Beyond the Finish Line: patterns of progress and equity in rural sanitation

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Introduction: Few countries on track

Can we improve sanitation intervention effectiveness?

Just 1 in 10 countries below 95% coverage are on track to achieve universal basic sanitation by 2030



Objectives

Can we improve sanitation intervention effectiveness?

- Will discuss progress and lessons learned from various sanitation programmes attempting to increase sanitation coverage
- Will present data from two studies:
 - 1. Systematic review of literature assessing impacts of sanitation interventions on latrine coverage and use
 - 2. 11 country, four-year evaluation of the SSH4A approach
 - Assessed impact of intervention on sanitation coverage
 - Assessed equity of sanitation uptake across vulnerability characteristics

Systematic review

How do we increase WASH adherence?

- Systematic review design:
 - Included all studies from 1950 through 2015
 - Assessed impact of sanitation interventions on:
 - change in sanitation coverage
 - change in sanitation use
- Used meta-analysis to summarize estimates

Systematic review results

Sanitation coverage increased by +14 ppts overall

- Of 2264 studies in our initial search, we found 27 studies that assessed impacts on sanitation interventions on sanitation coverage
- Across these studies, the interventions increased sanitation coverage by +14 percentage points

Author, year	Int	Con							ES (95% CI)
Any sanitation intervention in past 5yrs Gross, 2014 Subtotal (I-squared = .%, p = .)	nr	nr		*	 				0.04 (-0.03, 0.11 0.04 (-0.03, 0.11
CLTS Briceño, 2015 Elbers, 2012 Guiteras, 2015 Pickering, 2015 Subtotal (I-squared = 94.4%, p = 0.000)	nr nr .72 .65	nr na .68 .35			•	<u> -</u>			0.07 (-0.00, 0.14 0.14 (0.03, 0.25) -0.01 (-0.05, 0.03 0.30 (0.23, 0.38) 0.12 (-0.02, 0.27
CLTS + other Briceño, 2015 (+ marketing) Cameron, 2013 (+ marketing) Guiteras, 2015 (+ subsidy & market) Guiteras, 2015 (+ subsidy) Subtotal (I-squared = 81.7%, p = 0.001)	nr .44 .79 .8	nr .44 .68 .68			-				0.12 (0.04, 0.20) 0.00 (-0.03, 0.03 0.08 (0.04, 0.12) 0.07 (0.03, 0.11) 0.06 (0.01, 0.11)
Community mobilization Huda, 2011 Ngondi, 2010 Subtotal (I-squared = 98.7%, p = 0.000)	.38 .34	.38 na	+	•	_	<u>-</u>	-		-0.06 (-0.13, 0.01 0.32 (0.27, 0.37) 0.13 (-0.24, 0.51
Latrine subsidy/provision Choudary, 2006 Pradhan, 2002 Pronyk, 2012 Subtotal (I-squared = 0.0%, p = 0.694)	.74 .98 .29	na .77 .16	_					_	0.26 (-0.13, 0.65 0.19 (0.08, 0.30) 0.13 (0.01, 0.24) 0.16 (0.08, 0.24)
Latrine subsidy/provision + sanitation edu Kiwanuka, 2015 Mathews, 2004 Rauniyar, 2011 Subtotal (I-squared = 90.4%, p = 0.000)	.43 .74 .82	n na na .81				•			0.14 (-0.01, 0.28 0.39 (0.22, 0.56) 0.01 (-0.02, 0.04 0.17 (-0.05, 0.38
Sanitation education Chase, 2015 (change communication) Cumberland, 2008 (mass media) Fenn, 2012 (promoters) Jinadu, 2007 (talks/demos) Luby, 2015 (promoters) Waterkeyn, 2005 (health club) Waterkeyn, 2005 (health club) Subtotal (I-squared = 96.5%, p = 0.000)	nr .67 .64 nr .94 .74 .43	na .4 .7 .03 .94 .57 .02	-			-			-0.07 (-0.15, 0.0 ⁻ 0.27 (0.20, 0.34) 0.24 (0.14, 0.34) 0.10 (0.04, 0.16) 0.04 (-0.01, 0.09 -0.00 (-0.03, 0.0 ⁻ 0.17 (0.07, 0.28) 0.41 (0.35, 0.47) 0.14 (0.03, 0.26)
Sanitation marketing Guiteras, 2015 Subtotal (l-squared = .%, p = .)	.8	.68		*					0.03 (-0.03, 0.09 0.03 (-0.03, 0.09
Sewerage Barreto, 2007 Moraes, 2003 Pradhan, 2002 Subtotal (I-squared = 85.0%, p = 0.001)	.87 .91 1	na .76 .08			•				0.06 (0.03, 0.09) 0.14 (0.07, 0.22) 0.91 (0.37, 1.46) 0.14 (0.01, 0.28)
TSC Arnold, 2010 Clasen, 2014 Hammer, 2013 Patil, 2014 Pattanayak, 2009 Subtotal (I-squared = 89.2%, p = 0.000)	.48 .63 nr .41 .32	.15 .12 nr .23 .13		•	+	<u>+</u>	•		0.33 (0.28, 0.38) 0.51 (0.35, 0.67) 0.08 (-0.01, 0.17 0.18 (0.11, 0.25) 0.29 (0.15, 0.43) 0.27 (0.14, 0.39)
Overall (I-squared = 94.2%, p = 0.000)				<	~				0.14 (0.10, 0.19)

Favors control

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Favors intervention
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Systematic review results

Sanitation coverage increased by +14 ppts overall

• While there were some successful studies, on average, the various intervention types did not do particularly well at increasing coverage

Systematic review

Last mile most difficult

- The baseline sanitation coverage levels were associated with coverage gains
- We stratified results by baseline coverage levels
 - Lower baseline coverage levels had greater gains
 - Higher baseline coverage levels had smaller increases

Systematic review

Sanitation use increased by +13 ppts overall

- 10 studies assessing impacts on use
- Overall increase in use of +13 ppts
- Interventions also didn't do a very good job of increasing use



Systematic review summary

There is a need to improve sanitation interventions

- Sanitation interventions often don't do a very good job of increasing coverage and use
 - Some intervention types worked better than others
 - Even within specific intervention types, there was high heterogeneity (context matters)
- Observed smallest gains in "last mile" populations

SSH4A evaluation methods

SSH4A evaluation took place in 11 countries across 4 years

- Data from rural areas in 11 countries, programme implemented by SNV (>12 million people programme population)
- Cross-sectional household surveys in same areas over time
 - At baseline and three follow-ups
- Multi-dimensional intervention
- Project timeline:





SSH4A: Objectives

Assess impact on coverage and on equity of coverage

- Assessed impact of intervention on increasing improved sanitation coverage
- Also assessed equity of sanitation uptake across several vulnerability characteristics:
 - Wealth quintiles
 - Disability within Households (HH)
 - Elderly within HH
 - Female headed HH

SSH4A: Coverage of improved latrines

Persistence of intervention across time may be important

- Overall coverage increase of +47 ppts at endline
- Persistence of intervention across time may be important

Prevalence of improved sanitation



SSH4A: Equity

SSH4A was reaching vulnerable groups

- SSH4A approach was reaching vulnerable groups
- Closed some of the sanitation gaps between vulnerable and non-vulnerable groups (but wealth gap persisted)

Prevalence of improved sanitation (%) at baseline and endline by vulnerable group



SSH4A Summary of lessons learned

- SSH4A is increasing coverage across many countries and contexts
 - Persistent time in an area probably helpful to increase sanitation coverage
 - An integrated approach might addresses more of the barriers
- SSH4A is increasing coverage, even among the vulnerable groups that we assessed
 - The SSH4A approach made considerable efforts to reach these vulnerable groups and to track progress among these groups

Limitations

- No qualitative component in this particular research to explore all the reasons we got our observed results
- Generalizability:
 - Findings are generalizable only to rural settings in these countries
 - Findings might not be generalizable to late adopters
 - However, inclusion of many countries improves generalizability

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Questions?

• Systematic reviews:



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Beyond the Finish Line: from coverage to sustainable rural sanitation services

Panel discussion





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