

Interventions to improve hand hygiene in community settings: A systematic review of theories, barriers and enablers, behavior change techniques, and hand hygiene station design features

Authors

Sridevi K. Prasad¹ 0000-0003-0457-9534

Jedidiah S. Snyder² 0000-0002-7688-4450

Erin LaFon²

Lilly A. O'Brien² 0009-0004-1987-3706

Hannah Rogers³ 0000-0002-9515-1439

Oliver Cumming^{4,5} 0000-0002-5074-8709

Joanna Esteves Mills⁵

Bruce Gordon⁵

Marlene Wolfe² 0000-0002-6476-0450

Matthew C. Freeman² 0000-0002-1517-2572

Bethany A. Caruso^{1*} 0000-0001-9738-9857

1 Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, GA, USA; bcaruso@emory.edu (BAC); sridevi.prasad@emory.edu (SKP)

2 Gangarosa Department of Environmental Health, Rollins School of Public Health, Emory University, Atlanta, GA, USA; matthew.freeman@emory.edu (MCF); marlene.wolfe@emory.edu (MW) jedidiah.snyder@emory.edu (JSS); lilly.obrien@emory.edu (LAO); erin.lafon@emory.edu (EL)

3 Woodruff Health Sciences Center Library, Emory University, Atlanta, GA, USA; hannah.rogers@emory.edu (HR)

4 Department of Disease Control, London School of Hygiene and Tropical Medicine, London, UK; oliver.cumming@lshtm.ac.uk (OC)

5 Water, Sanitation, Hygiene and Health Unit, World Health Organization, Geneva, Switzerland; estevesj@who.int (JEM); gordonb@who.int (BG)

*Corresponding author: Bethany A. Caruso bcaruso@emory.edu

Emory University, Rollins School of Public Health, 1518 Clifton Rd, Atlanta, GA 30322

S11 – Frequency of BCT packages

Supplementary Table 11. Frequency of identified behavior change technique (BCT) packages and frequency of BCTs per package with effectiveness across included studies (N=223)

Number of BCT packages per study	Number and % of studies	Effectiveness ² n (%)	Number of BCTs per package	Number and % of studies ¹	Effectiveness ² n (%)
1 package	100 (44.8%)	78 (78.0%)	1 BCT	71 (31.8%)	57 (80.3%)
2 packages	62 (27.8%)	53 (85.5%)	2 BCTs	167 (74.9%)	143 (85.6%)
3 packages	38 (17.0%)	33 (86.8%)	3 BCTs	109 (48.8%)	87 (79.8%)
4 packages	17 (7.6%)	13 (76.5%)			
5 packages	5 (2.2%)	5 (100.0%)			
6 packages	1 (0.5%)	1 (100.0%)			
Total Packages ¹	437				

Note: ¹Adds up to more than the total number of studies included as studies could have evaluated packages with different numbers of BCTs; ²Effectiveness is determined if authors reported that the intervention was effective at improving hand hygiene outcomes