



## Improving Patient Safety and Care Quality: A Case Study on the New Upgrade of ICUCAS



### SOLUTION

InfoFlex ICU Clinical Audit System (ICUCAS)

### THE ICUCAS SOLUTION IS DESIGNED TO:

- Collect, validate, report, and securely transfer data to ICNARC to support the National ICU Audit

### DATA COLLECTED USING ICUCAS ENABLES PARTICIPATING HOSPITALS & NOCA TO:

- Benchmark patient outcomes to assess the quality of care in the ICU
- Use the ICU Clinical Audit to drive improvement in the quality-of-care for the sickest patients in the hospital
- Measure activity to inform configuration of Critical Care Services
- Provide data to support HIPE and AFBF
- Audit Health Care Associated Infection (HCAI)
- Audit the potential organ donors and organ donation

Since 2013, the National Office of Clinical Audit (NOCA) and the Health Service Executive (HSE) have partnered with DMF Systems to deliver its Intensive Care Unit Clinical Audit System (ICUCAS) across the public hospitals in Ireland.

DMF Systems delivers the ICU Clinical Audit System (ICUCAS) to enable Hospitals to collect, validate and securely transfer data to the Intensive Care National Audit and Research Centre (ICNARC) in the UK. ICNARC validate the data and return benchmarked reports to the Units and NOCA. These reports, on ICU activity and quality of care, are internationally benchmarked with units of a similar size and Casemix, e.g., Neurological ICU and Cardiothoracic Units.

The Irish National ICU Audit gathers two types of data from participating units throughout Ireland. The ICNARC dataset and the NOCA dataset. Both the ICNARC and NOCA dataset are supported by local databases in each hospital. These databases will be consolidated into a single ICU National Database as part of the objectives of National ICU Audit within 2023.

### COVERAGE

- 2013 to 2022: 22 public hospitals across 26 Units in Ireland.
- 2023: 25 hospitals and 29 Units participating in the Audit.
- Future: The system allows the addition of the Private hospital ICUs in the future.

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## BACKGROUND & BENEFITS OF THE ICUCAS UPGRADE:

The ICUCAS was developed in 2013 by DMF and customised for ICU Audit use in Ireland. The National roll out to hospitals began in 2015 with one development site. Expanded over time to incorporate 22 hospitals. The ICUCAS dataset was updated with the latest ICNARC and NOCA dataset in 2021 and went live in 2022.

- These changes have aligned the INICUA Dataset with the CMP dataset in the UK and updated the medical terminology and treatments
- During the design/ build and system upgrade, special attention was given to the data flow within InfoFlex to facilitate data entry for the user. Lessons learnt from 25 hospitals were incorporated in the changes
- The underlying server infrastructure and database distribution was scaled and upgraded to allow for future data growth
- This new version of the dataset allows for extraction of data to Platform X the ICNARC secure repository. This streamlines validation and speeds up the delivery of quarterly and annual reports.
- Part of this upgrade process involved the streamlining of pre-formatted reports and an extension of the Library of Queries
- DMF have developed a solution for a single configuration rollout to all hospitals within a short time window, reducing downtime for users

*"We are pleased with the completion of the ICUCAS upgrade within InfoFlex. The inclusion of these changes have fully aligned the INICUA Dataset with the UK dataset while also updating medical terminology and inclusion of new treatments. We welcome the speedy validation process, allowing timely quarterly and annual reporting.*

*While there have been valuable enhancements to the solution, the user interface has remained similar resulting in a smooth transition for ICUCAS users.*

*We continue to work as a team with DMF to support improvement in the quality of data to monitor the care for the sickest patients in the hospital"*

**NOCA ICU Team**

## LATEST ICUCAS DEVELOPMENTS

The latest version of ICUCAS has delivered many enhancements to the solution in particular an improved way of extracting the ICNARC Dataset and transferring the data via Platform-X to ICNARC. The upgrade also delivers an improved data collection process for ICUCAS users, with a new dataflow incorporating the changes to the dataset. Although the upgrade included improved data flow and the addition of new fields, the user interface remains similar. As a result, user uptake has been excellent as ICUCAS users remain comfortable with the solution.

*"We are particularly proud of the involvement of clinical stakeholders in the development process, which has led to a system that is both comprehensive and user-friendly. Additionally, the improved data accuracy and completeness that the ICUCAS solution delivers. And to top it all, we have made a successful delivery to 22 different hospitals across Ireland"* shares Declan FitzGerald, Managing Director, DMF Systems.

## ABOUT DMF SYSTEMS:

DMF Systems specialise in Healthcare Informatics. We provide a complete range of ICT services for Hospitals and other Healthcare facilities. In operation since 1998, we have built up a vast amount of knowledge and experience. Our approach and advice are backed-up with best practice (we have held ISO9001 accreditation since 2006).

We work with all of the major Hospitals and Clinics throughout Ireland, both Private and Public. We provide all the services required for successful systems integration, including requirements analysis, technical design, product selection, development, implementation and support.

We're the single largest carrier of diagnostic information in Ireland and experts in the area of integration. Our success to date has been built on partnerships with our clients and a joint developmental approach to ensure the highest standards in quality and customer satisfaction.

DMF Systems was awarded the Laboratory Supplier of the Year at the 2021 Irish Lab Awards.