

Global perceptions on hand hygiene practices

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Background

Why Hand Hygiene (HH) Matters

- HH is a cornerstone of infection prevention and control (IPC)
- Healthcare-associated infections (HAI) increase morbidity, mortality, and healthcare costs
- Effective HH reduces microorganism transmission and can achieve **50–55% reductions in HAI rates** [1]

Hand Hygiene is simple, low-cost, and high-impact

The Compliance Problem

- Despite strong evidence and policy support, HH compliance remains **suboptimal**.
 - **High-income countries (HIC):** average compliance **<60%** [2]
 - **Low-income countries (LIC):** compliance reported as **low as 9%** [3]

Need to understand perceptions and attitudes toward Hand Hygiene practice

Aim of the Scoping Review

To locate published studies using **WHO hand hygiene perception surveys** and identify:

- Study methodologies and designs
- Geographical and economic regions
- Populations and healthcare settings
- Key findings on HH perceptions

Scoping Review - Methods

Framework and Tools used:

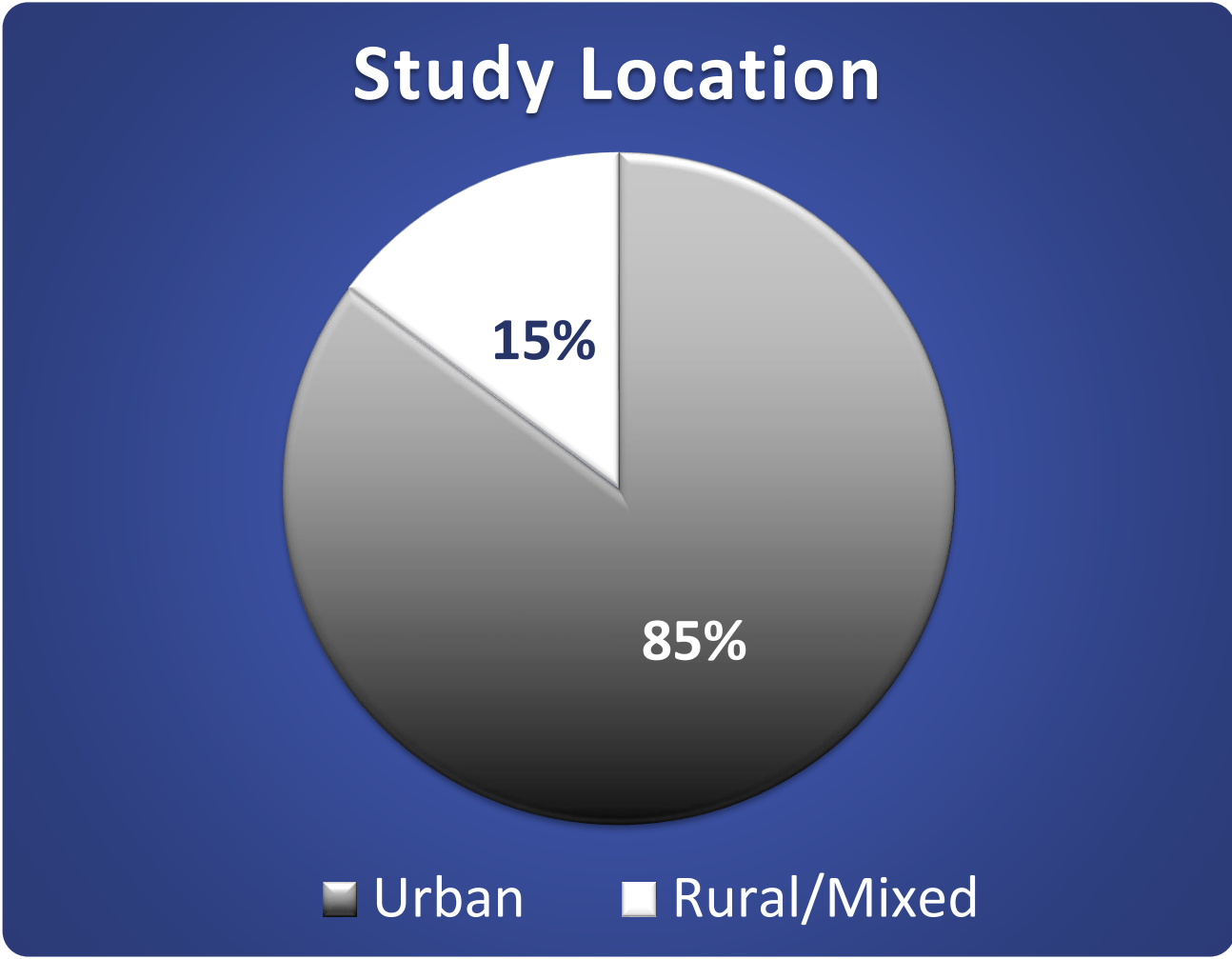
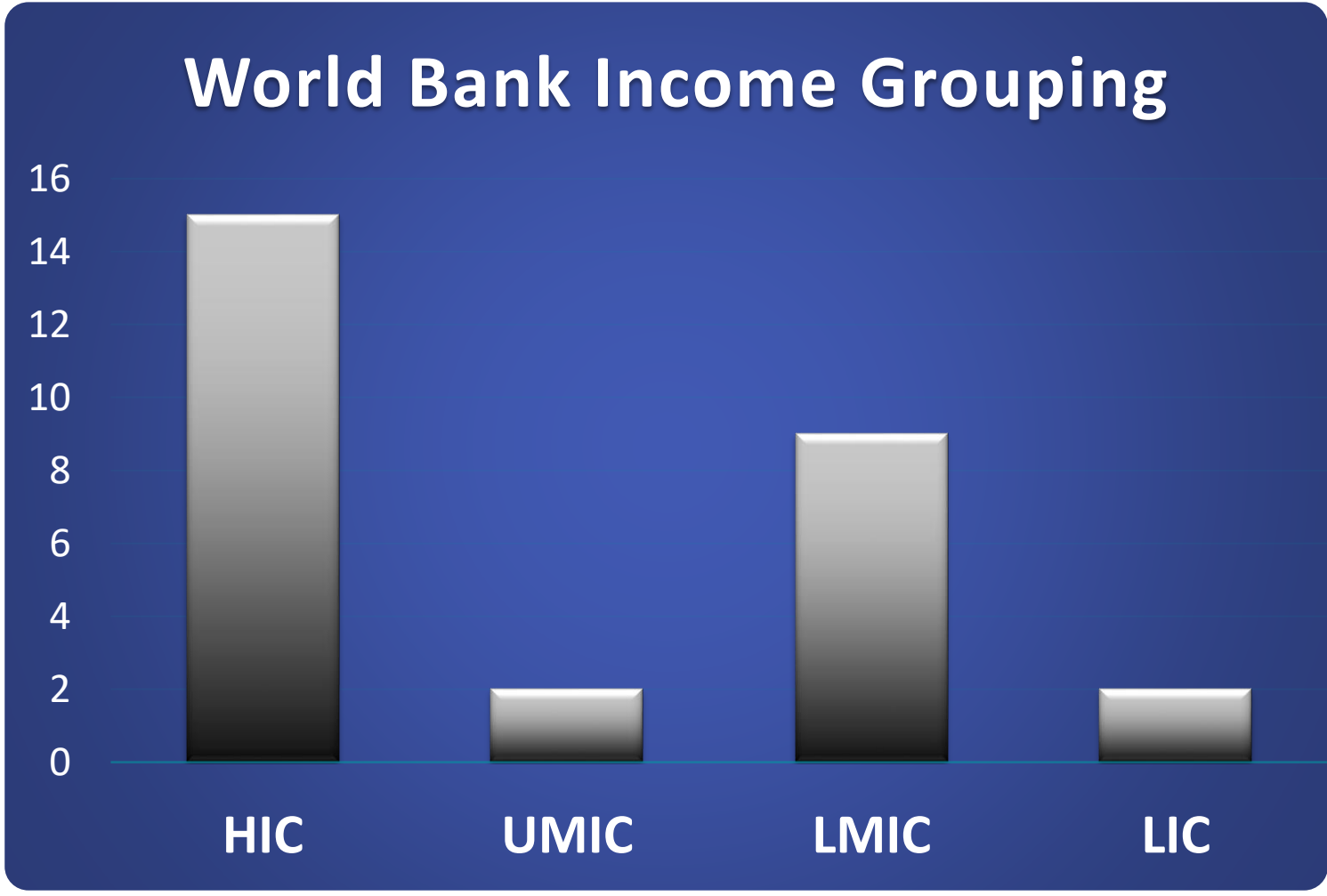
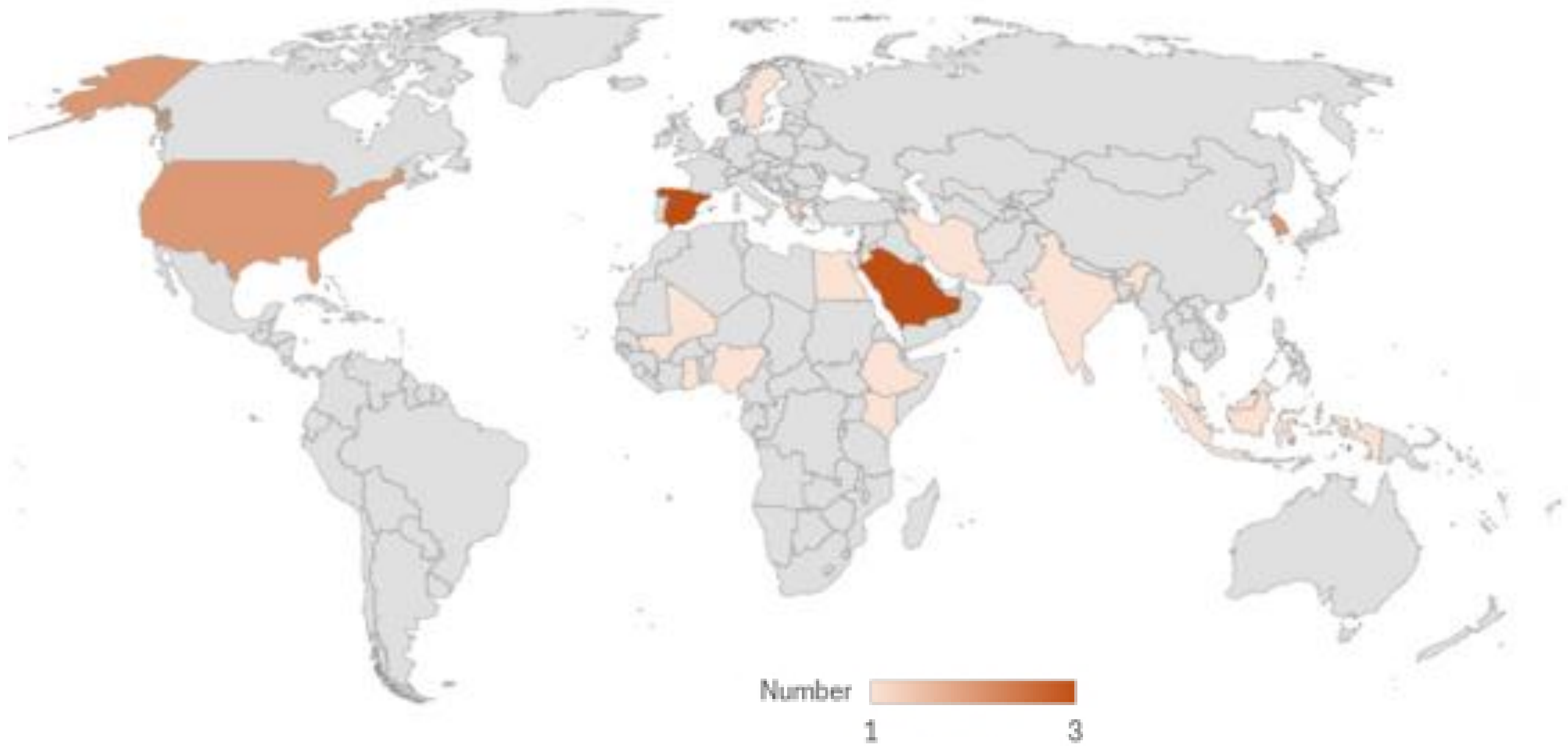
- Arksey & O'Malley Framework [4]
- PRISMA-Scr Checklist [5]
- Mixed Methods Appraisal tool [6]

Results – Settings & Populations

Survey Tools

- All studies used *Perception Survey for Health-Care Workers*
- **No studies** used the *Perception Survey for Senior Managers*→ **major evidence gap**

Geographical location of Studies

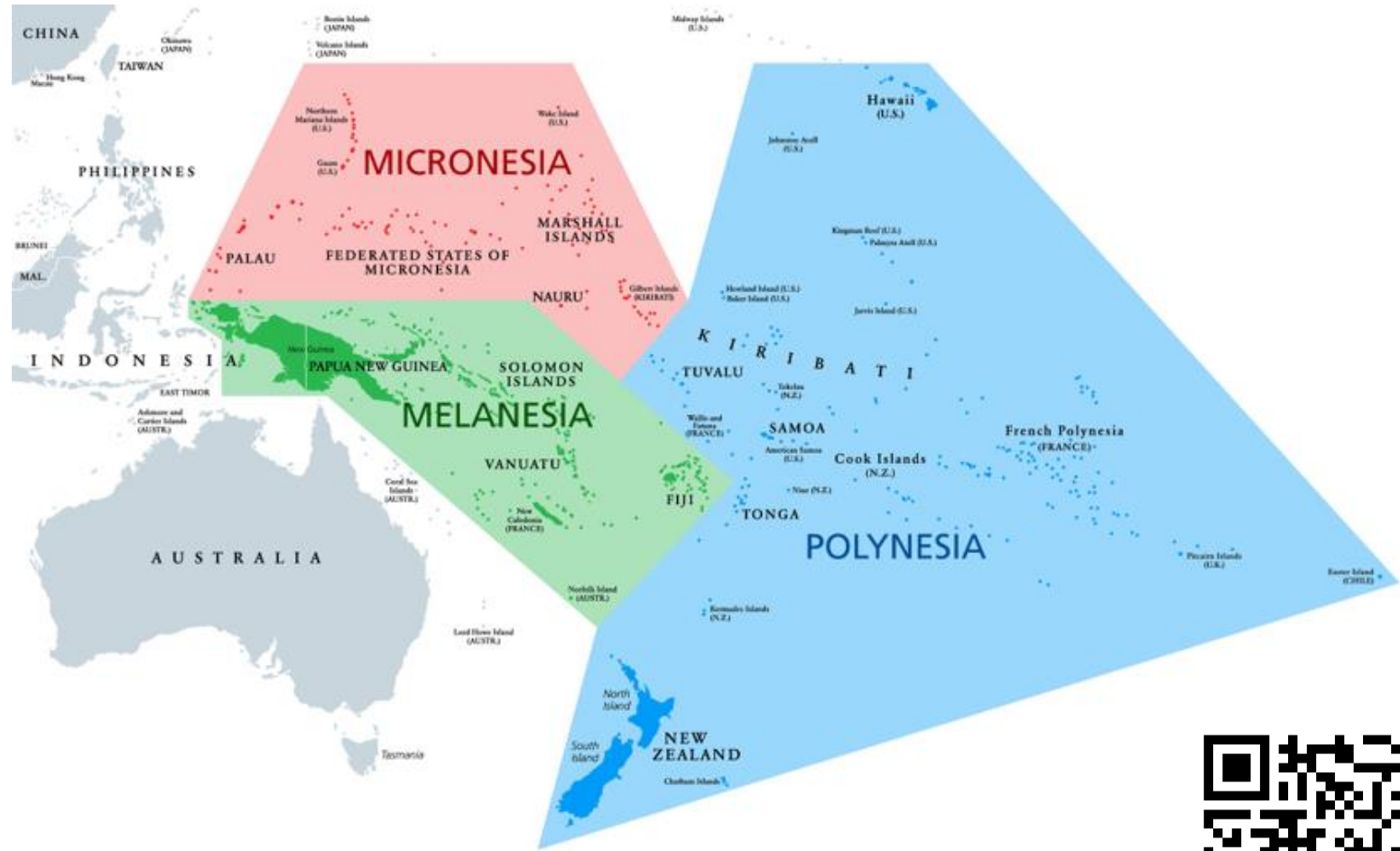


Pacific Island Countries and Territories Research

Project Context:

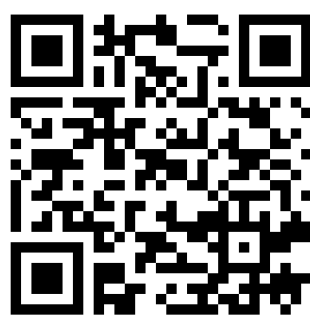
Mixed-methods study in PICT:

- Hand hygiene **perception surveys**
- **Qualitative interviews**
- National IPC program **assessments**

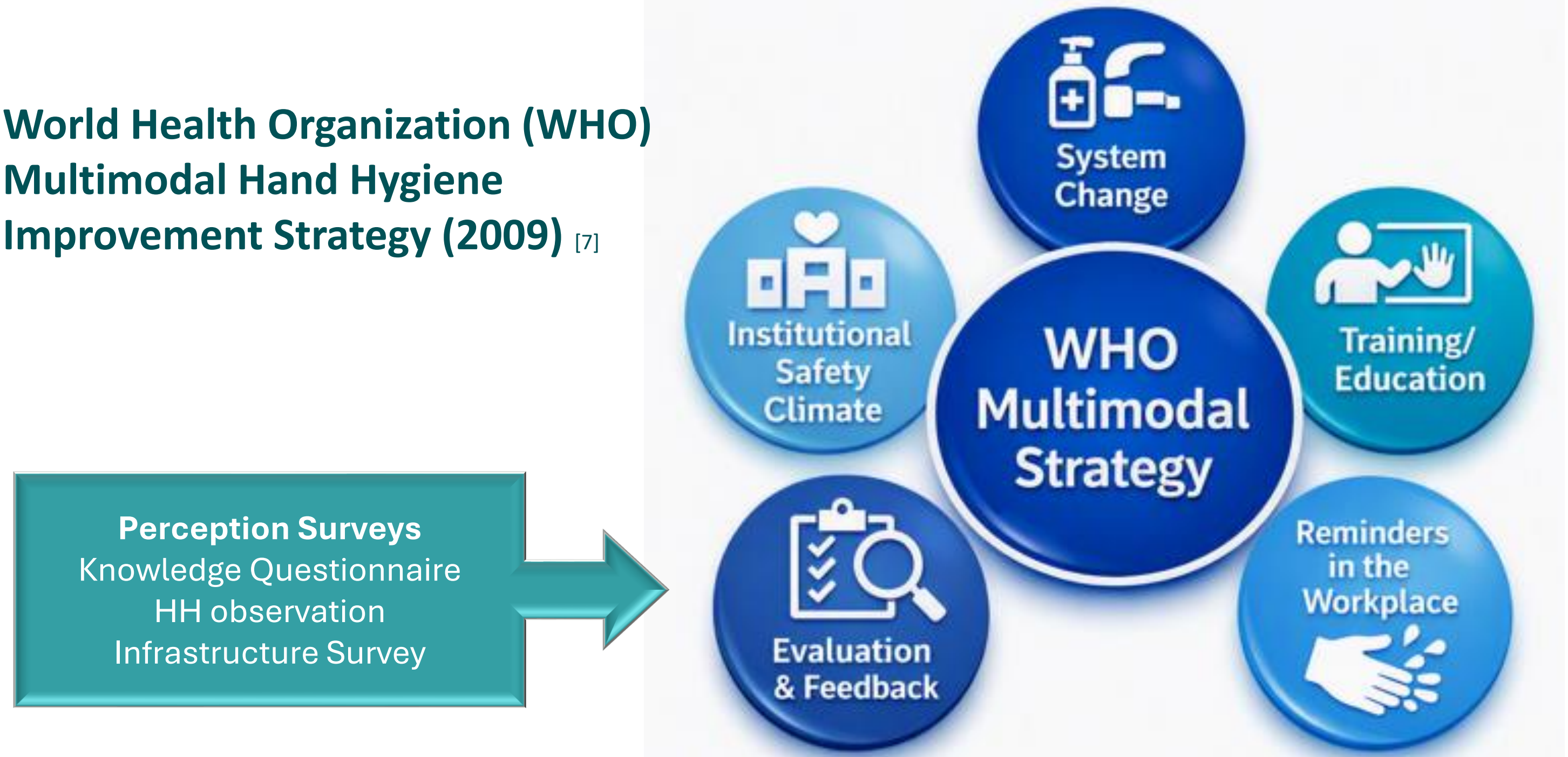


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World Health Organization (WHO) Multimodal Hand Hygiene Improvement Strategy (2009) [7]



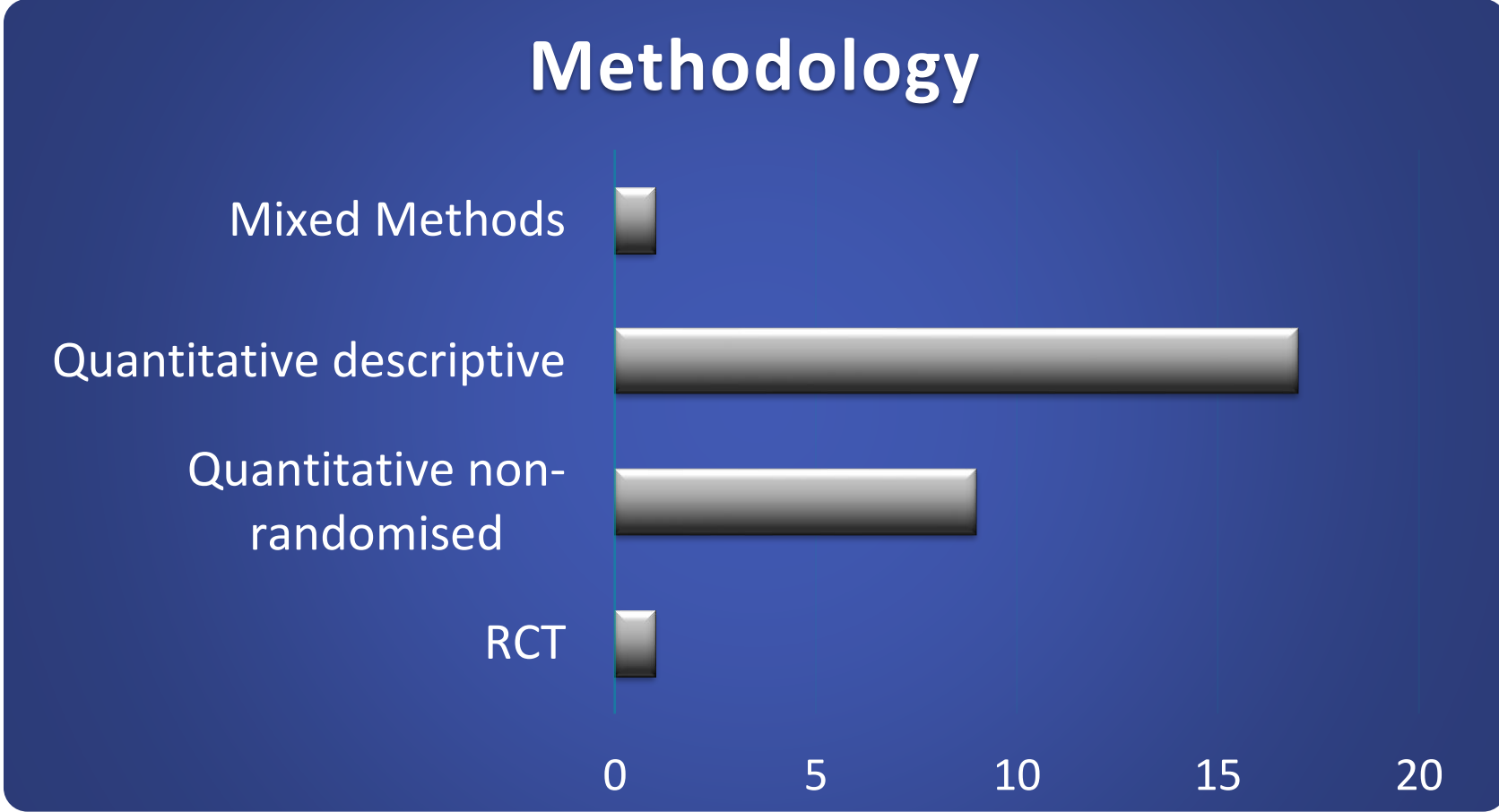
Results – Methodology/Quality

Analysis

- Descriptive statistics
- Mostly non-parametric tests (Mann-Whitney, Kruskal-Wallis, Spearman)

Study quality issues:

- Convenience sampling
- Response bias
- Confounding (staffing changes, concurrent initiatives, Hawthorne effect)



Mixed-methods study = strongest quality

Results - Key Perceptions

Knowledge vs Perception

- Weak correlation in most countries
- Knowledge **did not predict** perception or self-reported compliance

Self-Reported vs Observed Compliance

- Self-reported compliance much greater than observed
 - For example: **Kenya: 62% perceived vs 15% observed** [8]

Intervention Effects

- Perception **rarely improved** post-intervention
- However observed compliance often increased

WHO Strategy Components

- **Role modelling** = highly valued
- **Patient involvement** = consistently lowest rated
- Lower income countries = **infrastructure**
- High-income countries = **feedback & managerial support**

Conclusion

- **Leadership perceptions missing entirely**
- Evidence heavily skewed toward **high-income, tertiary hospitals**
- **Behavioural and social factors** strongly influence HH
- **Targeted strategies** needed, based on economic & cultural context.

Recommendations:

- *Studies which involve leaders and senior managers*
- *Studies from low-income countries to address global inequities*
- *Rural/small facility studies for generalisability*
- *Mixed-methods research for robust understanding of HH perceptions*

References:

- [1] Chen, Y.C., Sheng, W.H., Wang, J.T., Chang, S.C., Lin, H.C., Tien, K.L., Hsu, L.Y. & Tsai, K.S. (2011). Effectiveness and limitations of hand hygiene promotion on decreasing healthcare-associated infections. *PloS one*, 6(11).
- [2] Mouajou, V., Adams, K., DeLisle, G., & Quach, C. (2022). Hand hygiene compliance in the prevention of hospital-acquired infections: A systematic review. *Journal of Hospital Infection*, 119, 33–48.
- [3] Lambe, K., Lydon, S., Madden, C., Vellinga, A., Hehir, A., Walsh, M. & O'Connor, P. (2019). Hand Hygiene Compliance in the ICU: A systematic review. *Critical Care Medicine*, 47 (9), 1251–1257.
- [4] Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19–32. [5] Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Ak, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garrity, C., et al. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine*, 169(7), 467–473.
- [6] Hong, Q. N., Fábregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M.-C., Vedel, I., & Pluye, P. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Education for Information*, 34(4), 285–291.
- [7] World Health Organization (2009). Guide to implementation: A guide to the implementation of the WHO Multimodal Hand Hygiene Improvement Strategy. World Health Organization.
- [8] Ngugi, S. K., Murila, F. V., & Musoke, R. N. (2019). Hand hygiene practices among healthcare workers in a newborn unit of a tertiary referral hospital in Kenya. *Journal of Infection Prevention*, 20(3), 132–138.