

Digitising infection control surveillance:

Reducing time spent on healthcare associated infection surveillance using a digital dashboard: A multisite, quality improvement initiative

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Townsville
Hospital
and Health
Service

Acknowledgement of country



Queensland
Government

Infection control patient dashboard

Background

- 750 bed tertiary referral hospital and 9 regional health facilities
- Extensive geographical catchment area
- Infection prevention and control team services all facilities within THHS
- Nursing Director
- 2 FTE Clinical Nurse Consultant
- 2 FTE Administration officer (Including senior AO)
- 5.29FTE Clinical Nurses
- 2 FTE Infection Control officers (Respiratory Fit Testing)



Infection control patient dashboard

Townsville Hospital and Health Service



**Townsville
Hospital
and Health
Service**

Infection control patient dashboard



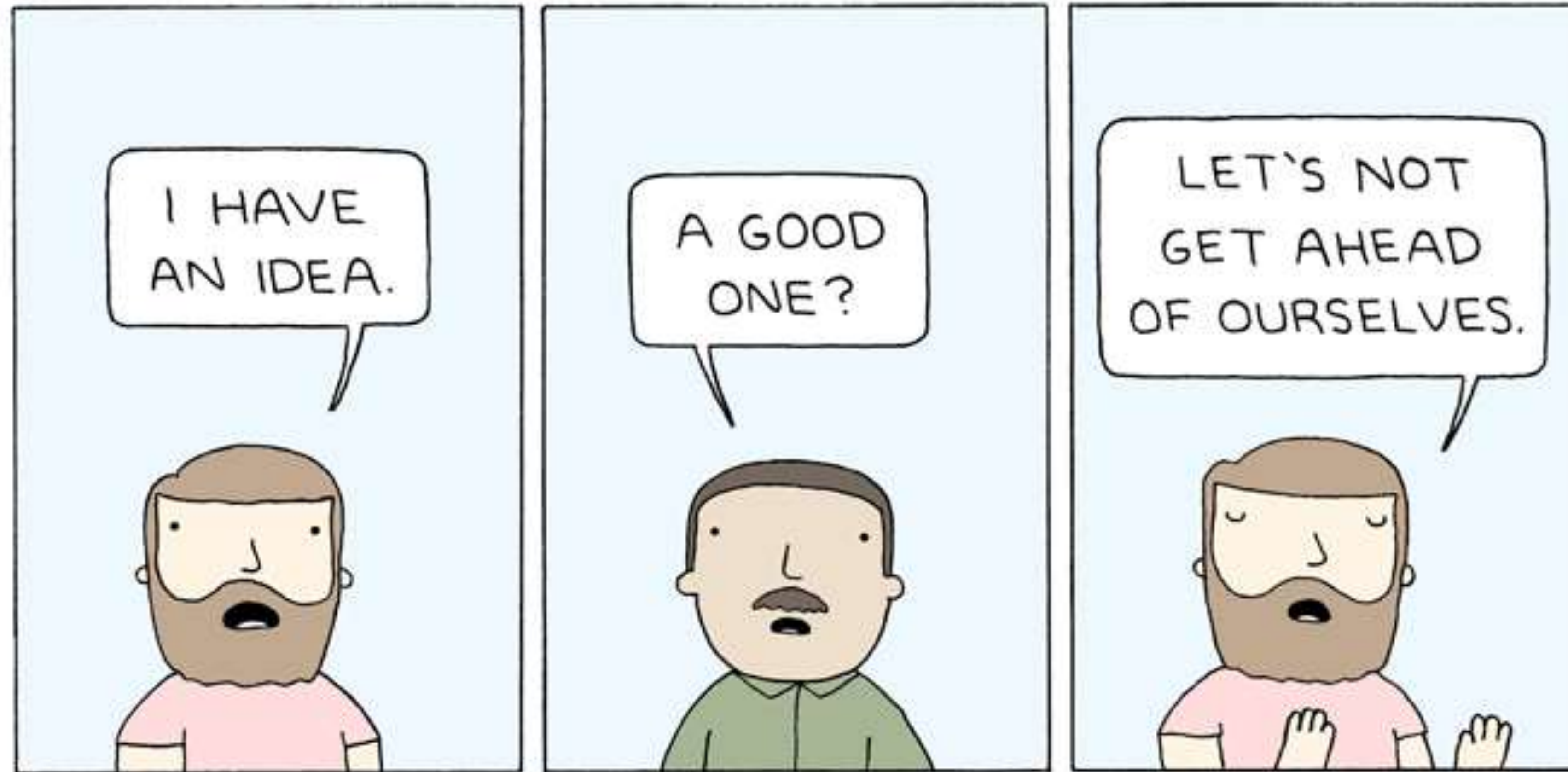
Up to 49% of our working day was spent on routine surveillance, instead of at the bedside

Infection control patient dashboard

| Missing Pt Identifier | | 0 | | Total patients on list | | 99 | | Total number New patients | | 10 | | Total Number of New Isolates | | 4 | |
|---|---------|----|--------------|------------------------|--------|------------------|-------------------|---------------------------|-------------------|---|---------------------|------------------------------|-----------------|---|--|
| Step 1 Copy to month | Step 2 | UR | Patient Name | Step 3 Sort | Bed no | Precautions | Micro Organism | Micro Organism | Micro Organism | History | Screening status | Date | Comments | | |
| CARDIAC CENTRE (Prev TCARD & CCU) 33507 NUM 33579 CARD SC 33565 CCU SC SR = 13,14, 15,16, 17, 18, 19, 20, 21, 22, 23, 24 DR = 33/34 & 35/36 | Pt New | | | | 13 | Contact | ESBL (E. c.) | | | 27/07/2019 ESBL (E. coli) Urine [11/04/22] | | | | | |
| | Nil | | | | 16 | Droplet /Contact | Flu - Other | | | 13/09/2023 Parainfluenza 3 | | | | | |
| | Nil | | | | 17 | Contact | nmMRSA | | | 29/09/2010 nmMRSA wound | | | | | |
| | Nil | | | | 18 | Contact | MRSA | | | 25/02/1998 MRSA wound | | | | | |
| | Pt New | | | | 24 | Contact | VRE | | | 11/07/2023 VRE (E. faecium) vanB Colonised | | | 15/09 Education | | |
| IDW SC 31252 NUM 37749 NP 1-6 SR 7&8, 9 10-13 bay | Iso New | | | | 1 | Droplet /Contact | nmMRSA | Other | | 06/09/2023 nmMRSA BC 14/09/2023 Rhinovirus | | | | | |
| | Nil | | | | 2 | COVID-19 | COVID-19 | | | 11/09/2023 COVID-19 Day 4 | | | | | |
| | Nil | | | | 6 | Droplet /Contact | Flu - Other | | | 11/09/2023 Parainfluenza 3 | | | | | |
| | Nil | | | | 7 | Droplet /Contact | Flu - Other | | | 28/08/2023 Parainfluenza 3 [07/09/2023] | | | | | |

- Time consuming and manual process (up to 3 hours of nursing time per day)
- Retrospective data
- Limited visibility across health service
- Prone to human error
- Completed only during business hours Monday to Friday

Infection Control Patient Dashboard



poorlydrawnlines.com

Infection Control Patient Dashboard

Project aims:

- Reallocation of ICP time
- Increase visibility of inpatients with infection control alerts
- Contact tracing feasibility and early identification of potential outbreaks
- Early identification of appropriate placement for patients and limit unnecessary patient bed movements
- Digitisation of a manual process
- More holistic service- driven by consumer focus



Infection Control Patient Dashboard

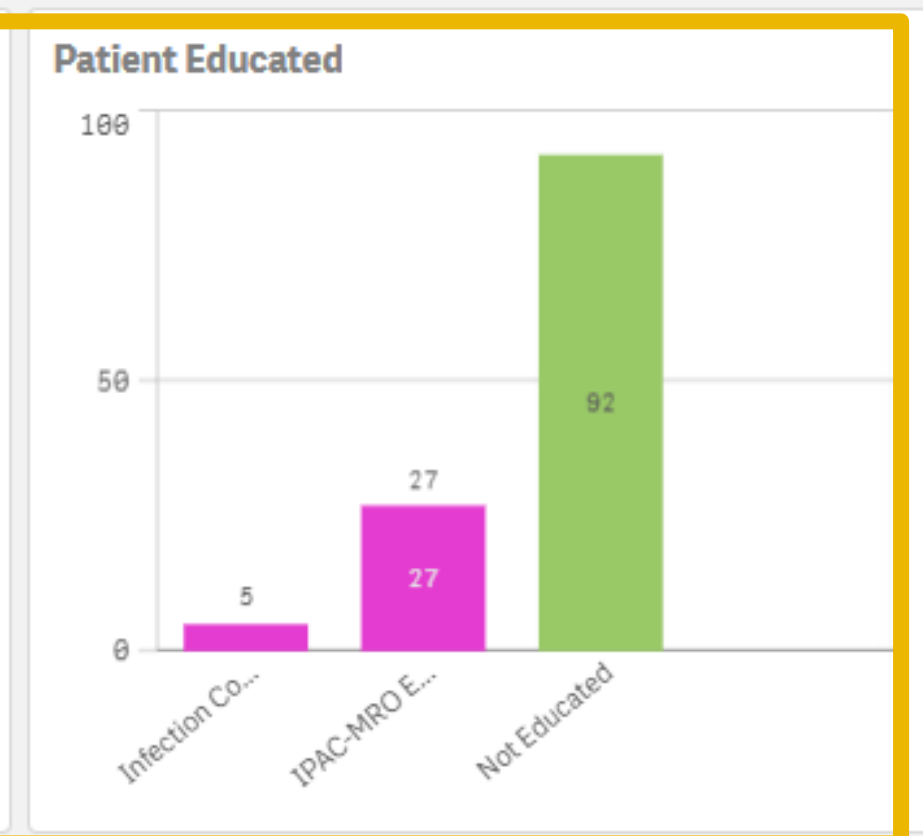
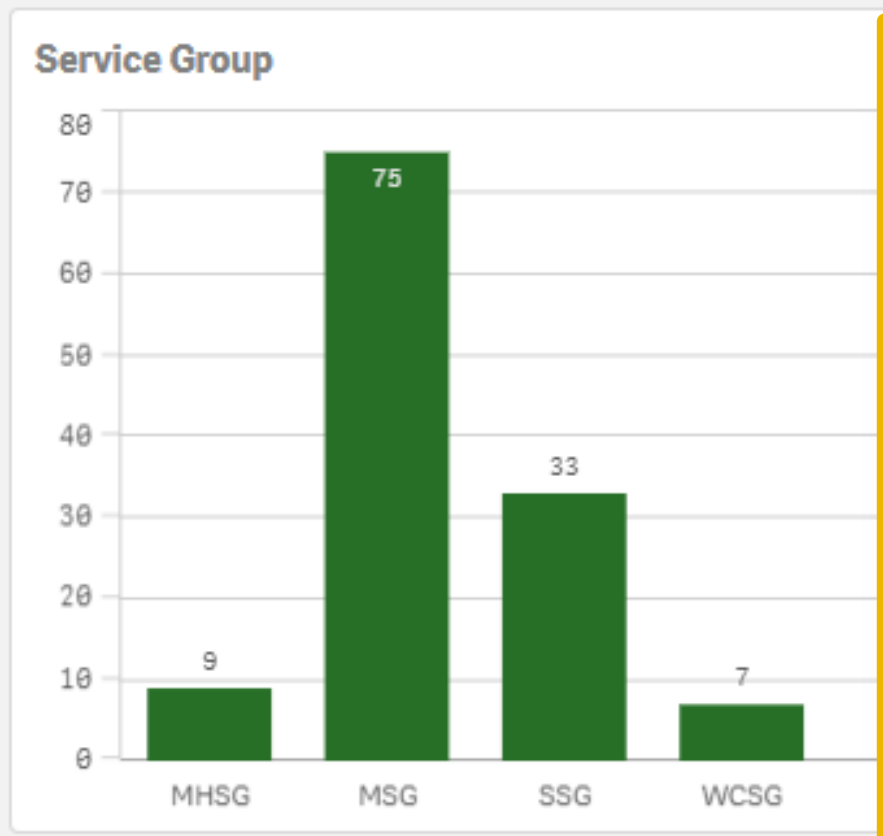
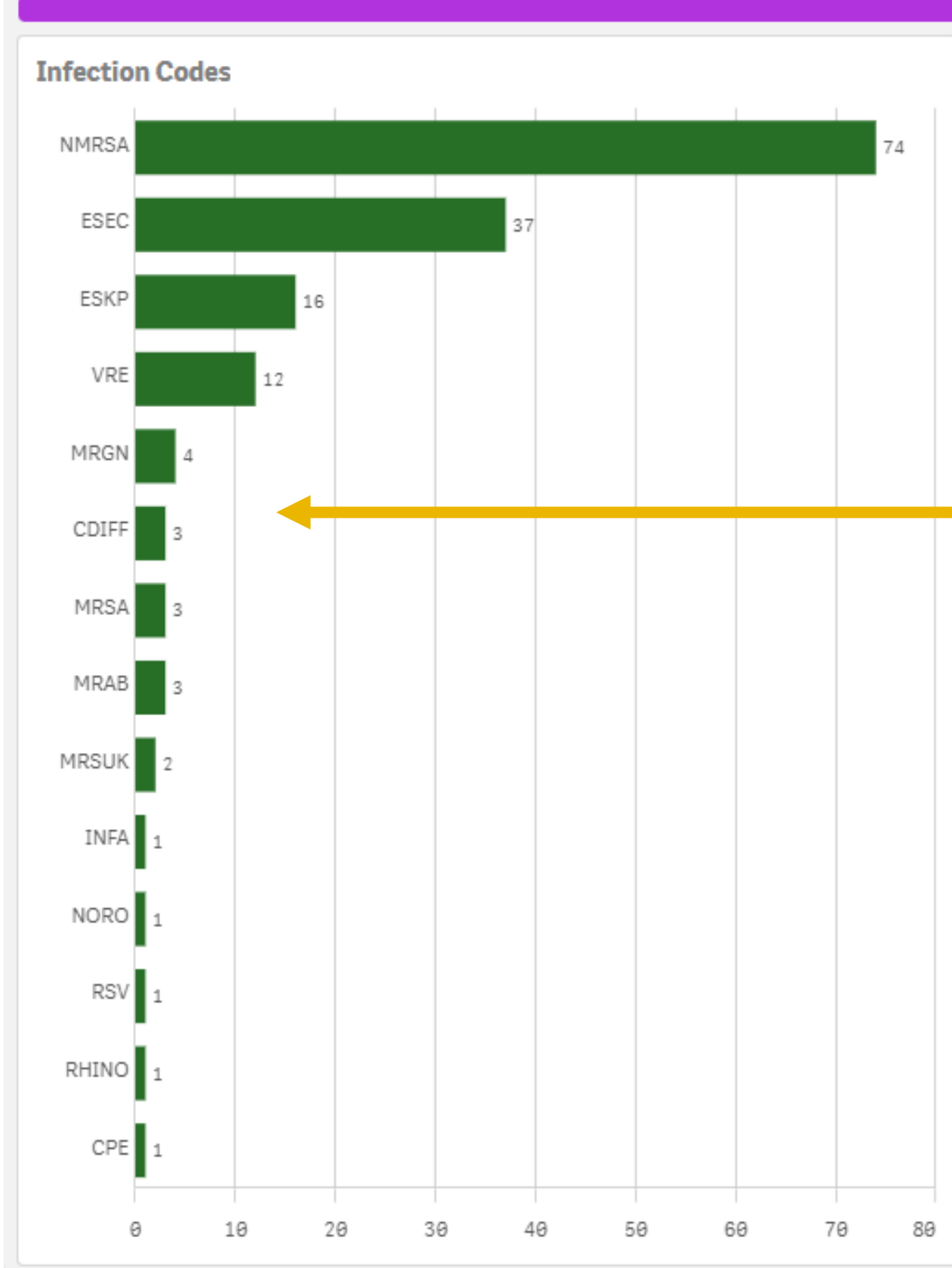
Qlik Analyze Sheet Narrate Storytelling IPC

No selections applied

Bookmarks Sheets

Infection Control Patient Dashboard

Patients: 124
Total Influenza: 1
Total SARS-COV-2: 0
SR Occupancy (IC Alerts): 16.5%
SR Occupancy (All): 77.7%
Go to sheet
Clear all selections
Last Reload: 11/11/2025 1:47:36 PM



Single Room Summary

| | | Beds | IC Alert | Not IC Alert | Vacant | |
|-------|---------------|---------------|-----------|--------------|-----------|-----------|
| MHSG | Totals | 67 | 8 | 41 | 18 | |
| | TACHD | 8 | 1 | 5 | 2 | |
| | TACLD | 26 | 3 | 21 | 2 | |
| | TAIUDS | 8 | 0 | 4 | 4 | |
| | TPSR | 25 | 4 | 11 | 10 | |
| MSG | Totals | 96 | 16 | 68 | 12 | |
| | TDRUD | 2 | 0 | 1 | 1 | |
| | TMAAU | 7 | 2 | 3 | 2 | |
| | TMAAUS | 4 | 0 | 4 | 0 | |
| | TMIDW | 9 | 1 | 4 | 4 | |
| | TMREH | 7 | 1 | 4 | 2 | |
| | TMW1 | 9 | 2 | 7 | 0 | |
| | TMW2 | 15 | 3 | 11 | 1 | |
| | TMW4 | 4 | 1 | 3 | 0 | |
| | TMW5 | 5 | 1 | 4 | 0 | |
| | TMW5S | 5 | 1 | 4 | 0 | |
| SSG | Totals | 53 | 14 | 30 | 9 | |
| | TCARD1 | 8 | 1 | 6 | 1 | |
| | TCCU | 4 | 0 | 3 | 1 | |
| | TICU | 11 | 4 | 3 | 4 | |
| | TSCDU | 12 | 2 | 10 | 0 | |
| | TSG1 | 4 | 1 | 3 | 0 | |
| | TSG2 | 10 | 6 | 3 | 1 | |
| | TSG3DC | 4 | 0 | 2 | 2 | |
| | WCSG | Totals | 41 | 5 | 20 | 16 |
| | | TBIR | 10 | 0 | 5 | 5 |
| TOBS | | 10 | 1 | 7 | 2 | |
| TPAED | | 13 | 4 | 6 | 3 | |

Infection Control Patient Dashboard

Qlik Analyze Sheet Narrate Storytelling IPC

No selections applied Bookmarks Sheets

Infection Control Patient Dashboard - Patient Details

Patients **128**

Search: CurrWard: AGEN CTCCU

Search: SingleBed?: No Yes

Sheets to Navigate

Go to sheet **Clear all selections**

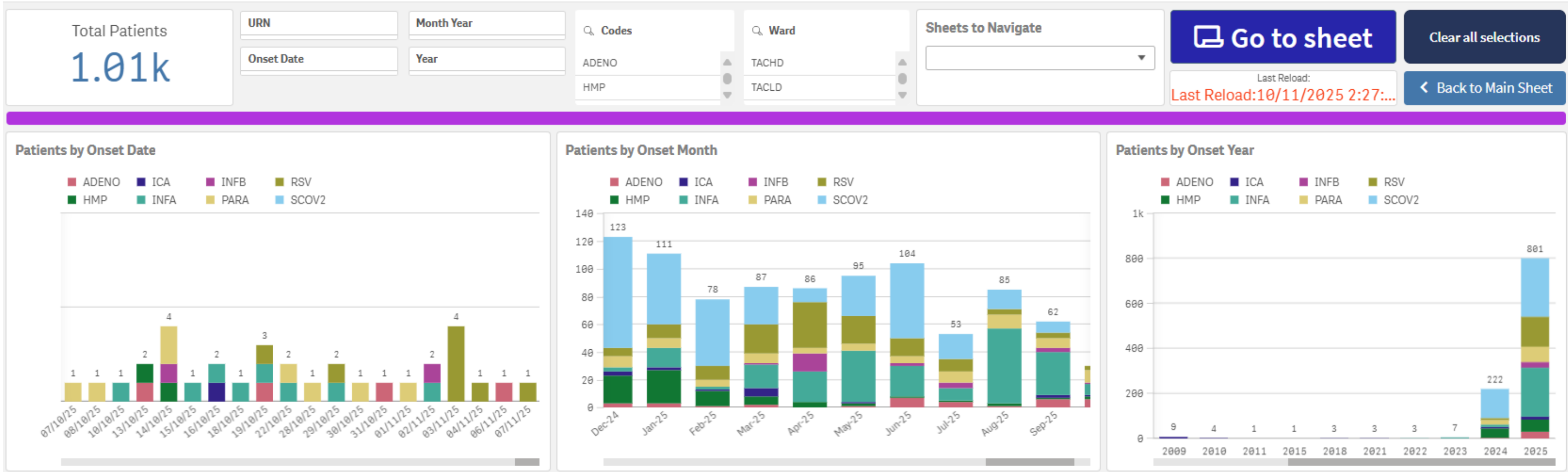
Last Reload: 10/11/2025 2:27:33 PM **Back to Main Sheet**

Right-Click table and select: Download as > Data

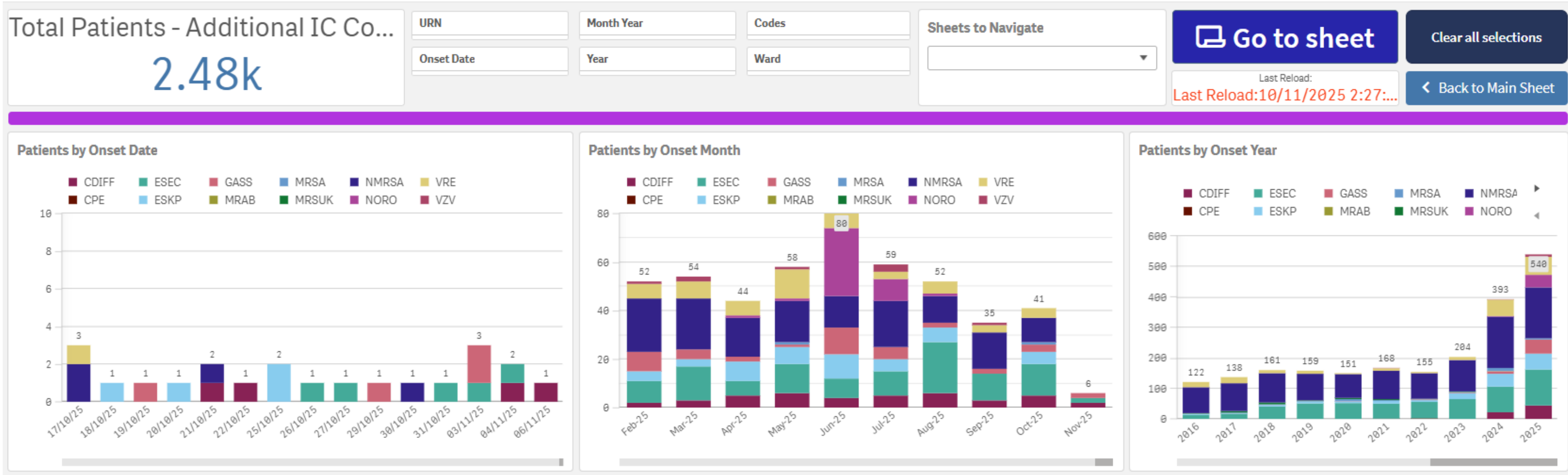
| URN | Name | Ward | Bed No | SingleBed? | Admit Date | History | Transmission | Patient Educated | IPAC |
|-----|------|-------|--------|------------|------------|--|--|------------------|---------------------------------|
| | | TMREH | 26 | No | 16/10/2025 | 11/10/2007 MULTI RESISTANT STAPH AUREUS | MRSA: Contact | Yes | Infection Control-CN-Ward Round |
| | | TMREH | 18 | No | 20/10/2025 | 28/02/2010 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TONC | 1 | Yes | 06/11/2025 | 15/12/2024 VANCOMYCIN RESISTANT ENTEROCOCCUS | VRE: Contact | Yes | IPAC-MRO Education |
| | | TONC | 3 | Yes | 08/11/2025 | 12/07/2025 MULTI RESISTANT GRAM NEG ORGANISM; 21/04/2025 VANCOMYCIN RESISTANT ENTEROCOCCUS | MRGN: Contact; VRE: Contact | Yes | IPAC-MRO Education |
| | | TPAED | 28 | Yes | 31/10/2025 | 02/11/2025 NOROVIRUS | NORO: Enteric | No | Not Educated |
| | | TSTTA | S16 | Yes | 10/11/2025 | 01/09/2023 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TWAA | - | No | 10/11/2025 | 06/10/2025 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW4 | 36 | No | 06/11/2025 | 23/09/2021 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW4 | 19 | No | 22/09/2025 | 10/02/2020 EXT SPEC BETA-LACTAMASE E COLI; 17/12/2020 NON-MULT RESIST STAPHYLOCOCCUS AUREUS; 22/06/2023 EXT SPEC BETA LACTAMASE K PNEUMONIAE | ESEC: Contact; ESKP: Contact; NMRSA: Contact | Yes | IPAC-MRO Education |
| | | TMW4 | 25 | No | 18/10/2025 | 09/10/2022 EXT SPEC BETA-LACTAMASE E COLI | ESEC: Contact | Yes | IPAC-MRO Education |
| | | TMW4 | 3 | Yes | 23/05/2025 | 07/04/2025 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW4 | 10 | No | 07/11/2025 | 14/12/2018 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW4 | 14 | No | 06/11/2025 | 13/06/2023 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW5 | 24 | Yes | 17/10/2025 | 07/10/2025 EXT SPEC BETA-LACTAMASE E COLI | ESEC: Contact | No | Not Educated |
| | | TPAL | 8 | No | 05/11/2025 | 08/04/2019 EXT SPEC BETA-LACTAMASE E COLI | ESEC: Contact | No | Not Educated |
| | | TPAL | 10 | No | 07/11/2025 | 23/06/2025 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TPAL | 17 | Yes | 04/11/2025 | 21/07/2024 VANCOMYCIN RESISTANT ENTEROCOCCUS | VRE: Contact | No | Not Educated |
| | | TPAL | 15 | Yes | 07/11/2025 | 10/09/2022 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | Yes | IPAC-MRO Education |
| | | TMW2 | 77 | No | 31/10/2025 | 04/02/2014 VANCOMYCIN RESISTANT ENTEROCOCCUS; 27/02/2014 EXT SPEC BETA LACTAMASE K PNEUMONIAE | ESKP: Contact; VRE: Contact | No | Not Educated |
| | | TMW2 | 79 | Yes | 05/11/2025 | 24/10/2013 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW2 | 83 | Yes | 01/11/2025 | 16/11/2022 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW2 | 34 | Yes | 05/11/2025 | 12/08/2010 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | NMRSA: Contact | No | Not Educated |
| | | TMW2 | 80 | Yes | 08/10/2025 | 22/10/2025 CLOSTRIDIUM DIFFICILE; 23/07/2017 NON-MULT RESIST STAPHYLOCOCCUS AUREUS | CDIFF: Enteric; NMRSA: Contact | No | Not Educated |

Infection control patient dashboard

Infection Control Patient Dashboard - Short term alerts

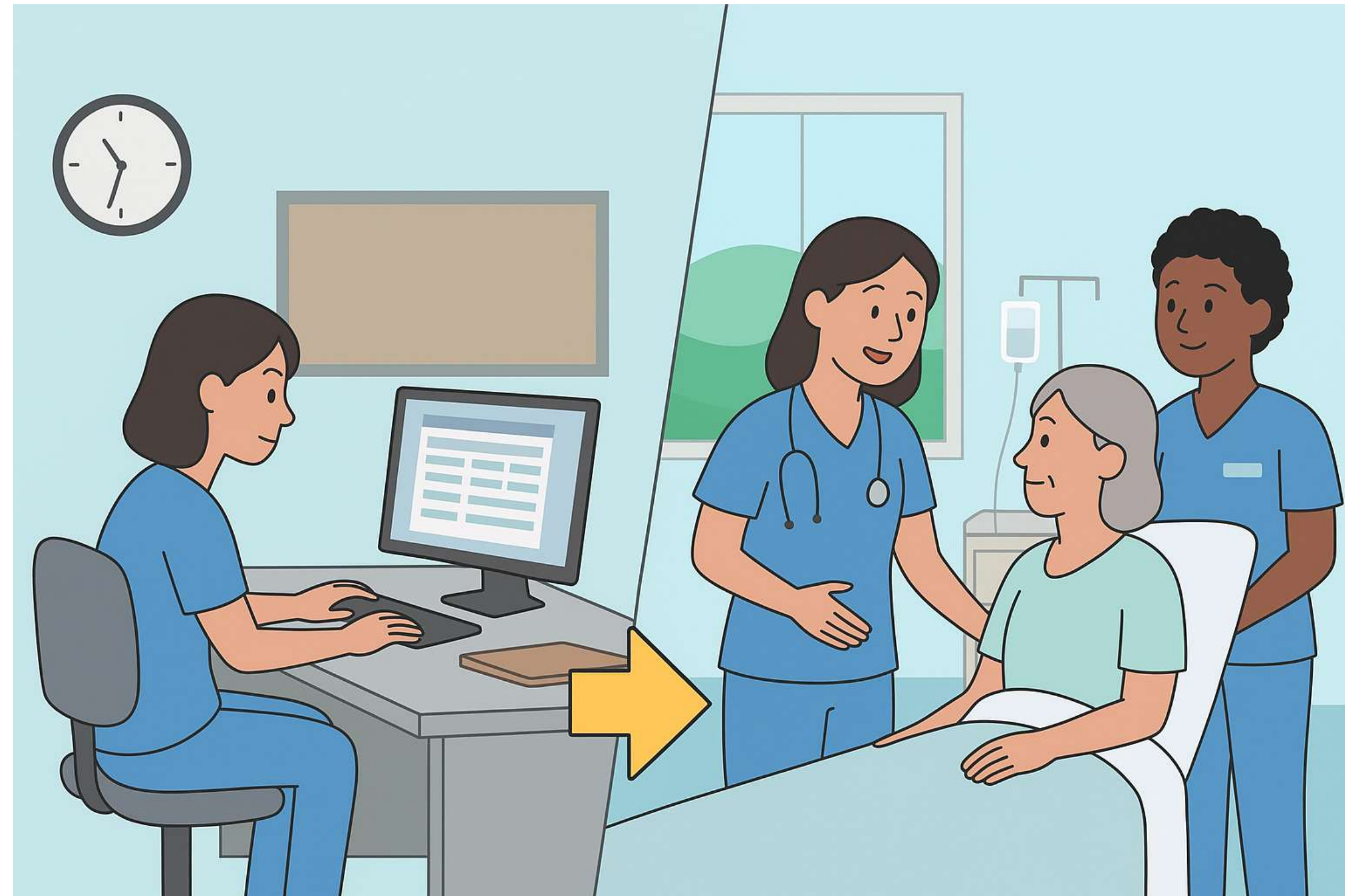


Infection Control Patient Dashboard - Long term alerts



Infection control patient dashboard

Implementation and Results



Dashboard implementation reduced surveillance burden and workload, improved ICP patient-facing activity, enhanced consumer education, strengthened staff engagement, and increased capacity for real-time targeted risk assessment

Infection Control Patient Dashboard

Challenges

- Change management
- Marketing of dashboard
- Data limitations



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