



# Reducing MRO Infection Status Burden in a Urologic Patient Population

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## Project Abstract

Negative effects of unnecessary isolation precautions have been well-established in literature. Patients with a multi-drug resistant organism (MRO), an organism non-susceptible to 3 antibiotic classes, have an infection status placed in their electronic medical record for a minimum of six months per our policy, and require contact isolation. The Infection Prevention and Control (IP&C) department did not have a system in place to systematically identify and remove these statuses leading to over-isolation of patients. Therefore, a sustainable process of removing infection statuses is necessary and gaps in MRO policy knowledge should be addressed.

We queried the number of patients consulted by the pediatric urology service from January 2018 to October 2022 and identified those with an infection status to establish a baseline measure. The infection statuses that were entered >6 months prior were reviewed for eligibility to be removed. Patients with a permanent indwelling device that was not re-cultured after an MRO was previously identified at that site or in the blood were considered ineligible for removal. An automated quarterly report and a standard review process were operationalized. Removal rates were calculated for proof of concept. IP&C presented in-person didactic education to urology providers on IP&C principles, transmission-based precautions, and MRO policy.

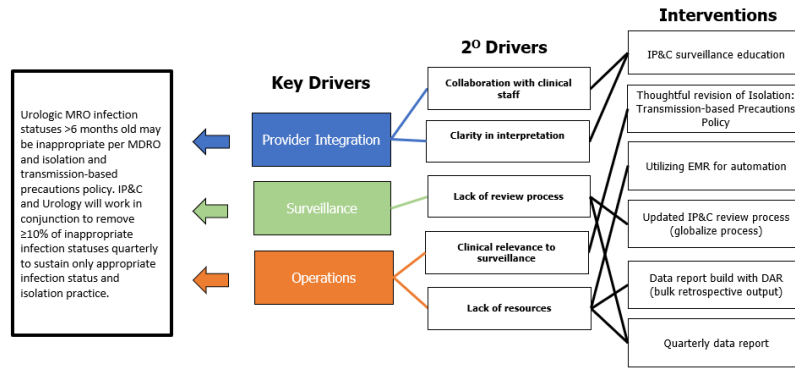
In our initial (MRO status entered 01/2018-10/2022) and second data query (MRO status entered 11/2022-06/2023), 120/135 (89%) and 63/130 (48%) infection statuses were removed, respectively. In total, we were able to appropriately remove MRO infection statuses from 69% of our pediatric urology patients from whom an MRO was cultured over a 5.5-year period. Through this investigation, we found many inappropriate infection statuses for urology patients leading to an undue burden of isolation precautions. In response, we are utilizing a standard surveillance process to mitigate this burden. Additionally, our pediatric urology clinicians are better equipped to interpret IP&C recommendations for patients.

## Logic Model

Gap/Need	Intervention	Target Population	Output Metrics	Process Metrics	Outcome Metrics	Balancing Metric
Clinical staff uncertain of infection status removal	Trained Urology staff to review MRO statuses in question	Urology clinical staff	Provide education to 75% of Urology clinical staff regarding IP&C Isolation: Transmission-based Precautions policy and Multi-Drug Resistant Organisms policy	Review 100% of MRO infection statuses from the standing quarterly report	Accurately indicate to IP&C ≥10% MRO infection statuses that can be removed	Urology clinical staff time and resources
Lack of data for review of MRO infection statuses	Implementation of standing MRO status report (quarterly)	Urology clinical staff and IP&C	Provide context to DAR for data need consistent with patient population.	DAR provides appropriate data report aligned with 6 defined criteria	Standing quarterly data report from DAR	DAR time and resources, IP&C time and resources, potential for missed MRO statuses
No defined process for infection status removal for patients not on inpatient census	IP&C removal of infection statuses	IP&C	Chart review: 100% of MRO infection statuses petitioned by Urology for removal	Remove 100% of MRO infection statuses that meet removal criteria according to IP&C policy	≥10% reduction of unnecessary MRO infection statuses in Urology patients quarterly	IP&C time and resources

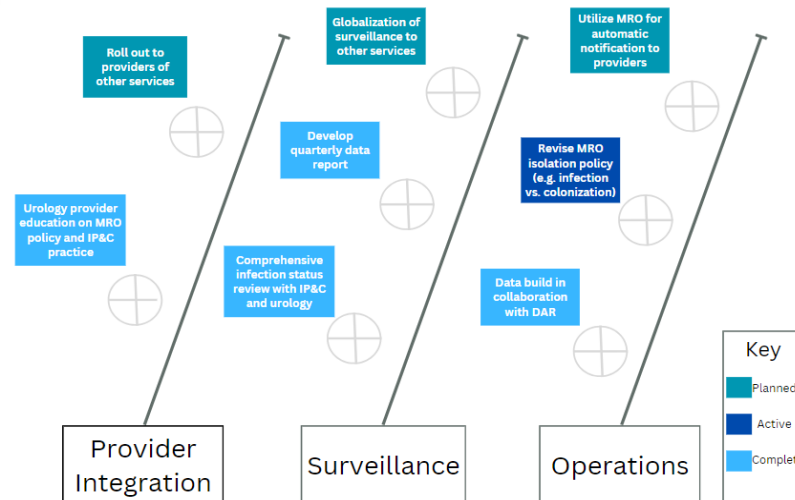
## Future State Design

### Key Driver Diagram

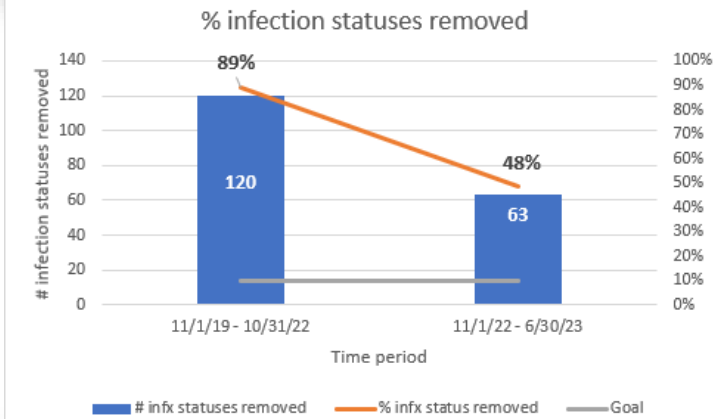


## Testing and Implementation

### PDSA Ramp



## Results



## Conclusions

### Lessons Learned

- The importance of broad collaboration in partnership with stakeholders
- Phasing the project is more beneficial to immediate solutions
- The importance of and barriers to gaining provider buy-in to ensure sustainability of the project

### Next Steps

- Expanding MRO policy and surveillance education to a wider audience
- Utilizing automation for efficiency
- Revising MRO policy with updated isolation procedures based on clinical guidance and providing education to the revisions

## References

- CDC (n.d.). *Multidrug-Resistant Organisms (MDRO) Management*. <https://www.cdc.gov/infectioncontrol/guidelines/mdro/index.html>
- Childers, C. P., MD, & Maggard-Gibbons, M., MD (2018). Understanding Costs of Care in the Operating Room. *JAMA Surgery*, 153(4). <https://doi.org/10.1001/jamasurg.2017.6233>

The authors have no disclosures to include.