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Health insurance awareness and utilization of healthcare services in India: A rapid review synthesis protocol

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Health insurance awareness and utilization of healthcare services in India: A rapid review synthesis protocol

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Abstract:

Introduction: Health insurance is one of the important approaches that can help in boosting universal healthcare coverage through improved healthcare utilization and financial protection. This review is planned to rapidly identify various interventions implemented in India to promote awareness of health insurance and effectiveness of these interventions on the awareness and uptake of health insurance by people of India.

Methods and analysis: Based on the World Health organization guidelines, a rapid review synthesis will be carried out. The review will include experimental and observational studies that have included adult population (≥ 18 years) in India. We will include any intervention, policy or program that directly or indirectly affects awareness or uptake of health insurance. Following outcomes will be

1 eligible to be included: awareness or health insurance literacy, attitude such as readiness to buy health
2 insurance or decision making, uptake of health insurance, utilization of healthcare services in last two
3 years and demand- and supply-side factors of uptake or awareness of health insurance. Databases
4 such as PubMed, Web of Science, Scopus, 3ie impact evaluation repository and SSRN will be
5 searched from January 2010 to July 15, 2020. Additionally, important government websites and
6 references of the included studies will be scanned to identify potential records. Three authors,
7 independently, will carry out screening and data extraction. Studies will be categorized into quantitative
8 and qualitative and mixed methods synthesis will be employed to analyze the findings.
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Ethics and dissemination: This review will be based on published studies and will not recruit human
participants directly, therefore ethical clearance is not applicable. We will disseminate the final
review findings in conference and peer-reviewed journal.

Key words: Awareness; Health Insurance; Healthcare services; India; Protocol

Word count: 4455

Strengths and limitation of the review

- This review will use mixed methods analysis involving findings from quantitative and qualitative studies conducted in India.
- We anticipate heterogeneity owing to study designs of potentially included studies, however to mitigate this challenge we have planned to conduct sub-group analysis based on PROGRESS-Plus framework.
- Considering the time constraints we will not critically appraise the included studies for risk of bias.

Introduction

Low- and middle-income countries (LMICs) contribute to around 84% of the world population and 90% of the global burden of disease.¹ People living in LMICs rely majorly on out-of-pocket payments

1
2 (OOP) as the prime source for managing healthcare expenses, resulting in massive demand for
3 services and financial burden of households (usually catastrophic), which in turn leads to
4 impoverishment.¹⁻⁵ It is projected that every year, approximately 150 million people experience
5 financial catastrophe by spending more than 40% on health expenses on other than food.⁶ Families
6 generally spend more than 10 % of household income on illness related expenses, due to which other
7 household expenses are affected.^{3, 5} To make it worse, evidence suggests that per capita spending on
8 healthcare in many LMICs is expected to increase in coming years.² Additionally, the increased costs
9 of seeking and receiving care can hinder the access to healthcare.⁷

10
11 The Universal Health Coverage (UHC) is embedded within the sustainable development goals
12 (SDGs) and aims “to ensure healthy lives and promote well-being for all at all ages by 2030”.⁸ It
13 includes financial risk protection and equal access to quality essential health-care services.^{8, 9} In the
14 other terms, UHC encourages equitable healthcare² and many countries are committed to achieving
15 SDGs through UHC.¹⁰

16
17 Health insurance is one of the important approaches that can help in boosting UHC through improved
18 healthcare utilization and financial protection.^{7-9, 11} There are multiple types of insurance in LMICs
19 that differ with providers (government vs private sector), scales and types of beneficiaries.⁸ However,
20 in many LMICs, due lack of acceptability and unwillingness to pay premiums, health insurance has
21 limited coverage.^{2, 3} This increases the risk of excluding vulnerable and at-risk population who cannot
22 afford to pay health insurance premium.⁸ Additionally, older adults, individuals with disability and
23 chronic diseases have less probability of enrolling in health insurance schemes or their needs may not
24 be covered by the scheme.⁸

25
26 Health insurance policies or programs in India are rather evolving and publicly funded health
27 insurance schemes are mostly restricted to socio-economically backward people or government
28 employees.¹² India’s first health insurance program, launched in 1950s, was limited to central
29 government employees and certain low-income population.¹¹ Over the years, the private healthcare
30 provider’s dominance in quality healthcare service provision can be seen.¹¹ Nevertheless, in the

1
2 absence of financial protection many economically poor families either give away the care or are
3
4 pushed into poverty.¹¹ In 2002, targeted health insurance programs for low-income households were
5
6 introduced by central and state governments in partnership with private sector and NGOs. Since 2002
7
8 (recommendations of National Health Policy 2002), 17 plus health insurance schemes have been
9
10 launched by various governments in India.¹¹ The most recent one is ‘Ayushman Bharat’ or Pradhan
11
12 Mantri Jan Arogya Yojana (PMJAY) launched in 2018 to achieve UHC; it is fully financed by the
13
14 government. PMJAY seeks to cover 500 million persons with an annual cover of around 7000 USD
15
16 per household. The main aim of the PMJAY is to lessen the economic burden experienced by poor
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18 and vulnerable groups for access to healthcare facility.¹³
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23 Despite availability of multiple health insurance schemes, evidence suggests that the uptake of health
24
25 insurance in India is poor. As per recently concluded National Sample Survey Office (NSSO) data,
26
27 there were as low as 14% rural and 18 % urban residents of India having some form of health
28
29 insurance.¹⁴ This finding is also congruent with other literature, wherein it was reported less than 20%
30
31 coverage.^{5, 12} Similarly, other LMICs have reported underutilization of national health insurance
32
33 schemes.¹⁵
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38 There are multiple factors that are responsible for awareness and enrolment in health insurance
39
40 schemes.^{2, 3} These factors can be divided into individual (age, gender, education, employment status,
41
42 marital status),^{3, 9, 16} and household characteristics (wealth, size of family).^{1, 9, 17} Other factors are
43
44 program related (premium amount, rules, regulation, and procedures), social capital (trust, networks
45
46 and group participation, social norms, and solidarity and togetherness features of the social
47
48 organization of the community), institutional factors (regulatory mechanisms, complaint handling
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50 systems, and insurance education), and supply side factors (quality of care and distance of house from
51
52 the nearest health facility).³ The aforementioned factors may also determine the consumer preference
53
54 in selecting the health insurance.¹⁷ Poor claim returns, poor accountability and non-transparent
55
56 operations hinders the uptake of health insurance.¹⁸
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1
2 In Indian studies, among those participants who did not have health insurance, only 34 % were willing
3
4 to pay.⁵ Previous research in LMICs suggests that financial status of household is positively
5
6 associated with willingness to pay (WTP).^{2, 3, 9, 18} Whereas level of education received contradictory
7
8 findings i.e. a study conducted in Nigeria reported that education was negatively associated with
9
10 WTP² contrary to study conducted in Uganda,¹ Ghana,¹⁶ and India.⁵ Family who had good perceived
11
12 health had less probability of getting insurance as compared to those individuals who perceived their
13
14 health as poor. Similarly, those individuals who had chronic diseases were more inclined to have
15
16 health insurance than those who did not have chronic diseases.³ Corruption and mistrust in the health
17
18 insurance scheme^{1, 5, 18} and expensive plans^{5, 18} were some of the reasons for not willing to pay. Lack
19
20 of information or health insurance illiteracy is another important reason for not willing to pay.^{1, 5, 18}
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25 Health insurance literacy is defined as “the degree to which individuals have the knowledge, ability,
26
27 and confidence to find and evaluate information about health plans, select the best plan for their own
28
29 (or their families) financial and health circumstances, and use the plan once enrolled.”¹ Lack of health
30
31 insurance literacy or education hinders the uptake of health insurance and in many LMICs health
32
33 insurance literacy is poor. A study conducted in Uganda reported that about 34% of the studied
34
35 population were not aware of health insurance.¹ Whereas studies conducted in India (46%),⁵
36
37 Myanmar (66%)⁴ and the United States: Hispanic American (70%)¹⁹ reported higher proportion of
38
39 lack of knowledge among studied population.
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43

44 Familiarity or awareness of the insurance schemes increases the utilization of health insurance and
45
46 subsequently help in healthcare uptake.^{1, 3, 19} Individuals usually enroll into health insurance because
47
48 of their personal experiences, awareness, or word-of-mouth advertisements.¹⁷ Mass media such as
49
50 newspaper, radio and television play an important role in making people aware of health insurance
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52 schemes¹ Friends, community meetings, school gatherings, and health workers have an influence on
53
54 increasing the health insurance awareness of the people.¹ Although, aforesaid factors help in
55
56 increasing the awareness and enrollment in health insurance scheme, some enrollees may not pay
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58 premium on regular basis and might not get to know even after health insurance is lapsed.⁹ Women
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1 farmers, as compared to other occupation, had more odds of unawareness that their insurance was
2
3
4 lapsed.⁹
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6

7 It is evident from above description that awareness of health insurance among general population in
8
9 LMICs is poor. Knowledge about health insurance can boost individuals' confidence and self-
10
11 efficacy; thus, it is an important *a priori* factor that is required to get enrolled in health insurance
12
13 scheme.¹⁹ Outreach programs to increase general knowledge of health insurance and integrating
14
15 health insurance education within health delivery systems may help uptake of health insurance.¹⁹
16
17 Globally there are different methods available to promote and raise awareness about different health
18
19 insurance schemes. However, India is a diverse country with a complex health system and numerous
20
21 contextual factors. A 'one size fits all' approach for any policy or intervention is not suitable for the
22
23 country. Therefore, it is imperative to understand the different approaches implemented to raise
24
25 awareness about health insurance in the country. Additionally, due to increased population and a
26
27 meagre public health spending on healthcare, it is important to understand if the resources are being
28
29 utilized appropriately. To ensure this, understanding of the effectiveness of such policies is important
30
31 so that focus is directed towards the useful interventions. The proposed review will therefore will
32
33 identify the different approaches and interventions for increasing health insurance awareness in India,
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35 and will give information about the impact of these interventions. This review is planned to answer
36
37 following research questions;
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- 45 1. What are the various interventions implemented in India to promote awareness of health insurance?
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- 47 2. What is the effectiveness of the above interventions on the awareness and uptake of health
48
49 insurance by people of India?
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52 **Methods and analysis**

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55 Methodology for this rapid review synthesis will be based on the WHO guidelines on rapid reviews.
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59 *Criteria for including studies in the review:*
60

1
2 Population: The review will include studies that have included adult population (≥ 18 years) and
3
4 confined to studies conducted in India. Studies having household as unit of analysis, we will consider
5
6 it if the head of the family is an adult.
7
8

9 Intervention/ Exposure: We will include any intervention, policy or program that directly or indirectly
10
11 affects awareness of health insurance. The health insurance scheme could be of any type, including
12
13 but not limited to, public, private, for profit and not-for-profit. Contribution for premiums could be
14
15 made by individual, non-governmental organizations, employer or government. There is no
16
17 restriction on focus of health insurance e.g. hospital stay or surgery.
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21 Intervention/ Exposure could be educational, informative, training, technology and m- or e-health
22
23 related. The interventions could be focused on increasing income threshold for entering health
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25 insurance such as conditional or unconditional cash transfers, which indirectly influences awareness
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27 of health insurance. Similarly, training and performance-based financing for healthcare staff or other
28
29 groups will be eligible for inclusion. Intervention could be modification of enrolment procedure,
30
31 changes in premium or organizational changes in handling health insurance. Intervention could be
32
33 directed on general population or targeted groups such as vulnerable population, indigenous groups,
34
35 community leaders, employees, formal or informal groups and healthcare staff.
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39
40 Comparison: This review will not restrict the studies based on comparison as having a comparison
41
42 group may not always be feasible.
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44
45

46 Outcomes:

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49 i. Awareness/ health insurance literacy (refers to knowledge of the household head on the
50
51 presence of insurance schemes, its principles, and significance. The outcome measure can
52
53 be objective or subjective.)
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56 ii. Attitude: Readiness to buy health insurance, decision making
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59 iii. Uptake of health insurance
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- iv. Utilization of healthcare services in last two years
- v. Demand- and supply-side factors of uptake of health insurance/ Awareness of health insurance

Types of study designs: This review will include experimental studies that assessed the effect of intervention to promote awareness and uptake of health insurance. It is sometimes not practical to conduct randomized controlled trials (RCTs) to measure effect of public health interventions, therefore the review will also include other designs. Studies with following designs will be included; RCTs, interrupted time series studies, difference-in-difference, regression discontinuity designs, statistical matching, quasi-randomized and non-randomized trials. Additionally, this review will include prospective, retrospective, cross-sectional and case studies and studies related to process evaluation and policy analysis, if the studies have provided description of intervention or exposure of our interest. Qualitative studies are important source of information about barriers and enabling factors that can complement the findings, therefore we will also include these types of studies. This review will exclude commentaries, perspectives, editorial, reviews and conference abstracts. Policy papers that does not provide details of implementation of intervention will not be considered.

Searching and locating the studies:

The electronic databases such as PubMed (Medline), Web of Science, and Scopus will be searched to identify potential records. Additionally, 3ie impact evaluation repository and SSRN (Social science research network) will be searched. Databases will be searched from January 2010 till July 15, 2020 and publications will be restricted for English language. Ministry of Health and Family Welfare, Rashtriya Swasthya Bima Yojana (RSBY), Ayushman Bharat, and other state health insurance websites will be searched for reports on the health insurance schemes. We will also scan through references of the included studies for any additional eligible records. After identifying the keywords, initial search will be carried out in PubMed, which will then be replicated in other databases.

Designated information scientist will conduct search. The preliminary search concepts and key terms are given in the table 1.

Table 1: Search concepts and key words

Concept	Key terms
Intervention or Exposure	Information Education Communication IEC Mass Media Television Leaflet Brochure Flyer Radio Television Advertisement Behavioral change communication Awareness program/ programme/ campaign/ initiatives / policy Promotion Marketing Social media E-health M-health

1
2 Insurance names Community insurance
3
4 Health insurance
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6 Health insurance programs / programmes/ schemes
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8 Health finance /financing
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10 Healthcare reform
11
12 Insurance coverage
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14 National health insurance
15
16 National health insurance scheme
17
18 Medical insurance
19
20 Micro health insurance
21
22 Public health insurance
23
24 Social insurance
25
26 Social protection
27
28 Universal healthcare
29
30 Universal health care
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32 UHC
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34 Ayushman Bharat
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36 Pradhan Mantri Jan Arogya Yojana
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38 PMJAY
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40 Mukhyamantri Swasthya Bima Yojana (Chhattisgarh & Uttarakhand)
41
42 MSBY
43
44 Rashtriya Swasthya Bima Yojana (2008)
45
46 RSBY
47
48 RSBY Plus HP
49
50 Aarogysri
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52 Rajiv Arogyabhagya
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54 Rajiv Arogyashree health insurance
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56 Rajiv Gandhi Jeevandayee Arogya Yojana
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2 Yesasvini health insurance (Karnataka-2002)
3
4 Yashshvini Community based health insurance programme
5
6 Vajpayee Arogyashree
7
8 Biju Krushak Kalyan
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10 Kalainagar
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12 CHIS
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14 Employee State Insurance Scheme
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17 ESIS
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19 Central Government Health Scheme
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21 CGHS
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23 Mediclaim
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26 Deen Dayal Swasthya Seva Yojana (Goa)
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Outcome	Awareness of health insurance
	Health insurance literacy
	Uptake of health insurance
	Utilization of healthcare services
	Enrolment under health insurance
	Health insurance enrolment
	Health insurance retention
	Healthcare utilization
	Medical service utilization
	Attitude: Readiness to buy health insurance, Decision making
	Perceptions
	Knowledge
	Demand- and supply-side factors of uptake of health insurance/ Awareness of health insurance: factors, barriers, enablers

Region	India
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Applying eligibility and screening the studies:

Result of search strategy will be imported to Endnote X7 reference manager software and duplicates will be removed. MS Excel spreadsheet will be used to screen the records. Based on inclusion and exclusion criteria, all the records will be subjected to two stage - title/abstract (T/A) and full text (FT) - screening process, independently by three (SSP, ER, BTV) reviewers (in pairs). Any disagreements between the reviewers will be resolved by discussion and senior reviewer will be involved in decision making in case of disagreements between the reviewers. The reasons for excluding full texts will be

documented and PRISMA flow diagram will be provided. A detailed screening protocol will be used as a back-up document to aid the screening process. Table 2 gives detailed screening protocol.

Table 2: Screening protocol

1 Title and abstract screening			
A	Is the study published in English? AND Is it published in the year 2000 or later?	If answer to both the components are “Yes” Go to B	If it is non-English or published before 2000 then Exclude the study
B	Is it a study conducted in India?	1. If it is “Yes” OR 2. If it is not clearly stated, thus cannot decide Go to C	If it is clearly stated that it is conducted elsewhere, but India, then Exclude the study
C	Does study involve one of the following design or analysis: RCTs, interrupted time series studies, difference-in-difference, regression discontinuity designs, statistical matching, quasi-randomized and non-randomized trials, prospective, retrospective, cross-sectional and case studies and studies related to process evaluation and policy analysis.	If answer is “Yes” OR it is not clearly stated in abstract, Go to D	If it clearly states that none of the listed methods and designs were used OR if it is commentary, perspective, editorial, reviews, conference abstracts OR policy paper that does not provide details of implementation of intervention: Exclude the study

1			
2	D	Does the study describe the details of	If answer to one of the
3		intervention for increasing awareness	components is “Yes” OR if
4		of and uptake of health insurance?	it is not clearly stated and
5			you are in doubt, then
6		OR	
7		Does the study describe about the	Include the study for full
8		factors associated with awareness of	text screening
9		and uptake of health insurance?	If you are in doubt: flag for
10			discussion
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20	2	Full text screening	
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23	E	Is it a study conducted in India?	If it is “Yes”
24			Go to F
25			If no Exclude the study
26			
27			
28	F	Did study involve adult population?	If it is “Yes”
29			Go to G
30			If no Exclude the study
31			
32			
33	G	Does study involve one of the	If answer is “Yes” Go to H
34		following design or analysis: RCTs,	OR
35		interrupted time series studies,	If you are doubtful, then
36		difference-in-difference, regression	flag for discussion
37		discontinuity designs, statistical	
38		matching, quasi-randomized and non-	
39		randomized trials, prospective,	
40		retrospective, cross-sectional and case	
41		studies and studies related to process	
42		evaluation and policy analysis.	
43			If it clearly states that none
44			of the listed methods and
45			designs were used OR if it is
46			commentary, perspective,
47			editorial, reviews,
48			conference abstracts OR
49			policy paper that does not
50			provide details of
51			implementation of
52			intervention:
53			Exclude the study
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H	Does the study describe the details of intervention for increasing awareness of and uptake of health insurance? OR Does the study describe about the factors associated with awareness of and uptake of health insurance?	If answer to one of the components is “Yes” Go to I OR If you are in doubt, then flag for discussion	If no Exclude the study
I	Did the study measure the outcomes of our interest?	If answer is “Yes” then Include for data analysis	If no Exclude the study

Data extraction:

Data will be extracted independently by three reviewers (SSP, ER, BTV). A pre-designed data extraction form will be used for extraction of the data. The data extraction form will be subjected to pilot testing and will be revised accordingly as per the suggestions by the reviewers and the experts. Any disagreements during data extraction, will be resolved by consensus and by the senior reviewer. Data will be extracted based on the characteristics mentioned in the table 3.

Table 3: Data extraction format

Publication details	First author’s last name
	Year of publication
	Publication type: Report/ journal publication
Population characteristics	Age

	Gender
	Religion/ Race/ Ethnicity
	Number of participants included
Location/setting	State/ district or other details of place where study was conducted
	Setting: hospital / community based
Study methodology/ design	Study design: RCT, quasi-randomized trial, case control study etc.
	Type of analysis
Intervention details	Type of intervention, mode of delivery, other details such as content/ frequency, who provided it etc.
	Details of comparison
Exposure details	List different factors or themes
Outcome details	List down outcome, variable type: continuous or categorical, type of analysis
	Effect measures with 95% confidence interval (Such as Odds ratio, Risk ratio, hazard ratio)
	Number of participants analyzed, number loss to follow-up
	Details of subgroup analysis, if any.
	Themes and sub-themes
Other details	

Data Analysis:

1
2 Study characteristics consisting of PICOS components across studies will be tabulated, which will
3
4 help us to compare and analyze. Subsequently, studies will be categorized into quantitative and
5
6 qualitative and will be analyzed separately. This step will be followed by mixed methods synthesis
7
8 as suggested by Panda et al. (2013).²⁰
9

10 11 12 1. Quantitative studies:

13
14
15 Studies will be grouped based on study design and type of data available (continuous or categorical).
16
17 If possible, similar studies will be pooled to perform meta-analysis using random effect measure. If
18
19 data are continuous, standardized mean difference will be calculated with 95% confidence interval.
20
21 For categorical data, odds ratio or risk ratio will be calculated and reported with 95% confidence
22
23 interval. Meta-analysis will be visually represented with forest plot. We assume possibility of
24
25 heterogeneity owing to differences in study design, intervention and other contextual factors. If
26
27 possible, we will statistically measure heterogeneity by using I^2 test. If significant heterogeneity
28
29 (>50%) persists for a particular outcome meta-analysis will not be conducted. We also anticipate the
30
31 diversity in the included study methodology and interventions, due to which meta-analysis may not
32
33 be appropriate. In this case our focus would be on conducting narrative synthesis. Key finding of
34
35 studies will be summarized in tables/ figures or vote counting will be considered.
36
37
38
39

40 41 2. Qualitative synthesis:

42
43
44 We will carry out thematic analysis as suggested by Thomas & Harden (2008).²¹ An iterative process
45
46 of line by line coding will be undertaken as a first step, which will be followed by categorizing the
47
48 codes into code families. Subsequently, code tree will be created, and themes and sub-themes will be
49
50 generated. Three reviewers (SSP, ER, BTV) will code the data independently and resolve the
51
52 discrepancy by discussion until consensus.
53
54

55 56 3. Mixed methods synthesis:

57
58
59 The result from both, qualitative and quantitative synthesis will be merged for each outcome. Parallel
60
synthesis will be carried out and findings will be summarized narratively.²⁰ To understand the

1
2 influence of inequality in uptake of health insurance, we will explore the possibility of conducting
3
4 subgroup analysis based on some of the components of PROGRESS-Plus framework.²²
5
6

7 *Patient and public involvement:*
8

9
10 We did not involve patients or public while designing and writing this protocol.
11
12

13 **Ethics and Dissemination:**
14

15
16 This review will be based on published studies therefore ethical clearance is not applicable. We have
17
18 planned following activities to communicate and disseminate the findings of this review. We plan to
19
20 make at least one national or international conference presentation. We will prepare policy brief to
21
22 be shared with funder and to get a wider reader, we plan to submit the manuscript to a peer-reviewed
23
24 journal. Upon journal publication, we intend to circulate the findings through our social media
25
26 platform and website.
27
28
29

30
31 **Author contribution:**
32

33 Dr Reshmi B is the guarantor of the review. All the authors conceptualized the manuscript. SSP drafted the
34
35 first manuscript, which was further edited by ER. RV developed the search strategy. All the authors read,
36
37 provided feedback and approved the final manuscript.
38
39

40
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42

43
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49
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51
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53
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56 **Competing interest:** Authors do not have any competing interest.
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PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Response (Yes or No)	Page number
ADMINISTRATIVE INFORMATION				
Title:				
Identification	1a	Identify the report as a protocol of a systematic review	Yes	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	Not applicable (NA)	
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	No	
Authors:				
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	Yes	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	Yes	18
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	NA	
Support:				
Sources	5a	Indicate sources of financial or other support for the review	Yes	18
Sponsor	5b	Provide name for the review funder and/or sponsor	Yes	18

Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	Yes	18
INTRODUCTION				
Rationale	6	Describe the rationale for the review in the context of what is already known	Yes	7, last paragraph
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	Yes	8
METHODS				
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	Yes	8-9
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	Yes	9-10
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	Yes	9, & table 1
Study records:				
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	Yes	13
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	Yes	13, & table 2

Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	Yes	15
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	Yes	15, & table 3
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	Yes	9
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	No. Reported as limitation	3
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	Yes	17-18
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	Yes	17
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	Yes	18
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	Yes	18
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	No	
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	No	

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

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3 *From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and*
4 *meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.*
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For peer review only

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Health insurance awareness and its uptake in India: a systematic review protocol

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Health insurance awareness and its uptake in India: a systematic review protocol

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Word count: 4541 (inclusive of tables but exclusive of references, title page, abstract, and strengths and limitation)

Abstract:

Introduction: Health insurance is one of the important approaches that can help in boosting universal healthcare coverage through improved healthcare utilization and financial protection.

1
2
3 This review is planned to rapidly identify various interventions implemented in India to
4 promote awareness of health insurance and effectiveness of these interventions on the
5 awareness and uptake of health insurance by people of India.
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10 Methods and analysis: Based on the Cochrane handbook for systematic reviews of
11 interventions, a systematic review will be carried out. The review will include experimental
12 and analytical observational studies that have included adult population (≥ 18 years) in India.
13
14 We will include any intervention, policy or program that directly or indirectly affects awareness
15 or uptake of health insurance. Following outcomes will be eligible to be included: awareness
16 or health insurance literacy, attitude such as readiness to buy health insurance or decision
17 making, uptake of health insurance, demand- and supply-side factors for awareness of health
18 insurance and awareness as a factor for uptake and re-enrolment of health insurance. Databases
19 such as Medline (PubMed), Web of Science, Scopus, 3ie impact evaluation repository and
20 SSRN will be searched from January 2010 to July 15, 2020. Additionally, important
21 government websites and references of the included studies will be scanned to identify
22 potential records. Three authors, independently, will carry out screening and data extraction.
23
24 Studies will be categorized into quantitative and qualitative and mixed methods synthesis will
25 be employed to analyze the findings.
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42 Ethics and dissemination: This review will be based on published studies and will not recruit
43 human participants directly; therefore, ethical clearance is not applicable. We will disseminate
44 the final review findings in conference and peer-reviewed journal.
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49 **Key words:** Awareness; Health Insurance; Healthcare services; India; Protocol
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51

52 **Strengths and limitation of the review**

- 53 • This systematic review will use mixed methods analysis involving findings from
54 quantitative and qualitative studies conducted in India.
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- The systematic review will comprehensively search the evidence in various databases, gray literature, and reference and forward citations of included studies however, the publications will be restricted to English.
- We anticipate heterogeneity owing to study designs of potentially included studies, however to mitigate this challenge we have planned to conduct sub-group analysis based on PROGRESS-Plus framework.

Introduction

Low- and middle-income countries (LMICs) contribute to around 84% of the world population and 90% of the global burden of disease.¹ People living in LMICs rely majorly on out-of-pocket (OOP) payments as the prime source for managing healthcare expenses, resulting in massive demand for services and financial burden of households (usually catastrophic), which in turn leads to impoverishment.¹⁻⁵ It is projected that every year, approximately 150 million people experience financial catastrophe by spending more than 40% on health expenses on other than food.⁶ Families generally spend more than 10 % of household income on illness related expenses, due to which other household expenses are affected.^{2, 5} To make it worse, evidence suggests that per capita spending on healthcare in many LMICs is expected to

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2
3 increase in coming years.⁴ Additionally, the increased costs of seeking and receiving care can
4
5 hinder the access to healthcare.⁷
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7

8 The Universal Health Coverage (UHC) is embedded within the sustainable development goals
9 (SDGs) and aims “to ensure healthy lives and promote well-being for all at all ages by 2030”.⁸
10

11 It includes financial risk protection and equal access to quality essential healthcare services.^{8,9}
12

13 In the other terms, UHC encourages equitable healthcare² and many countries are committed
14
15 to achieving SDGs through UHC.¹⁰
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17

18 Health insurance is one of the important approaches that can help in boosting UHC through
19 improved healthcare utilization and financial protection.^{7-9, 11} There are multiple types of
20 insurance in LMICs that differ with providers (government vs private sector), scales and types
21 of beneficiaries.⁸ However, in many LMICs, due lack of acceptability and unwillingness to pay
22 premiums, health insurance has limited coverage.^{2, 4} This increases the risk of excluding
23 vulnerable and at-risk population who cannot afford to pay health insurance premium.⁸
24
25

26 Additionally, older adults, individuals with disability and chronic diseases have less probability
27 of enrolling in health insurance schemes or their needs may not be covered by the scheme.⁸
28
29

30 Health insurance policies or programs in India are rather evolving and publicly funded health
31 insurance schemes are mostly restricted to socio-economically backward people or government
32 employees.¹² India’s first health insurance program, launched in 1950s, was limited to central
33 government employees and certain low-income population.¹¹ Over the years, the private
34 healthcare provider’s dominance in quality healthcare service provision can be seen.¹¹
35
36 Nevertheless, in the absence of financial protection many economically poor families either
37 give away the care or are pushed into poverty.¹¹ In 2002, targeted health insurance programs
38 for low-income households were introduced by central and state governments in partnership
39 with private sector and NGOs. Since 2002 (recommendations of National Health Policy 2002),
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41 17 plus health insurance schemes have been launched by various governments in India.¹¹ The
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3 most recent one is 'Ayushman Bharat' or Pradhan Mantri Jan Arogya Yojana (PMJAY) (Prime
4 minister's health assurance scheme) launched in 2018 to achieve UHC; it is fully financed by
5
6 the government. PMJAY seeks to cover 500 million persons with an annual cover of around
7
8 7000 USD per household. The main aim of the PMJAY is to lessen the economic burden
9
10 experienced by poor and vulnerable groups for access to healthcare facility.¹³
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13
14 Despite availability of multiple health insurance schemes, evidence suggests that the uptake of
15
16 health insurance in India is poor. As per recently concluded National Sample Survey Office
17
18 (NSSO) data, there were as low as 14% rural and 18 % urban residents of India having some
19
20 form of health insurance.¹⁴ This finding is also congruent with other literature, wherein it was
21
22 reported less than 20% coverage.^{5, 12} Similarly, other LMICs have reported poor registrations
23
24 in the national health insurance schemes.¹⁵
25
26

27
28 There are multiple factors that are responsible for awareness and enrolment in health insurance
29
30 schemes.^{2, 4} These factors can be divided into individual (age, gender, education, employment
31
32 status, marital status),^{2, 9, 16} and household characteristics (wealth, size of family).^{1, 9, 17} Other
33
34 factors are program related (premium amount, rules, regulation, and procedures), social capital
35
36 (trust, networks and group participation, social norms, and solidarity and togetherness features
37
38 of the social organization of the community), institutional factors (regulatory mechanisms,
39
40 complaint handling systems, and insurance education), and supply side factors (quality of care
41
42 and distance of house from the nearest health facility).² The aforementioned factors may also
43
44 determine the consumer preference in selecting the health insurance.¹⁷ Poor claim returns, poor
45
46 accountability and non-transparent operations hinders the uptake of health insurance.¹⁸
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49
50 In Indian studies, among those participants who did not have health insurance, only 34 % were
51
52 willing to pay.⁵ Previous research in LMICs suggests that financial status of household is
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54 positively associated with willingness to pay (WTP).^{2, 4, 9, 18} Whereas level of education
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56 received contradictory findings i.e. a study conducted in Nigeria reported that education was
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3 negatively associated with WTP⁴ contrary to study conducted in Uganda,¹ Ghana,¹⁶ and India.⁵
4
5 Family who had good perceived health had less probability of getting insurance as compared
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7 to those individuals who perceived their health as poor. Similarly, those individuals who had
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9 chronic diseases were more inclined to have health insurance than those who did not have
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11 chronic diseases.² Corruption and mistrust in the health insurance scheme^{1, 5, 18} and expensive
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13 plans^{5, 18} were some of the reasons for not willing to pay. Lack of information or health
14
15 insurance illiteracy is another important reason for not willing to pay.^{1, 5, 18}
16
17 Health insurance literacy is defined as “the degree to which individuals have the knowledge,
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19 ability, and confidence to find and evaluate information about health plans, select the best plan
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21 for their own (or their families) financial and health circumstances, and use the plan once
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23 enrolled.”¹ Lack of health insurance literacy or education hinders the uptake of health insurance
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25 and in many LMICs health insurance literacy is poor. A study conducted in Uganda reported
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27 that about 34% of the studied population were not aware of health insurance.¹ Whereas studies
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29 conducted in India (46%),⁵ Myanmar (66%)³ and the United States: Hispanic American
30
31 (70%)¹⁹ reported higher proportion of lack of knowledge among studied population.
32
33 Familiarity or awareness of the insurance schemes increases the utilization of health insurance
34
35 and subsequently help in healthcare uptake.^{1, 2, 19} Individuals usually enroll into health
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37 insurance because of their personal experiences, awareness, or word-of-mouth
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39 advertisements.¹⁷ Mass media such as newspaper, radio and television play an important role
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41 in making people aware of health insurance schemes.¹ Friends, community meetings, school
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43 gatherings, and health workers have an influence on increasing the health insurance awareness
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45 of the people.¹ Although, aforesaid factors help in increasing the awareness and enrollment in
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47 health insurance scheme, some enrollees may not pay premium on regular basis and might not
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49 get to know even after health insurance is lapsed.⁹ Women farmers, as compared to other
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51 occupation, had more odds of unawareness that their insurance was lapsed.⁹
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3 It is evident from above description that awareness of health insurance among general
4 population in LMICs is poor. Knowledge about health insurance can boost individuals'
5 confidence and self-efficacy; thus, it is an important *a priori* factor that is required to get
6 enrolled in health insurance scheme.¹⁹ Outreach programs to increase general knowledge of
7 health insurance and integrating health insurance education within health delivery systems may
8 help uptake of health insurance.¹⁹ Globally there are different methods available to promote
9 and raise awareness about different health insurance schemes. However, India is a diverse
10 country with a complex health system and numerous contextual factors. A 'one size fits all'
11 approach for any policy or intervention is not suitable for the country. Therefore, it is
12 imperative to understand the different approaches implemented to raise awareness about health
13 insurance in the country. Additionally, due to increased population and a meagre public health
14 spending on healthcare, it is important to understand if the resources are being utilized
15 appropriately. To ensure this, understanding of the effectiveness of such policies is important
16 so that focus is directed towards the useful interventions. 'Ayushman Bharat Scheme- PMJAY'
17 scheme is implemented to ensure increased utilization of the healthcare facilities with financial
18 protection of the beneficiaries. The evidence available on the effectiveness of the PMJAY
19 scheme states no effect of the scheme on utilization of healthcare and financial protection of
20 enrolled beneficiaries¹³ however, this evidence is limited. Therefore, in India context, it is
21 important to understand if awareness is a factor that has led to decreased utilization of PMJAY
22 or failure of the other schemes (viz. Rashtriya Swasthya Bima Yojana-RSBY) in securing
23 financial protection of the beneficiaries.²⁰ Also, it is vital to understand the importance of
24 awareness programs for success of the HI schemes, which will be the focus of this review.

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A systematic review will help in synthesizing high quality evidence in a systematic manner,
for this important topic of interest. The proposed systematic review will therefore identify the
different approaches and interventions for increasing health insurance awareness in India and

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2
3 will give information about the impact of these interventions. This review is planned to answer
4 following research questions;
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7
8 1. What are the various interventions implemented in India to promote awareness of health
9 insurance?
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12 2. What is the effectiveness of the above interventions on the awareness and uptake of health
13 insurance by people of India?
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16 17 18 **Methods and analysis**

19
20 Methodology for this systematic review will be based on the Cochrane handbook for systematic
21 reviews of interventions²¹ and we have adhered to PRISMA-P guidelines for reporting this
22 protocol.²²
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26 27 28 *Criteria for including studies in the review:*

29
30 Population: The review will include studies that have included adult population (≥ 18 years)
31 and confined to studies conducted in India. In those studies, having household as unit of
32 analysis, we will consider it if the head of the family or the member who was interviewed is an
33 adult.
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36
37 Intervention/ Exposure: We will include any intervention, policy or program that directly or
38 indirectly affects awareness of health insurance. The health insurance scheme could be of any
39 type, including but not limited to, public, private, for profit and not-for-profit. Contribution for
40 premiums could be made by individual, non-governmental organizations, employer or
41 government. There is no restriction on focus of health insurance e.g., hospital stay, surgery or
42 critical illness.
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45
46 Intervention/ exposure could be educational, informative, training, technology and m- or e-
47 health related. The interventions could be focused on increasing income threshold for entering
48 health insurance such as conditional or unconditional cash transfers, which indirectly
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3 influences awareness of health insurance. Similarly, training and performance-based financing
4 for healthcare staff or other groups will be eligible for inclusion. Intervention could be
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6 modification of enrolment procedure, changes in premium or organizational changes in
7
8 handling health insurance. Intervention could be directed on general population or targeted
9
10 groups such as vulnerable population, indigenous groups, community leaders, employees,
11
12 formal or informal groups and healthcare staff.
13
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16
17 Comparison: This review will not restrict the studies based on comparison as having a
18
19 comparison group may not always be feasible.
20
21

22 Outcomes:

- 23
24 i. Awareness/ health insurance literacy (refers to knowledge of the household head or
25
26 household member on the presence of insurance schemes, its principles, and
27
28 significance. The outcome measure can be objective or subjective.)
29
30 ii. Attitude: Readiness to buy health insurance, decision making
31
32
33 iii. Uptake of health insurance
34
35
36 iv. Demand- and supply-side factors for awareness of health insurance
37
38 v. Awareness of health insurance as a factor for uptake or re-enrolment of health
39
40 insurance
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42 Types of study designs: This review will include experimental studies that assessed the effect
43
44 of intervention to promote awareness and uptake of health insurance. It is sometimes not
45
46 practical to conduct randomized controlled trials (RCTs) to measure effect of public health
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48 interventions, therefore the review will also include other designs. Studies with following
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50 designs will be included; RCTs, interrupted time series studies, difference-in-difference,
51
52 regression discontinuity designs, statistical matching, quasi-randomized and non-randomized
53
54 trials. Additionally, this review will include prospective, retrospective, analytical cross-
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56 sectional and studies related to process evaluation and policy analysis, if the studies have
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provided description of intervention or exposure of our interest. Qualitative studies are important source of information about barriers and enabling factors that can complement the findings, therefore we will also include these types of studies. This review will exclude commentaries, perspectives, editorial, reviews and conference abstracts. Policy papers that do not provide details of implementation of intervention will not be considered. We will also exclude descriptive (prevalence) cross-sectional studies.

Searching and locating the studies:

The electronic databases such as PubMed (Medline), Web of Science, and Scopus will be searched to identify potential records. Additionally, 3ie impact evaluation repository and SSRN (Social science research network) will be searched. Databases will be searched from January 2010 till July 15, 2020 and publications will be restricted for English language. Ministry of Health and Family Welfare, RSBY, Ayushman Bharat, and other state health insurance websites will be searched for reports on the health insurance schemes. We will also scan through references of the included studies for any additional eligible records. After identifying the keywords, initial search will be carried out in PubMed, which will then be replicated in other databases. Designated information scientist will conduct search. The preliminary search concepts and key terms are given in the table 1.

Table 1: Search concepts and key words

Concept	Key terms

1	
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4	Intervention or
5	Information Education Communication
6	Exposure
7	IEC
8	Mass Media
9	
10	Television
11	
12	Leaflet
13	
14	Brochure
15	
16	Flyer
17	
18	Radio
19	
20	Television
21	
22	Advertisement
23	
24	Behavioral change communication
25	
26	Awareness program/ programme/ campaign/ initiatives / policy
27	
28	Promotion
29	
30	Marketing
31	
32	Social media
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34	E-health
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36	M-health
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4	Insurance names
5	Community insurance
6	Health insurance
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8	Health insurance programs / programmes/ schemes
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10	Health finance /financing
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12	Healthcare reform
13	
14	Insurance coverage
15	
16	National health insurance
17	
18	National health insurance scheme
19	
20	Medical insurance
21	
22	Micro health insurance
23	
24	Public health insurance
25	
26	Social insurance
27	
28	Social protection
29	
30	Universal healthcare
31	
32	Universal health care
33	
34	UHC
35	
36	Ayushman Bharat
37	
38	Pradhan Mantri Jan Arogya Yojana
39	
40	PMJAY
41	
42	Mukhyamantri Swasthya Bima Yojana (Chhattisgarh & Uttarakhand)
43	
44	MSBY
45	
46	Rashtriya Swasthya Bima Yojana (2008)
47	
48	RSBY
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50	RSBY Plus HP
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4 Aarogysri
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6 Rajiv Arogyabhagya
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8 Rajiv Arogyashree health insurance
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10 Rajiv Gandhi Jeevodayee Arogya Yojana
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12 Yesasvini health insurance (Karnataka-2002)
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14 Yashshvini Community based health insurance programme
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16 Vajpayee Arogyashree
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18 Biju Krushak Kalyan
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20 Kalainagar
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22 CHIS
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24 Employee State Insurance Scheme
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26 ESIS
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28 Central Government Health Scheme
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30 CGHS
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32 Mediclaim
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34 Deen Dayal Swasthya Seva Yojana (Goa)
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Outcome	<p>Awareness of health insurance</p> <p>Health insurance literacy</p> <p>Uptake of health insurance</p> <p>Utilization of healthcare services</p> <p>Enrolment under health insurance</p> <p>Health insurance enrolment</p> <p>Health insurance retention</p> <p>Healthcare utilization</p> <p>Medical service utilization</p> <p>Attitude: Readiness to buy health insurance, Decision making</p> <p>Perceptions</p> <p>Knowledge</p> <p>Demand- and supply-side factors for awareness of health insurance: factors, barriers, enablers and awareness as a factor for uptake or re-enrolment of health insurance</p>
Region	India

Applying eligibility and screening the studies:

Result of search strategy will be imported to Endnote X7 reference manager software and duplicates will be removed. MS Excel spreadsheet will be used to screen the records. Based on inclusion and exclusion criteria, all the records will be subjected to two stage - title/abstract (T/A) and full text (FT) - screening process, independently by three (SSP, ER, BTV) reviewers

(in pairs). Any disagreements between the reviewers will be resolved by discussion and senior reviewer will be involved in decision making in case of disagreements between the reviewers. The reasons for excluding full texts will be documented and PRISMA flow diagram will be provided. A detailed screening protocol will be used as a back-up document to aid the screening process. Table 2 gives detailed screening protocol.

Table 2: Screening protocol

1 Title and abstract screening		
A	Is the study published in English? AND Is it published in the year 2000 or later?	If answer to both the components are “Yes” Go to B
		If it is non-English or published before 2000 then Exclude the study
B	Is it a study conducted in India?	1. If it is “Yes” OR 2. If it is not clearly stated, thus cannot decide Go to C
		If it is clearly stated that it is conducted elsewhere, but India, then Exclude the study

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2			
3			
4	C	Does study involve one of the following	If answer is “Yes”
5		design or analysis: RCTs, interrupted	OR it is not clearly
6		time series studies, difference-in-	stated in abstract,
7		difference, regression discontinuity	Go to D
8		designs, statistical matching, quasi-	
9		randomized and non-randomized trials,	
10		prospective, retrospective, and analytical	
11		cross-sectional studies and studies	
12		related to process evaluation and policy	
13		analysis.	
14			If the study is descriptive
15			cross-sectional (or
16			prevalence study) having
17			single group OR if the
18			publication is a
19			commentary, perspective,
20			editorial, reviews,
21			conference abstracts OR
22			policy paper that does not
23			provide details of
24			implementation of
25			intervention:
26			Exclude the study
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D	Does the study describe the intervention for increasing awareness of and uptake of health insurance?	If answer to one of the components is “Yes” OR if it is not clearly stated and you are in doubt, then Include the study for full text screening	If no Exclude the study
[The intervention could be any			
intervention, policy or program (e.g.			
Behavioral change communication or			
educational) that directly or indirectly			
affects awareness of health insurance.			
There is no restriction on mode of			
intervention e.g. Mass media or group			
discussions. There is no restriction on			
who provides the intervention e.g.			
researcher, community-based workers or			
insurance agent. There is no restriction			
on duration and frequency of providing			
intervention. The health insurance			
scheme could be of any type, including			
but not limited to, public, private, for			
profit and not-for-profit. Contribution for			
premiums could be made by individual,			
non-governmental organizations,			
employer or government. There is no			
restriction on focus of health insurance			
e.g. hospital stay or surgery.]			

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4 OR

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6 Does the study describe about the factors
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8 associated with awareness of health
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10 insurance?

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13 OR

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15 Does the study describe awareness as a
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17 factor for uptake or re-enrolment of
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19 health insurance?
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2 Full text screening

E	Is it a study conducted in India?	If it is “Yes”	If no Exclude the study
		Go to F	
F	Did study involve adult population?	If it is “Yes”	If no Exclude the study
		Go to G	
G	Does study involve one of the following design or analysis: RCTs, interrupted time series studies, difference-in-difference, regression discontinuity designs, statistical matching, quasi-randomized and non-randomized trials, prospective, retrospective, and analytical cross-sectional studies and studies related to process evaluation and policy analysis.	If answer is “Yes” Go to H OR If you are doubtful, then flag for discussion	If the study is descriptive cross-sectional (or prevalence study) having single group OR If the publication is a commentary, perspective, editorial, reviews, conference abstracts or policy paper that does not provide details of implementation of intervention: Exclude the study

<p>H Does the study describe the intervention for increasing awareness of and uptake of health insurance? [The intervention could be any intervention, policy or program (e.g. Behavioral change communication or educational) that directly or indirectly affects awareness of health insurance. There is no restriction on mode of intervention e.g. Mass media or group discussions. There is no restriction on who provides the intervention e.g. researcher, community-based workers or insurance agent. There is no restriction on duration and frequency of providing intervention. The health insurance scheme could be of any type, including but not limited to, public, private, for profit and not-for-profit. Contribution for premiums could be made by individual, non-governmental organizations, employer or government. There is no restriction on focus of health insurance e.g. hospital stay or surgery.]</p>	<p>If answer to one of the components is “Yes” Go to I OR If you are in doubt, then flag for discussion</p>	<p>If no Exclude the study</p>
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8 associated with awareness of health
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10 insurance?

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17 factor for uptake or re-enrolment of
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4 **I** Did the study measure the outcomes of If answer is “Yes” If no Exclude the study
5 our interest? then Include for
6 data analysis
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17 *Data extraction:*

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19 Data will be extracted independently by three reviewers (SSP, ER, BTV). A pre-designed data
20 extraction form will be used for extraction of the data. The data extraction form will be
21 subjected to pilot testing and will be revised accordingly as per the suggestions by the reviewers
22 and the experts. Any disagreements during data extraction, will be resolved by consensus and
23 by the senior reviewer. Data will be extracted based on the characteristics mentioned in the
24 table 3.
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34 **Table 3: Data extraction format**

35 36 37 38 39 40 41 42 43 44	Publication details	First author’s last name
		Year of publication
		Publication type: Report/ journal publication
45 46 47 48 49 50 51 52 53 54 55 56	Population characteristics	Age
		Gender
		Religion/ Race/ Ethnicity
		Number of participants included

Location/setting	State/ district or other details of place where study was conducted
	Setting: hospital / community based
	Rural/urban
Study methodology/ design	Study design: RCT, quasi-randomized trial, case control study etc. Type of analysis
Intervention details	Type of intervention, mode of delivery, other details such as content/ frequency, who provided it etc. Start time and duration of intervention Details of comparison
Insurance details	Public/ private/ community-based insurance Start or launch date (month and year) of insurance Type of plan e.g. individual, family, senior citizen, critical illness etc. Benefits of health insurance e.g. Cashless facility, hospitalization, pre- and post-hospitalization, medical check-up, maternity benefits, childcare, critical illness etc.
Exposure details	List different factors or themes

Outcome details	List down outcome, variable type: continuous or categorical, type of analysis
	Effect measures with 95% confidence interval (Such as Odds ratio, Risk ratio, hazard ratio)
	Number of participants analyzed, number loss to follow-up
	Details of subgroup analysis, if any.
	Themes and sub-themes

Other details

Critical appraisal of included studies:

Effective public health practice project (EPHPP) tool²³ will be used to assess the critical appraisal of quantitative studies (except observational) and Newcastle-Ottawa scale (NOS)²⁴ for observational studies. The EPHPP rates the study as ‘strong’, ‘moderate’ or ‘weak’ based on eight domains. These domains are selection bias, study design, confounders, blinding, data collection methods, withdrawals and dropouts, intervention integrity and analysis.²³ NOS rates the study based on three domains viz. selection, comparability and outcome, and the final score ranges between 0 and 10.²⁴ Reviewers (BTV, ER and SSP), independently in pairs, will appraise the included studies. Should there be any discrepancies between the reviewers, it will be resolved by discussion until consensus. If required, senior reviewer will be involved as arbitrator and final decision maker to rate the study quality.

Data Analysis:

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2
3 Study characteristics consisting of PICOS components across studies will be tabulated, which
4 will help us to compare and analyze. Subsequently, studies will be categorized into quantitative
5 and qualitative and will be analyzed separately. This step will be followed by mixed methods
6 synthesis as suggested by Panda et al. (2013).²⁵
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12 13 1. Quantitative studies:

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15 Studies will be grouped based on study design, and type of data available (continuous or
16 categorical). If possible, similar studies will be pooled to perform meta-analysis using random
17 effect measure. If data are continuous, standardized mean difference will be calculated with
18 95% confidence interval. For categorical data, odds ratio or risk ratio will be calculated and
19 reported with 95% confidence interval. Meta-analysis will be visually represented with forest
20 plot. We assume possibility of heterogeneity owing to differences in study design or analysis,
21 intervention, type of insurance and other contextual factors. If there exist heterogeneity due to
22 aforementioned components, we will not perform meta-analysis. After ruling out clinical or
23 methodological heterogeneity, we will statistically measure heterogeneity by using I^2 test. If
24 significant heterogeneity (>50%) persists for a particular outcome, meta-analysis will not be
25 conducted. In this case our focus would be on conducting narrative synthesis and undertaking
26 a subgroup analysis. Key finding of studies will be summarized in tables/ figures or vote
27 counting will be considered. Subgroups could be based on study design, intervention type,
28 insurance type (such as private and public), region and other contextual factors (e.g.,
29 urban/rural).
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50 2. Qualitative synthesis:

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52 We will carry out thematic analysis as suggested by Thomas & Harden (2008).²⁶ An iterative
53 process of line-by-line coding will be undertaken as a first step, which will be followed by
54 categorizing the codes into code families. Subsequently, code tree will be created, and themes
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1
2
3 and sub-themes will be generated. Three reviewers (SSP, ER, BTV) will code the data
4
5 independently and resolve the discrepancy by discussion until consensus.
6

7
8 3. Mixed methods synthesis:
9

10 The result from both, qualitative and quantitative synthesis will be merged for each outcome.
11
12 Parallel synthesis will be carried out and findings will be summarized narratively.²⁵ To
13
14 understand the influence of inequality in uptake of health insurance based on type of insurance,
15
16 we will explore the possibility of conducting subgroup analysis based on some of the
17
18 components of PROGRESS-Plus framework.²⁷
19

20
21 *Grading the evidence:*
22

23
24 We will use the GRADE approach to evaluate the certainty of evidence.²¹ Using GRADE
25
26 profiler software, we will present the main findings of the systematic review in a summary of
27
28 findings table.
29

30
31 *Patient and public involvement:*
32

33 We did not involve patients or public while designing and writing this protocol.
34
35

36
37 **Ethics and Dissemination:**
38

39 This review will be based on published studies therefore ethical clearance is not applicable.
40
41 We have planned following activities to communicate and disseminate the findings of this
42
43 review. We plan to make at least one national or international conference presentation. We will
44
45 prepare policy brief to be shared with funder and to get a wider reader, we plan to submit the
46
47 manuscript to a peer-reviewed journal. Upon journal publication, we intend to circulate the
48
49 findings through our social media platform and website.
50
51

52
53 **Author contribution:**
54

55
56 Dr Reshmi B is the guarantor of the review. RB, SSP, ER, and BTV conceptualized the
57
58 manuscript. SSP drafted the first manuscript, which was further edited by ER. RV developed
59
60

1
2
3 the search strategy. All the authors (RB, UB, SSP, ER, RV and BTV) read, edited, provided
4
5 feedback and approved the final manuscript.
6
7

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17
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PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Response (Yes or No)	Page number
ADMINISTRATIVE INFORMATION				
Title:				
Identification	1a	Identify the report as a protocol of a systematic review	Yes	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	Not applicable (NA)	
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	No	
Authors:				
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	Yes	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	Yes	25
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	NA	
Support:				
Sources	5a	Indicate sources of financial or other support for the review	Yes	25
Sponsor	5b	Provide name for the review funder and/or sponsor	Yes	25
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	Yes	25
INTRODUCTION				
Rationale	6	Describe the rationale for the review in the context of what is already known	Yes	8
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	Yes	8
METHODS				

Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	Yes	9-10
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	Yes	11
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	Yes	11, & table 1
Study records:				
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	Yes	15
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	Yes	15-16, & table 2
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	Yes	21
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	Yes	21, & table 3
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	Yes	9-10
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	Yes	22-23
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	Yes	23-24
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	Yes	23-24
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	Yes	23-24
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	Yes	24
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across	No	

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		studies, selective reporting within studies)		
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	Yes	24

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

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Health insurance awareness and its uptake in India: a systematic review protocol

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Health insurance awareness and its uptake in India: a systematic review protocol

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Abstract:

Introduction: Health insurance is one of the important approaches that can help in boosting universal healthcare coverage through improved healthcare utilization and financial protection.

This objectives of this review are to identify various interventions implemented in India to promote awareness of health insurance, and to provide evidence for the effectiveness of such interventions on the awareness and uptake of health insurance by the resident Indian population.

Methods and analysis: A systematic review will be carried out based on the Cochrane handbook for systematic reviews of interventions. The review will include experimental and analytical observational studies that have included adult population (≥ 18 years) in India. We will include any intervention, policy or program that directly or indirectly affects awareness or uptake of health insurance. The following outcomes will be eligible to be included: awareness or health insurance literacy, attitude such as readiness to buy health insurance or decision making, uptake of health insurance, demand- and supply-side factors for awareness of health insurance, and awareness as a factor for uptake and re-enrolment in health insurance. Databases such as MEDLINE (PubMed), Web of Science, Scopus, 3ie impact evaluation repository and SSRN will be searched from January 2010 to July 15, 2020. Additionally, important government websites and references of the included studies will be scanned to identify potential records. Three authors, independently, will carry out screening and data extraction. Studies will be categorized into quantitative and qualitative, and mixed methods synthesis will be employed to analyze the findings.

Ethics and dissemination: This review will be based on published studies and will not recruit human participants directly, therefore, ethical clearance is not applicable. We will disseminate the final review findings in a national or international conference and publish in a peer-reviewed journal.

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3 **Key words:** Awareness; Health Insurance; Healthcare services; India; Protocol
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6 **Strengths and limitation of the review**
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- 8
- 9 • This systematic review will use mixed methods analysis involving findings from
10 quantitative and qualitative studies conducted in India.
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 - 12 • We will comprehensively search the evidence in various databases, gray literature, and
13 reference and forward citations of included studies, however, the publications will be
14 restricted to English.
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 - 16 • We anticipate heterogeneity owing to study designs of potentially included studies,
17 however, to mitigate this challenge we have planned to conduct sub-group analysis
18 based on PROGRESS-Plus framework.
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Introduction

Low- and middle-income countries (LMICs) contribute to around 84% of the world population and 90% of the global burden of disease.¹ People living in the LMICs rely majorly on out-of-pocket (OOP) payments as the prime source for managing healthcare expenses, that results in a massive demand for services and financial burden of households (usually catastrophic), which in turn leads to impoverishment.¹⁻⁵ It is projected that every year approximately 150 million people experience financial catastrophe, by spending more than 40% on health expenses other than food.⁶ Families generally spend more than 10 % of the household income on illness-related expenses, due to which other household expenses are affected.^{2, 5} To make it worse, evidence suggests that per capita spending on healthcare in many LMICs is expected to increase in coming years.⁴ Additionally, the increased costs of seeking and receiving care can hinder the access to healthcare.⁷

The Universal Health Coverage (UHC) is embedded within the sustainable development goals (SDGs) and aims “to ensure healthy lives and promote well-being for all at all ages by 2030”.⁸ It includes financial risk protection and equal access to quality essential healthcare services.^{8,9} In other terms, UHC encourages equitable healthcare² and nations across the world are committed to achieving SDGs through UHC.¹⁰

Health insurance is one of the important approaches that can help in boosting UHC through improved healthcare utilization and financial protection.^{7-9, 11} There are multiple types of insurance in LMICs that differ with providers (government vs private sector), scales, and types of beneficiaries.⁸ However, in many LMICs, due lack of acceptability and unwillingness to pay premiums, health insurance coverage is limited.^{2, 4} This increases the risk of excluding vulnerable and at-risk population, who cannot afford to pay health insurance premium.⁸ Additionally, the older adults, and the individuals with disability and chronic diseases, have

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3 less probability of enrolling in health insurance schemes or their specific needs may not be
4 covered under the scheme.⁸
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9 The coverage of health insurance policies or programs in India is improving, however, the
10 publicly-funded health insurance schemes are mostly restricted to socio-economically
11 backward people or government employees.¹² India's first health insurance program, launched
12 in the 1950s, was limited to central government employees and certain low-income
13 population.¹¹ Over the years, the private healthcare providers' dominance in quality healthcare
14 service provision can be seen.¹¹ Nevertheless, many economically backward families are either
15 deprived of healthcare or are pushed into poverty in the absence of financial protection.¹¹ In
16 2002, targeted health insurance programs for low-income households were introduced by
17 central and state governments in partnership with private sector and non-governmental
18 organizations (NGO). Since 2002 (recommendations of National Health Policy 2002), more
19 than 17 health insurance schemes have been launched by various governments in India.¹¹ The
20 most recent one is 'Ayushman Bharat' or Pradhan Mantri Jan Arogya Yojana (PMJAY) (Prime
21 minister's health assurance scheme) launched in 2018 to achieve UHC. PMJAY is fully
22 financed by the government and seeks to cover 500 million citizens with an annual cover of
23 approximately 7000 USD per household. The main aim of the PMJAY is to lessen the
24 economic burden experienced by poor and vulnerable groups for access to healthcare facility.¹³
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46 Despite the availability of multiple health insurance schemes, evidence suggests that the uptake
47 of health insurance in India is poor. As per the recently concluded National Sample Survey
48 Office (NSSO) data, there were as low as 14% rural and 18 % urban residents of India having
49 some form of health insurance.¹⁴ The low coverage of health insurance was evident in other
50 literature, wherein it was reported to be less than 20%.^{5, 12} Similarly, other LMICs have reported
51 poor registrations in the national health insurance schemes.^{8, 9, 12, 15}
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3 There are multiple factors that are responsible for awareness and enrolment in health insurance
4 schemes.^{2, 4} These factors can be broadly divided into individual (age, gender, education,
5 employment status, marital status),^{2, 9, 16} and household characteristics (wealth, size of
6 family).^{1, 9, 17} Other factors are program-related (premium amount, rules, regulation, and
7 procedures), social capital (trust, networks and group participation, social norms, and solidarity
8 and togetherness features of the social organization of the community), institutional factors
9 (regulatory mechanisms, complaint handling systems, and insurance education), and supply
10 side factors (quality of care and distance of house from the nearest health facility).² The
11 aforementioned factors may also determine the consumer preference in selecting the health
12 insurance.¹⁷ Inadequate claim returns, poor accountability and non-transparent operations
13 hinders the uptake of health insurance.¹⁸

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In Indian studies, a scant i.e. 34 % of the participants who did not have health insurance were
willing to pay for any health insurance.⁵ Previous research in LMICs suggests that financial
status of household is positively associated with willingness to pay (WTP).^{2, 4, 9, 18} Whereas
level of education received contradictory findings i.e. a study conducted in Nigeria reported
that education was negatively associated with WTP⁴ contrary to study conducted in Uganda,¹
Ghana,¹⁶ and India.⁵ Family who had good perceived health had less probability of getting
insurance as compared to those individuals who perceived their health as poor. Similarly, those
individuals who had chronic diseases were more inclined to have health insurance than those
who did not have chronic diseases.² Corruption and mistrust in the health insurance scheme^{1, 5,}
¹⁸ and expensive plans^{5, 18} were some of the reasons for non-willingness to pay. Lack of
information or health insurance illiteracy is another important reason for non-willingness to
pay.^{1, 5, 18}

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3 Health insurance literacy is defined as “the degree to which individuals have the knowledge,
4 ability, and confidence to find and evaluate information about health plans, select the best plan
5 for their own (or their families) financial and health circumstances, and use the plan once
6 enrolled.”¹ Lack of health insurance literacy or education hinders the uptake of health insurance
7 and in many LMICs health insurance literacy is poor. A study conducted in Uganda reported
8 that about 34% of the studied population were not aware of health insurance.¹ Whereas,
9 proportion of people having inadequate knowledge about health insurance was found to be high
10 in countries such as India (46%),⁵ Myanmar (66%)³ and Hispanic American in the United
11 States (70%)¹⁹.

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25 Familiarity or awareness of the insurance schemes increases the utilization of health insurance
26 and subsequently help in healthcare uptake.^{1, 2, 19} Individuals usually enroll into health
27 insurance because of their personal experiences, awareness, or word-of-mouth
28 advertisements.¹⁷ Mass media such as newspaper, radio and television play an important role
29 in making people aware of health insurance schemes.¹ Friends, community meetings, school
30 gatherings, and health workers have an influence on increasing the health insurance awareness
31 of the people.¹ Although, aforesaid factors help in increasing the awareness and enrollment in
32 health insurance scheme, some enrollees may not pay premium on regular basis and might not
33 get to know even after health insurance is lapsed.⁹ Women farmers, as compared to other
34 occupations, had more odds of unawareness that their insurance was lapsed.⁹

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49 It is evident from the above description that there is inadequate awareness of health insurance
50 among general population in LMICs. Knowledge about health insurance can boost individuals’
51 confidence and self-efficacy; thus, it is an important *a priori* factor that is required to get
52 enrolled in health insurance scheme.¹⁹ Outreach programs to increase general knowledge of
53 health insurance and integrating health insurance education within health delivery systems may
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3 help to improve the uptake of health insurance.¹⁹ Globally, there are different methods
4 available to promote and raise awareness about different health insurance schemes. However,
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6 India is a diverse country with a complex health system and numerous contextual factors. A
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8 ‘one size fits all’ approach for any policy or intervention is not suitable for the country.
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10 Therefore, it is imperative to understand the different approaches implemented to raise
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12 awareness about health insurance in the country. Additionally, due to increased population and
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14 a meagre public health spending on healthcare, it is important to understand if the resources
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16 are being utilized appropriately. To ensure this, understanding the effectiveness of such policies
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18 is essential, so that focus is directed towards the suitable interventions. ‘Ayushman Bharat
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20 Scheme- PMJAY’ is implemented to ensure increased utilization of the healthcare facilities
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22 with financial protection of the beneficiaries. The evidence available on the effectiveness of
23
24 the PMJAY scheme states no effect of the scheme on utilization of healthcare and financial
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26 protection of enrolled beneficiaries¹³, however, this evidence is limited. Therefore, in the
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28 Indian context, it is important to understand if awareness is a factor that has led to decreased
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30 utilization of PMJAY or failure of the other schemes (viz. Rashtriya Swasthya Bima Yojana-
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32 RSBY) in securing financial protection of the beneficiaries.²⁰ Also, it is vital to understand the
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34 importance of awareness programs for success of the health insurance schemes, which will be
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36 the focus of this review.
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45 A systematic review will help in synthesizing high quality evidence in a systematic manner,
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47 for this important topic of interest. The proposed systematic review will therefore identify the
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49 different approaches and interventions for increasing health insurance awareness in India and
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51 will give information about the impact of these interventions. This review is planned to address
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53 the following research questions:
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57 1. What are the various interventions implemented in India to promote awareness of health
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59 insurance?
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3 2. What is the effectiveness of the above interventions on the awareness and uptake of health
4 insurance by people of India?
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8 **Methods and analysis**

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11 Methodology for this systematic review will be based on the Cochrane handbook for systematic
12 reviews of interventions²¹ and we have adhered to PRISMA-P guidelines for reporting this
13 protocol.²²
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18 *Criteria for including studies in the review:*

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21 Population: The review will include studies conducted in India that involve adult population
22 (≥ 18 years). We will consider the studies having household as a unit of analysis, if the head of
23 the family (or the family member who was interviewed) is an adult.
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29 Intervention/ Exposure: We will include any intervention, policy or program that directly or
30 indirectly affects awareness of health insurance. The health insurance scheme could be of any
31 type, including but not limited to, public, private, for profit and not-for-profit. Contribution for
32 premiums could be made by individual, NGO, employer or government. There is no restriction
33 on focus of health insurance e.g., hospital stay, surgery or critical illness.
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41 Intervention/ exposure could be educational, informative, training, technology and m-health or
42 e-health related. The interventions could be focused on raising income threshold to be eligible
43 for health insurance, such as, conditional or unconditional cash transfers that indirectly
44 influences awareness of health insurance. Similarly, training and performance-based financing
45 for healthcare staff or other groups will be eligible for inclusion. The intervention could be a
46 modification of the enrolment procedure, changes in the premium or organizational changes in
47 handling health insurance. Intervention could be directed on general population or targeted
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3 groups such as vulnerable population, indigenous groups, community leaders, employees,
4 formal or informal groups and healthcare staff.
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9 Comparison: This review will not restrict the studies based on comparison, as having a
10 comparison group may not always be feasible.
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14 Outcomes:

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17 i. Awareness/ health insurance literacy (refers to knowledge of the household head or
18 household member on the presence of insurance schemes, its principles, and
19 significance. The outcome measure can be objective or subjective.)
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23 ii. Attitude: Readiness to buy health insurance, decision making
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26 iii. Uptake of health insurance
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29 iv. Demand- and supply-side factors for awareness of health insurance
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31 v. Awareness of health insurance as a factor for uptake or re-enrolment of health
32 insurance
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36 Types of study designs: This review will include experimental studies that assessed the effect
37 of intervention to promote awareness and uptake of health insurance. It is sometimes not
38 practical to conduct randomized controlled trials (RCTs) to measure the effect of public health
39 interventions, therefore, the review will also include other study designs. Studies with
40 following designs will be included: RCTs, interrupted time-series studies, difference-in-
41 difference, regression discontinuity designs, statistical matching, quasi-randomized and non-
42 randomized trials. Additionally, this review will include prospective, retrospective, analytical
43 cross-sectional and studies related to process evaluation and policy analysis, if the studies have
44 provided description of intervention or exposure of our interest. Qualitative studies are
45 important source of information about barriers and enabling factors that can complement the
46 findings, therefore we will also include these types of studies. This review will exclude
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descriptive cross-sectional (prevalence) studies, commentaries, perspectives, editorials, reviews, and conference abstracts. Policy papers that do not provide details of implementation of intervention, will not be considered.

Searching and locating the studies:

The electronic databases such as MEDLINE (PubMed), Web of Science, and Scopus will be searched to identify potential records. Additionally, 3ie impact evaluation repository and SSRN (Social science research network) will be searched. Databases will be searched from January 2010 till July 15, 2020 and publications will be restricted to English language. Ministry of Health and Family Welfare, RSBY, Ayushman Bharat, and other state health insurance websites will be searched for reports on the health insurance schemes. We will also scan through references of the included studies for any additional eligible records. After identifying the keywords, initial search will be carried out in PubMed, which will then be replicated in other databases. A designated information scientist will be responsible for conducting search. The preliminary search concepts and key terms are given in table 1.

Table 1: Search concepts and key words

Concept	Key terms
Intervention or Exposure	'Information Education Communication', 'IEC', 'Mass Media', 'Television', 'Leaflet', 'Brochure', 'Flyer', 'Radio', 'Television', 'Advertisement', 'Behavioral change communication', Awareness program/ programme/ campaign/ initiatives / policy', 'Promotion', 'Marketing', 'Social media', 'E-health', 'M-health'.

Insurance names	<p>‘Community insurance’, ‘Health insurance’, ‘Health insurance programs / programmes/ schemes’, ‘Health finance /financing’, ‘Healthcare reform’, ‘Insurance coverage’, ‘National health insurance’, ‘National health insurance scheme’, ‘Medical insurance’, ‘Micro health insurance’, ‘Public health insurance’, ‘Social insurance’, ‘Social protection’, ‘Universal healthcare’, ‘Universal health care’, ‘UHC’, ‘Ayushman Bharat’, ‘Pradhan Mantri Jan Arogya Yojana’, ‘PMJAY’, ‘Mukhyamantri Swasthya Bima Yojana’, ‘MSBY’, ‘Rashtriya Swasthya Bima Yojana’, ‘RSBY’, ‘Aarogysri’, ‘Rajiv Arogyabhagya’, ‘Rajiv Arogyashree health insurance’, ‘Rajiv Gandhi Jeevandayee Arogya Yojana’, ‘Yesasvini health insurance’, ‘Yashshvini Community based health insurance programme’, ‘Vajpayee Arogyashree’, ‘Biju Krushak Kalyan’, ‘Kalainagar’, ‘CHIS’, ‘Employee State Insurance Scheme’, ‘ESIS’, ‘Central Government Health Scheme’, ‘CGHS’, ‘Mediclaim’, ‘Deen Dayal Swasthya Seva Yojana’.</p>
Outcome	<p>‘Awareness of health insurance’, ‘Health insurance literacy’, ‘Uptake of health insurance’, ‘Utilization of healthcare services’, ‘Enrolment under health insurance’, ‘Health insurance enrolment’, ‘Health insurance retention’, ‘Healthcare utilization’, ‘Medical service utilization’, ‘Readiness to buy health insurance’, ‘Decision making’, ‘Perceptions’, ‘Knowledge’, ‘Demand- and supply-side factors’, ‘factors’, ‘barriers’, ‘enablers’.</p>
Region	India

Applying eligibility and screening the studies:

The results of search will be imported to Endnote X7 reference manager software and duplicates will be removed. MS Excel spreadsheet will be used to screen the records. Based on inclusion and exclusion criteria, all the records will be subjected to two stage - title/abstract (T/A) and full text (FT) - screening process, independently by three (SSP, ER, BTV) reviewers (in pairs). Any disagreements between the reviewers will be resolved by discussion, and senior reviewer will be involved in decision making in case of disagreements between the reviewers. The reasons for excluding full texts will be documented and the PRISMA flow diagram will be provided. A detailed screening protocol will be used as a back-up document to aid the screening process. Table 2 gives detailed screening protocol.

Table 2: Screening protocol

1	Title and abstract screening		
A	Is the study published in English? AND Is it published in the year 2000 or later?	If answer to both the components are “Yes”, Go to B	If it is non-English or published before 2000 then Exclude the study
B	Is it a study conducted in India?	1. If it is “Yes” OR 2. If it is not clearly stated, thus cannot decide, Go to C	If it is clearly stated that it is conducted elsewhere, but India, then Exclude the study

C	<p>Does study involve one of the following design or analysis: RCTs, interrupted time series studies, difference-in-difference, regression discontinuity designs, statistical matching, quasi-randomized and non-randomized trials, prospective, retrospective, and analytical cross-sectional studies and studies related to process evaluation and policy analysis.</p>	<p>If answer is “Yes” OR it is not clearly stated in abstract, Go to D</p>	<p>If the study is descriptive cross-sectional (or prevalence study) having single group OR if the publication is a commentary, perspective, editorial, reviews, conference abstracts OR policy paper that does not provide details of implementation of intervention: Exclude the study</p>
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	<p>D Does the study describe the intervention for increasing awareness of and uptake of health insurance?</p> <p>[The intervention could be any intervention, policy or program (e.g. Behavioral change communication or educational) that directly or indirectly affects awareness of health insurance. There is no restriction on mode of intervention e.g. Mass media or group discussions. There is no restriction on who provides the intervention e.g. researcher, community-based workers or insurance agent. There is no restriction on duration and frequency of providing intervention. The health insurance scheme could be of any type, including but not limited to, public, private, for profit and not-for-profit. Contribution for premiums</p>	<p>If answer to one of the components is “Yes” OR if it is not clearly stated and you are in doubt, then Include the study for full text screening</p> <p>If you are in doubt: flag for discussion</p>	<p>If no, Exclude the study</p>
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	<p>could be made by individual, non-governmental organizations, employer or government. There is no restriction on focus of health insurance e.g. hospital stay or surgery.] OR</p> <p>Does the study describe about the factors associated with awareness of health insurance? OR Does the study describe awareness as a factor for uptake or re-enrolment of health insurance?</p>		
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2	Full text screening		
E	Is it a study conducted in India?	If it is “Yes”, Go to F	If no Exclude the study
F	Did the study involve adult population?	If it is “Yes”, Go to G	If no Exclude the study
G	Does the study involve one of the following design or analysis: RCTs, interrupted time series studies, difference-in-difference, regression discontinuity designs, statistical matching, quasi-randomized and non-randomized trials, prospective, retrospective, and analytical cross-sectional studies and studies related to process evaluation and policy analysis.	If answer is “Yes” Go to H OR If you are doubtful, then flag for discussion	If the study is descriptive cross-sectional (or prevalence study) having single group OR If the publication is a commentary, perspective, editorial, reviews, conference abstracts or policy paper that does not provide details of implementation of intervention: Exclude the study

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	<p>H Does the study describe the intervention for increasing awareness of and uptake of health insurance?</p> <p>[The intervention could be any intervention, policy or program (e.g. Behavioral change communication or educational) that directly or indirectly affects awareness of health insurance. There is no restriction on mode of intervention e.g. Mass media or group discussions. There is no restriction on who provides the intervention e.g. researcher, community-based workers or insurance agent. There is no restriction on duration and frequency of providing intervention. The health insurance scheme could be of any type, including but not limited to, public, private, for profit and not-for-profit. Contribution for premiums</p>	<p>If answer to one of the components is “Yes” Go to I OR</p> <p>If you are in doubt, then flag for discussion</p>	<p>If no Exclude the study</p>
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	<p>could be made by individual, non-governmental organizations, employer or government. There is no restriction on focus of health insurance e.g. hospital stay or surgery.] OR</p> <p>Does the study describe about the factors associated with awareness of health insurance?</p> <p>OR Does the study describe awareness as a factor for uptake or re-enrolment of health insurance?</p>		
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I	Did the study measure the outcomes of our interest?	If answer is “Yes” then Include for data analysis	If no, Exclude the study
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Data extraction:

Data will be extracted independently by three reviewers (SSP, ER, BTV). A pre-designed data extraction form will be used for extraction of the data. The data extraction form will be subjected to pilot testing and will be revised as per the suggestions by the reviewers and the experts at this stage. Any disagreements during data extraction, will be resolved by consensus supported by the senior reviewer. Data will be extracted based on the characteristics mentioned in the table 3.

Table 3: Data extraction format

Publication details	First author's last name
	Year of publication
	Publication type: Report/ journal publication
Population characteristics	Age
	Gender
	Religion/ Race/ Ethnicity
	Number of participants included
Location/setting	State/ district or other details of place where study was conducted
	Setting: hospital / community based
	Rural/urban

1 2 3 4 5 6 7 8 9	Study methodology/ design	Study design: RCT, quasi-randomized trial, case control study etc. Type of analysis
10 11 12 13 14 15 16 17 18 19 20	Intervention details	Type of intervention, mode of delivery, other details such as content/ frequency, who provided it etc. Start time and duration of intervention Details of comparison
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36	Insurance details	Public/ private/ community-based insurance Start or launch date (month and year) of insurance Type of plan e.g. individual, family, senior citizen, critical illness etc. Benefits of health insurance e.g. Cashless facility, hospitalization, pre- and post-hospitalization, medical check-up, maternity benefits, childcare, critical illness etc.
37 38 39	Exposure details	List different factors or themes
40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57	Outcome details	List down outcome, variable type: continuous or categorical, type of analysis Effect measures with 95% confidence interval (Such as Odds ratio, Risk ratio, hazard ratio) Number of participants analyzed, number loss to follow-up Details of subgroup analysis, if any.
58 59 60	Other details	Themes and sub-themes

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6 *Critical appraisal of included studies:*
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8 Effective public health practice project (EPHPP) tool²³ will be used to assess the
9 methodological quality of quantitative studies (except observational studies) and Newcastle-
10 Ottawa scale (NOS)²⁴ will be used for the observational studies. The EPHPP rates the study as
11 ‘strong’, ‘moderate’ or ‘weak’ based on eight domains. These domains are selection bias, study
12 design, confounders, blinding, data collection methods, withdrawals and dropouts, intervention
13 integrity and analysis.²³ NOS rates the study based on three domains viz. selection,
14 comparability and outcome, and the final score ranges between 0 and 10.²⁴ Reviewers (BTV,
15 ER and SSP), independently in pairs, will appraise the included studies. Any discrepancies
16 between the decisions of reviewers will be resolved by discussion until consensus is achieved.
17 If required, a senior reviewer will be involved as arbitrator and final decision maker to rate the
18 study quality.
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35 *Data Analysis:*
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37 Study characteristics consisting of population, intervention/exposure, comparator, outcome,
38 study design components across studies will be tabulated, which will help us to compare and
39 analyze. Subsequently, studies will be categorized into quantitative and qualitative and will be
40 analyzed separately. This step will be followed by mixed methods synthesis as suggested by
41 Panda et al. (2013).²⁵
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50 1. Quantitative studies:
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52 Studies will be grouped based on study design, and type of data available (continuous or
53 categorical). If possible, similar studies will be pooled to perform meta-analysis using random
54 effect model. If data are continuous, standardized mean difference will be calculated with 95%
55 confidence interval. If data are categorical, odds ratio or risk ratio will be calculated and reported
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3 with 95% confidence interval. Meta-analysis will be visually represented with a forest plot. We
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5 assume possibility of heterogeneity owing to differences in study design or analysis,
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7 intervention, type of insurance and other contextual factors. If heterogeneity exists due to
8
9 aforementioned components, we will not perform meta-analysis. After ruling out clinical or
10
11 methodological heterogeneity, we will statistically measure heterogeneity by using I^2 test. If
12
13 significant heterogeneity (>50%) persists for a particular outcome, meta-analysis will not be
14
15 conducted. In this case, our focus would be on conducting narrative synthesis and undertaking
16
17 a subgroup analysis. Key findings of the studies will be summarized in tables/ figures or vote
18
19 counting will be considered. Subgroups could be based on study design, intervention type,
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21 insurance type (such as private and public), region and other contextual factors (e.g.,
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23 urban/rural).

24 25 26 27 28 2. Qualitative synthesis:

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30 We will carry out thematic analysis as suggested by Thomas & Harden (2008).²⁶ An iterative
31
32 process of line-by-line coding will be undertaken as a first step, which will be followed by
33
34 categorizing the codes into code families. Subsequently, a code tree will be created, and themes
35
36 and sub-themes will be generated. Three reviewers (SSP, ER, BTV) will code the data
37
38 independently and resolve the discrepancies by discussion until consensus is achieved.
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41 42 3. Mixed methods synthesis:

43
44 The result from both, qualitative and quantitative synthesis will be merged for each outcome.
45
46 Parallel synthesis will be carried out, and the findings will be summarized narratively.²⁵ To
47
48 understand the influence of inequality in uptake of health insurance based on type of insurance,
49
50 we will explore the possibility of conducting subgroup analysis based on some of the
51
52 components of PROGRESS-Plus framework.²⁷
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57 *Grading the evidence:*
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3 We will use the GRADE approach to evaluate the certainty of evidence for each outcome.²¹

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5 Using GRADE profiler software, we will present the main findings of the systematic review in
6
7 a summary of findings table.
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11 *Patient and public involvement:*
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13 We did not involve patients or public while designing and writing this protocol.
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17 **Ethics and Dissemination:**
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19 This review will be based on published studies, therefore, an ethical clearance is not applicable.
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21 We have planned following activities to communicate and disseminate the findings of this
22
23 review. We plan to make at least one national or international conference presentation. We will
24
25 prepare policy brief to be shared with funder and to get a wider reader, we plan to submit the
26
27 manuscript to a peer-reviewed journal. Upon journal publication, we intend to circulate the
28
29 findings through our social media platform and website.
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34 **Author contribution:**
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36 Dr Reshmi B is the guarantor of the review. RB, SSP, ER, and BTV conceptualized the
37
38 manuscript. SSP drafted the first manuscript, which was further edited by ER. RV developed
39
40 the search strategy. All the authors (RB, UB, SSP, ER, RV and BTV) read, edited, provided
41
42 feedback and approved the final manuscript.
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48

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56
57 and decision to submit it for publication.
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3 **Competing interest:** Authors do not have any competing interest.
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9
10 Education, Manipal, for proof reading the final document.
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PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Response (Yes or No)	Page number
ADMINISTRATIVE INFORMATION				
Title:				
Identification	1a	Identify the report as a protocol of a systematic review	Yes	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	Not applicable (NA)	
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	No	
Authors:				
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	Yes	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	Yes	22
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	NA	
Support:				
Sources	5a	Indicate sources of financial or other support for the review	Yes	22
Sponsor	5b	Provide name for the review funder and/or sponsor	Yes	22

1	Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	Yes	22
2	INTRODUCTION				
3	Rationale	6	Describe the rationale for the review in the context of what is already known	Yes	8
4	Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	Yes	8, 9
5	METHODS				
6	Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	Yes	9-10
7	Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	Yes	11
8	Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	Yes	11, & table 1
9	Study records:				
10	Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	Yes	12
11	Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	Yes	12, 13, & table 2

Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	Yes	18
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	Yes	18, & table 3
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	Yes	10
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	Yes	19, 20
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	Yes	20, 21
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	Yes	20, 21
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	Yes	21
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	Yes	21
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	No	
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	Yes	21

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

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From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.

For peer review only