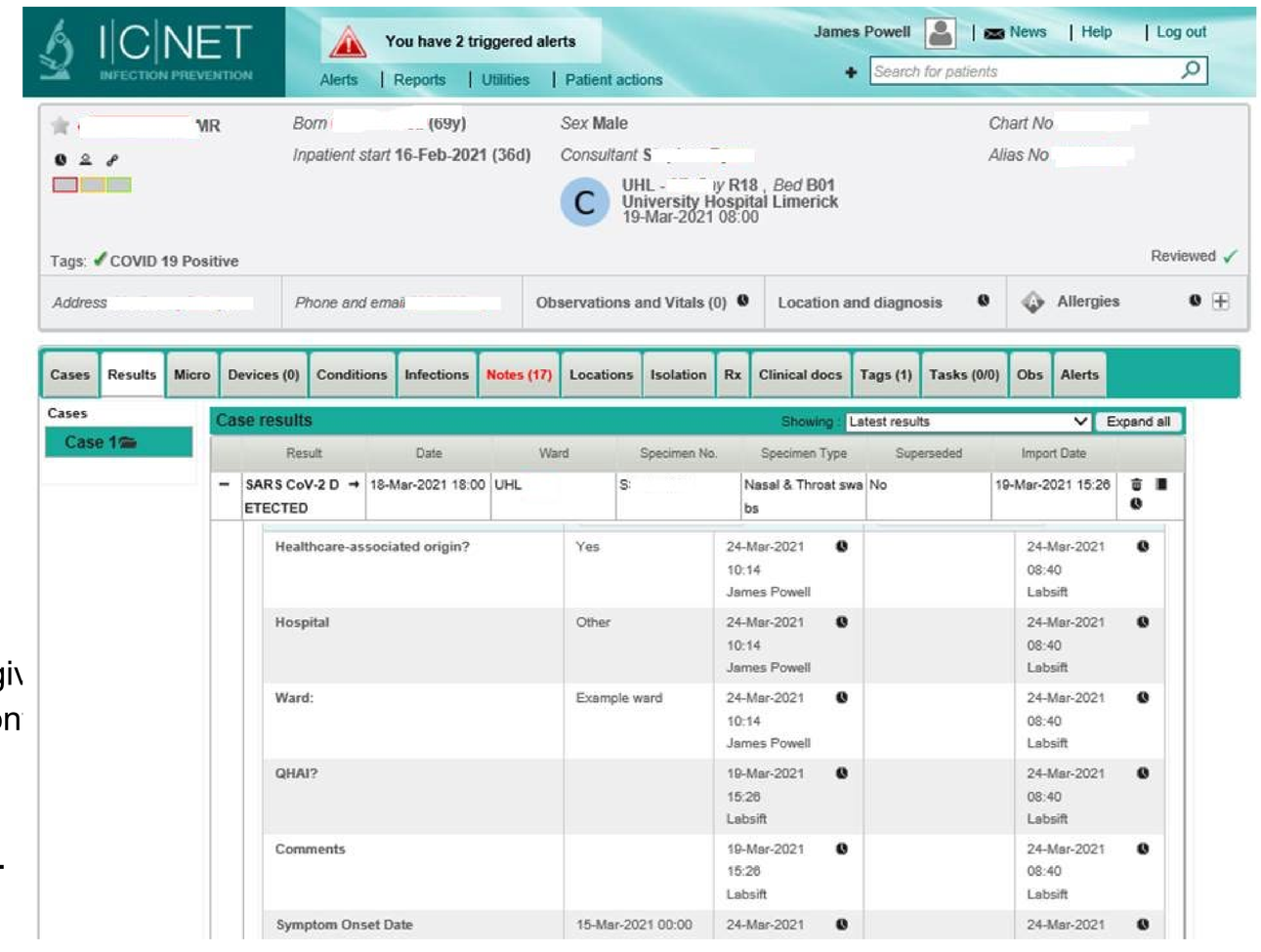
ICNET (Baxter Healthcare Ltd) clinical surveillance software holds almost 20 years of experience supporting infection prevention and control programmes in over 1,200 healthcare premises worldwide. It was installed in UL Hospitals in 2009, the first site in Ireland to use specialised commercial IP&C software. Since then, Tralee, Saolta Group and Tallaght University Hospitals have invested in ICNET and there exists a national framework available for its purchase.

ICNET works on the principal of live interface feeds coming from the Laboratory Information Management System (LIMS) and the Patient Administration System (PAS).

The LIMS feed allows alert organisms (based on the organism name or by its antimicrobial resistance pattern) to "tag" a patient either temporarily or permanently.

The PAS feed means that alerts can be triggered when:

- A person with an alert organism is admitted to the hospital.
- An in-patient is detected with an organism.
- More than one patient from a hospital ward or area is detected with an organism.
- The PAS feed also means that reports can be run based on the locations of current and historical patient locations



EXAMPLES OF ICNET IN USE FOR MONITORING COVID-19

1. Counting in-house tests performed.

We use an ICNET report to count in-house tests. Once set up, one click will giv the test numbers in graphical and table format, in a per day, week or mon grouping.

2. "Result Pending" as an organism – "Query Covid" as a patient tag.

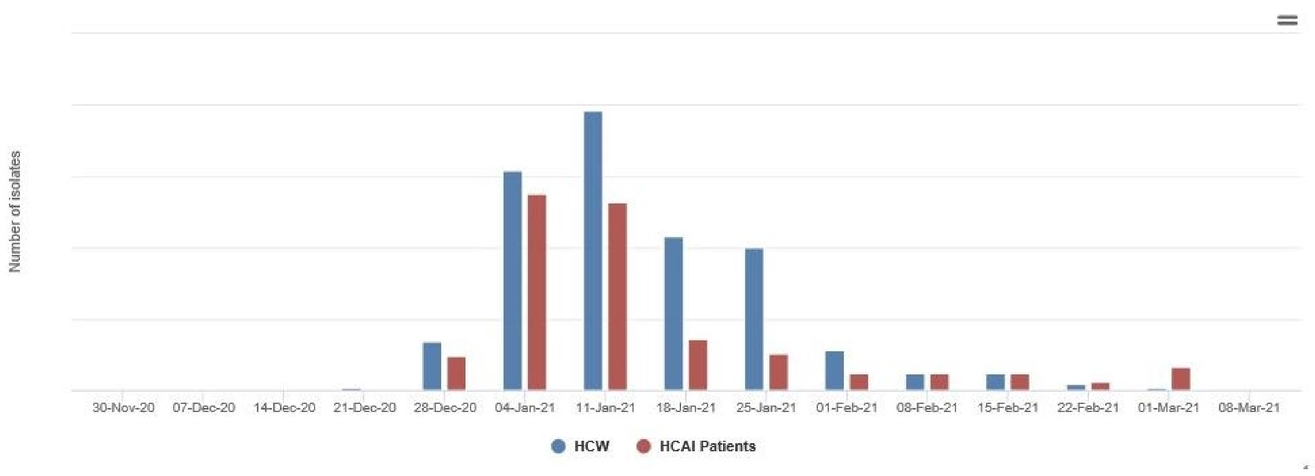
We set up a "pseudo-organism" called "result pending" for Covid which interfaces to ICNET whenever Covid tests are requested, allowing us to run reports on this metric. We also used these pending results to tag patients as "query covid". This was particularly useful in the early pandemic when only symptomatic individuals were tested. This tag prevented patients being moved to non-covid admission areas, reducing the risk of cross transmission. It also allowed immediate and accurate calculation of numbers of query covid patients in the hospital at any time. When testing of asymptomatic individuals became routine we instituted use of stickers on lab request forms to indicate why testing was required, and we were thus able to tag patients as either "query covid" or "covid tested". The "query covid" tag is manually removed when the test result is known, there was no way to automate this process.

3. "Covid Positive" Tagged Patients

All covid cases are tagged - including those with a positive test in the community; this is visible when they attend for care. In house tests will automatically tag patients, while those processed in other laboratories are added manually to the microbiology section of ICNET, which triggers the same rules for tagging as locally tested specimens. This became challenging during the third wave of infection due to high numbers of case notifications, often with inaccurate or missing demographics. We developed a semi-automated file upload system which uses the interface for lab samples to upload files of these externally tested samples, eliminating some manual entry.

4. Real-Time Epi-Curves

We manually add additional details to some covid cases: healthcare workers (HCWs) are tagged as such and have the hospital area they work in added. Likewise, patients with hospital acquired infection (HCAI). This permits us to draw real-time epi-curves of outbreaks for:
1) All hospitals in the group.
2) Outbreak wards within each hospital.
The links to these epi-curves can be added to the ICNET home page (dashboard) of any user for instant access.



CONCLUSIONS

ICNET has proven to be a very useful tool for counting tests, tracking query covid patients and covid positive patients and healthcare workers in UL Hospitals. The ability to generate automated and semi-automated reports was particularly convenient. Keeping codes and rules updated was a continuous process, as was data validation, but the benefits of the system far outweighed the shortcomings.

CONFLICT OF INTEREST

None of the authors have any affiliations with or any financial or non-financial interest in ICNET, Baxter Healthcare or any other software provider.