Tap Water During Colonoscopy: A Safe and Environmentally Friendly Alternative

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Background

- Sterile water has historically been recommended for endoscopic procedures by infection control organizations such as SGNA and APIC.
- Updated ASGE guidelines permit the use of potable tap water for most endoscopic procedures.
- Published studies demonstrate no significant difference in post-procedural infection rates between sterile and tap water use.
- Routine sterile water use increases supply utilization, cost, and environmental waste.
- Transitioning to tap water may improve sustainability without compromising patient safety.
- We designed a prospective quality improvement initiative to evaluate tap water implementation during routine colonoscopy at our institution.

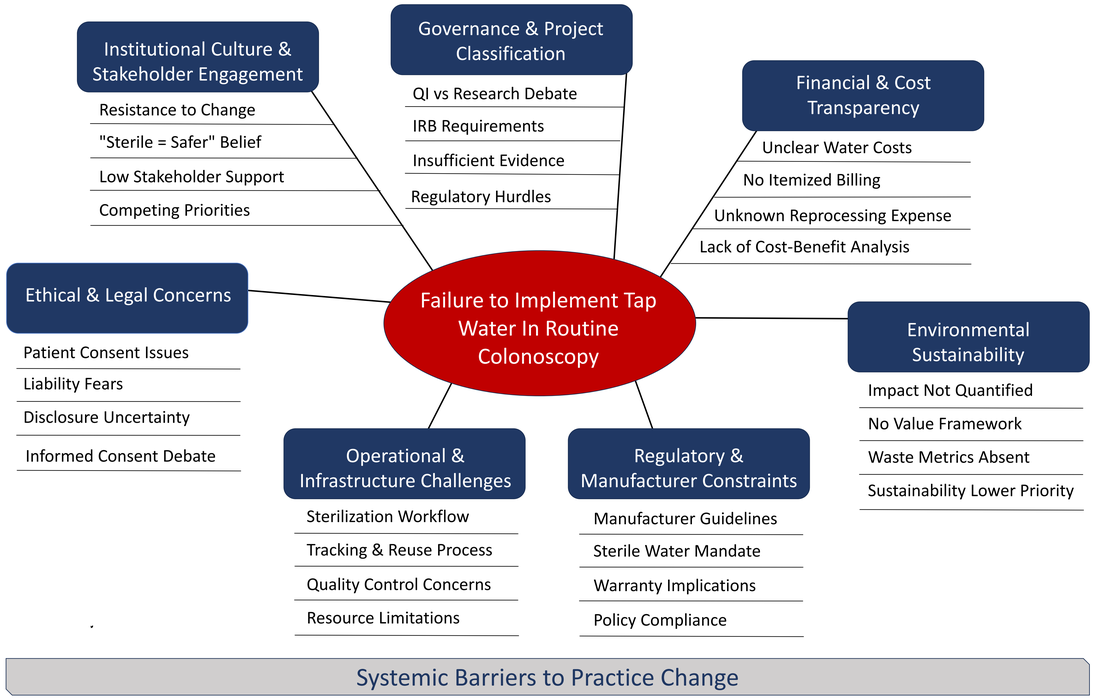
Primary Aim

- Evaluate the non-inferiority of tap water compared to sterile water for routine colonoscopy with respect to short-term adverse events.

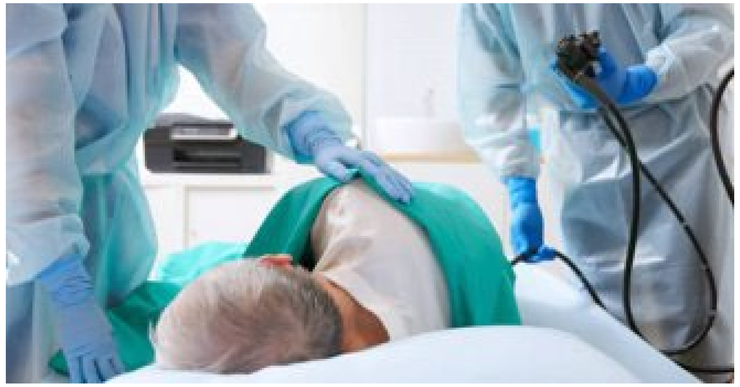
Implementation

- Prospective quality improvement initiative at Geisinger Community Medical Center (GCMC)
- Two endoscopy suites designated for transition to tap water use
- Use of reusable water bottles filled with potable tap water
- Reusable bottles to be sterilized via autoclave prior to use
- Statistical analysis planned using chi-square comparison of adverse event rates
- Anticipated enrollment: approximately 300 patients over a 6-month period
- Outcomes to be monitored through structured chart review and compared to historical sterile water controls
- Implementation was halted prior to data collection due to multiple system-level barriers identified through structured review and stakeholder discussion
- Potential Impact: >20,000 colonoscopies system wide and >2,000 at GCMC annually.

Root Cause Analysis



Systemic Barriers to Practice Change



Discussion

- **Although emerging specialty guidelines permit tap water use during endoscopy and existing literature suggests comparable safety, translating this evidence into institutional practice was significantly more complex than anticipated.**
- **Ambiguity in classifying the initiative as QI vs Research created regulatory uncertainty and increased administrative burden, ultimately slowing implementation.**
- **Institutional culture favored adherence to the historical sterile water standard, reflecting a broader tendency toward risk aversion when considering deviation from established practice.**
- **Medicolegal concerns, including questions regarding consent, disclosure, and financial responsibility in the event of infection, limited stakeholder support despite the absence of strong evidence demonstrating increased risk.**
- **Financial evaluation was hindered by lack of cost transparency, as sterile water expenses are embedded within global procedural billing and reusable processing costs are not easily isolated.**
- **Environmental sustainability, while conceptually beneficial, was not formally quantified or integrated into institutional decision-making frameworks.**
- **This experience underscores that practice change in healthcare requires alignment across governance, culture, financial infrastructure, regulatory interpretation, and sustainability priorities, not evidence alone.**

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