

Publication Bias in Health Services and Delivery Research (HSDR): Analysis of Publication Status of Cohorts of Health Services Research Studies

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Introduction

- Publication bias occurs when the publication or non-publication of research findings is determined by the direction or strength of the results
- Evidence obtained from published studies might lead to incorrect conclusions if publication bias is present

Research objective

- To assess publication bias in HSDR, and the association of publication status with study features

Methods

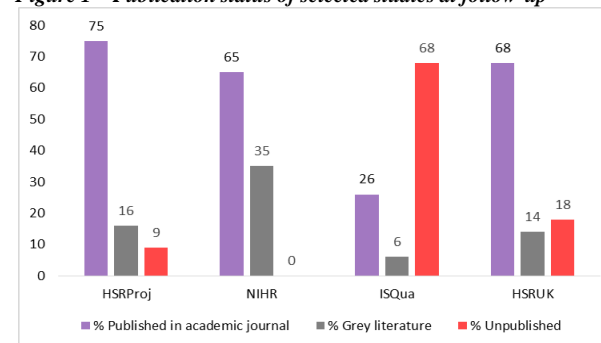
- We followed up the publication status of four cohorts of quantitative HSDR, identified from prospective registries of HSDR studies (inception cohorts) and conference abstracts
- Two hundred completed quantitative studies were randomly selected from:
 - HSRProj (Health Services Research Projects in Progress): a US-based publicly accessible prospective registry of health service and public health research (n=100)
 - the database of the National Institute for Health Research (NIHR) HSDR Programme of funded projects in the UK (n=100)
- One hundred conference abstracts were selected from:
 - the International Society for Quality in Healthcare (ISQua) conference, 2012 (n=50)
 - Health Services Research UK (HSRUK) conference, 2012-14 (n=50)
- The publication status for each study was verified online and by contacting researchers. Key outcome(s) of each study were categorised as statistically significant or non-significant
- Studies were classified as published (in academic journals), grey literature (available online in a form other than academic journals) or unpublished

- Multivariable logistic regression was conducted to investigate association between being published in academic journal and study features
- Effect measure: odds ratio (OR) with 95% confidence intervals

Results

- Overall, 70% of the inception cohorts and 47% of the conference abstracts were subsequently published in academic journals. The publication rates varied for different cohorts (Figure 1)
- Low publication rate of ISQua abstracts may be partly due to many of the authors being affiliated with non-academic institutions where academic publication may not be anticipated

Figure 1 – Publication status of selected studies at follow-up



- The majority of the studies reported some statistically significant findings; only 17% of the inception cohorts and 9% of the conference abstracts reported mostly non-significant results
- Being published in an academic journal was not significantly associated with reporting statistically significant results, type of study, data source or study design but was associated with having two or more institutions involved in the study (Table 1)
- Wide confidence intervals observed suggest the findings may be limited by small sample sizes

Table 1 – Factors associated with publication in academic journals

	Inception Cohorts (n=200)			Conference Abstracts (n=100)		
	n	% Published	OR (95% CI)	n	% Published	OR (95% CI)
Type of study						
Intervention	78	73.1		54	46.3	
Association	122	68.0	1.04 (0.43-2.48)	46	47.8	1.49 (0.53-4.16)
Data source						
Database	72	65.3		28	42.9	
Bespoke	127	73.2	1.13 (0.52-2.45)	70	50.0	1.37 (0.46-4.11)
Study design						
Non RCT	160	68.1		90	44.4	
RCT	39	79.5	2.88 (0.75-11.07)	8	75.0	7.82 (0.61-100.36)
Number of institutions						
One	36	33.3		40	22.5	
Two or more	161	78.9	6.69 (2.67-16.79)	56	62.5	5.27 (1.92-14.56)
Statistical significance						
Non-significant	32	68.8		8	50.0	
Significant	153	74.5	1.53 (0.56-4.21)	77	54.5	3.00 (0.27-33.97)

Conclusions

- Contrary to what is often reported for clinical research, publication of HSDR studies does not appear to be strongly associated with reporting statistically significant findings
- However, some studies had multiple aims but only a subset of findings was reported in academic journals, suggesting possible selective outcome reporting bias

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