BMJ Open Factors associated with accessing and utilisation of healthcare and provision of health services for residents of slums in low and middle-income countries: a scoping review of recent literature

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ABSTRACT

Objective To identify factors associated with accessing and utilisation of healthcare and provision of health services in slums.

Design A scoping review incorporating a conceptual framework for configuring reported factors.
Data sources MEDLINE, Embase, CINAHL, Web of Science and the Cochrane Library were searched from their inception to December 2021 using slum-related terms.
Eligibility criteria Empirical studies of all designs reporting relevant factors in slums in low and middle-income countries.

Data extraction and synthesis Studies were categorised and data were charted according to a preliminary conceptual framework refined by emerging findings. Results were tabulated and narratively summarised. **Results** Of the 15 469 records retrieved from all years, 4368 records dated between 2016 and 2021 were screened by two independent reviewers and 111 studies were included. The majority (63 studies, 57%) were conducted in Asia, predominantly in India. In total, 104 studies examined healthcare access and utilisation from slum residents' perspective while only 10 studies explored provision of health services from providers/planners' perspective (three studies included both). A multitude of factors are associated with accessing, using and providing healthcare in slums, including recent migration to slums; knowledge, perception and past experience of illness, healthcare needs and health services; financial constraint and competing priorities between health and making a living; lacking social support; unfavourable physical environment and locality; sociocultural expectations and stigma; lack of official recognition; and existing problems in the health system.

Conclusion The scoping review identified a significant body of recent literature reporting factors associated with accessing, utilisation and provision of healthcare services in slums. We classified the diverse factors under seven broad categories. The findings can inform a holistic approach to improving health services in slums by tackling barriers at different levels, taking

Strengths and limitations of this study

- ⇒ We conducted literature search in multiple databases using generic terms related to slums to ensure that a wide range of relevant studies was captured.
- ⇒ A conceptual framework explaining factors associated with accessing and utilisation of healthcare by slum residents as well as provision of healthcare in slums was developed and used to categorise identified studies and factors.
- ⇒ We examined barriers and facilitators of accessing healthcare and service provision from the perspectives of both demand side (slum residents) and supply side (healthcare providers and service planners).
- ⇒ Only studies published in academic journals between 2016 and 2021 in English language were included, and methodological quality of each included study was not examined because of time constraint.
- ⇒ We did not explore the complex relationships and interactions between various factors in different contexts at different slum locations, but our mapping of these factors to the conceptual framework should facilitate further in-depth analyses.

into account local context and geospatial features of individual slums.

Systematic review registration number https://osf.io/694t2.

INTRODUCTION

Rapid urbanisation has resulted in a growing number of residents in slums¹ who face ongoing problems such as unemployment, poor sanitation, lack of transport, high level of crime and haphazard development.² In 2018, over 1 billion people were living in slum-like conditions, and Central, South and South-East Asia and sub-Saharan Africa

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associated with accessing and utilisation of healthcare and provision of health services for residents of slums in low and middle-income countries: a scoping review of recent literature. *BMJ Open* 2022;**12**:e055415. doi:10.1136/ bmjopen-2021-055415

To cite: Park J-E, Kibe P,

Yeboah G, et al. Factors

Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/ bmjopen-2021-055415).

Received 12 July 2021 Accepted 25 March 2022

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Correspondence to Dr Yen-Fu Chen; y-f.chen@warwick.ac.uk accounted for 80% of them.¹ Even though various definitions of slums exist, there is no universally agreed definition of what constitutes 'a slum', and the term itself is widely debated and contested.^{3 4} For the purpose of this scoping review, we refer to slums as densely populated areas characterised by lack of basic services, substandard housing, overcrowding, unhealthy living condition, insecure tenure and poverty,⁴⁵ taking into account the crucial concepts of place and space that are important in shaping health outcomes and community access to health services in these urban settings.⁴

Previous studies have reported various risk factors affecting health of slum residents such as physical environment,⁶ sanitation,⁷ social capital⁸ ⁹ and water governance,¹⁰ and have observed in some cases that slum residents have worse health status compared with nonslum urban and/or rural residents. For example, Ezeh et alfound that children living in slums had higher mortality than rural and non-slum urban populations.³ Poorer height for age for children¹¹ and higher prevalence of childhood illnesses and malnutrition¹² have also been observed in slums compared with non-slum urban and rural settings. In addition, slum residents are susceptible to unhealthy behaviours.¹³¹⁴ Living in slums has been found to be associated with low physical activity,¹³ poor diet¹⁴ and poor knowledge about the cause and preventability of diseases.¹⁵

Despite the unfavourable health status and environment, and consequently the potential high level of healthcare needs, previous studies showed that slum residents were less likely to seek and use healthcare services than their non-slum counterparts in the cities.^{16 17} Slum residents have been found to have lower rates of healthcare utilisation in antenatal services¹⁶ and services for non-communicable diseases¹⁷ compared with residents of urban 'formal' settings. One study in Iran showed that only about half of slum households that required outpatient services could use them.¹⁸ Another study in Haiti also reported that one-third of slum households were not able to access medical care for their children when it was needed in the past year.¹⁹

While the health status and needs of slum residents have been described in previous reviews,^{3 20} factors associated with healthcare-seeking behaviour and healthcare utilisation of slum residents and factors related to the provision of health services in slums have not been systematically examined (with the exception of immunisation services).²¹ This scoping review aims to fill in these evidence gaps and inform efforts to improve healthcare delivery to people in slums.

METHODS

This scoping review was performed according to current best practice guidance.²² The broad question of interest was: 'What factors are associated with slum residents' accessing and utilisation of health care and/or the provision of health services in slum settings in low and middle income countries

(LMICs)?'. The protocol for this review was registered in Open Science Framework.²³

Literature search and study selection

A broad search of five databases (MEDLINE, Embase, CINAHL, Web of Science and the Cochrane Library) was conducted in April 2020 and updated in December 2021. Searches were limited to English language. Key terms related to slums were used: slum or slums or ghetto or ghettos or informal settlement\$ or shantytown\$ or shanty _ town\$ or favela\$ (online supplemental appendix 1). We did not include terms related to other concepts in order to maximise the sensitivity of our searches. In addition, we searched the organisational websites of Slum Dwellers 8 International, UN HABITAT, United Nations and WHO but did not identify relevant studies.^{24–27}

opyright, Records retrieved from databases (after duplicates were removed) were initially screened by one reviewer (I-EP) and those which did not meet the inclusion criteria were disregarded. After that, a second reviewer (PK, GY, OO) examined the remaining records independently based on titles and abstracts. When the decisions of two reviewers differed, the discrepancy was resolved based on full texts uses rela and/or by discussion with a third reviewer (Y-FC) or the broader review team. This study-screening process started from records of the most recent years (ie, in the past 3 years) and then proceeded to prior years. Due to the larger than expected volume of the literature, we eventually screened records between 2016 and 2021 and did not e cover earlier records in order to synthesise and present the findings from latest evidence in a timely fashion to inform the wider project hosting this review.^{28 29}

Inclusion and exclusion criteria

A study was included when it: (1) described factors related to slum residents' accessing or utilisation of healthcare 🤅 or the provision of health services in slums; and (2) was conducted in relation to slums in LMICs. Only articles written in English were included. A study was excluded ŋġ, when it was a commentary, opinion or narrative review; described slum residents' utilisation of health services or the provision of health services without exploring the associated factors; investigated informal care at home; or included mixed slum and non-slum populations without separately reporting data for slum residents or investigating residency in slums as a factor for healthcare access.

During our updated search in December 2021, we found several studies reporting healthcare utilisation²⁸ and $\mathbf{\mathring{G}}$ provision related to COVID-19 in slums.³⁰ These studies were not included in this scoping review, since the factors associated with healthcare utilisation and health service provision under the pandemic situation are dramatically different and warrant a separate synthesis.

We included both primary studies and systematic reviews that examine data collected empirically and that derive their findings based on the data. Both quantitative and qualitative studies (and by extension, mixed methods studies) were considered. Even though slums have existed

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Preliminary framework for factors influencing slum residents' healthcare-seeking behaviour and utilisation of health Figure 1 services and the provision of services in slum settings.

in both high-income countries and LMICs, the context may be quite different between these countries. For example, while all slums are vulnerable to natural disasters such as tropical cyclones, the impact of these could be far more severe in slums of LMICs due to the different socioeconomic contexts.³¹ In this review, we focused on settings in LMICs and excluded studies conducted in high-income countries.

Study coding and data extraction/charting

Eligible studies were coded and data extracted/charted according to a prespecified preliminary framework shown in figure 1. The preliminary framework was developed by the review authors based on existing conceptual models

related to healthcare access and service delivery^{32–35} and was modified during the scoping review process to accommodate new factors/themes identified from the literature. The refined conceptual framework is shown in figure 2.

Based on the refined conceptual framework, each eligible study was coded as being associated with one or more of the three phenomena of interest, namely slum residents' healthcare accessing (which covered perception of needs/desire for care, healthcare seeking and healthcare reaching as defined by Levesque *et al*^{β 4}), healthcare utilisation and provision of health services (which covered various arrangements related to service delivery) in slum settings (figure 2).



Figure 2 Updated framework of factors influencing healthcare-seeking behaviour/healthcare utilisation/provision of healthcare services in slums.

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In addition, to facilitate the organisation of complex evidence in this review, diverse factors reported in the included studies were initially classified into six different categories according to the preliminary framework shown in figure 1. However, during the data-charting process, we realised that many factors such as perception of symptoms and experience from past use of healthcare services did not fit into one of these six original categories. A new category of 'cognitive and experiential factors' was therefore added to the refined conceptual framework (figure 2) to reflect the emerging themes, which include seven categories:

- 1. Personal and biological factors: these relate to personal characteristics of slum residents, including age, sex, ethnicity and the nature and severity of health conditions.
- 2. Cognitive and experiential factors: these relate to personal awareness, knowledge, perception, attitude, belief and experience, etc, formed through cognitive process based on upbringing and past events.
- 3. Socioeconomic factors: these include income and wealth, economic hardship/poverty and economic opportunities, marital status, education, crime, social capital (such as bonding, trust and reciprocity between close relatives, neighbours and community members),³⁶ use of technologies for social and economic purposes, commercial and charitable organisations and activities.
- 4. Physical environment: this covers natural environment such as proximity to a health facility, built environment and infrastructure such as water supply, transport and mobile/internet networks, as well as weather conditions and environmental pollutions.
- 5. Cultural and religious factors: these include cultural and religious beliefs and activities, and local and national customs.
- 6. Legal, political and policy factors: these include government policies and issues related to legal, justice and political systems.
- 7. Health system factors: these relate to historical and current organisation and provision of healthcare that may impact on provision and delivery of health services in individual slum communities and the services experienced by slum residents.

In addition to the 'cognitive and experiential factors' category, another major difference between the preliminary (figure 1) and refined (figure 2) conceptual framework relates to the definition of healthcare access. Our preliminary framework adopted the definition by Levesque and colleagues, who defined healthcare access as 'the possibility to identify healthcare needs, to seek healthcare services, to reach the healthcare resources, to obtain or use health care services, and to actually be offered services appropriate to the needs for care'.³⁴ However, during our study-screening and data-charting process, we found that it would be helpful to make a distinction between the process of 'accessing' healthcare (which covers gaining awareness of needs, forming

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an intention to seek healthcare and taking an action to reach healthcare) and the actual receipt and utilisation of healthcare ('accessed care') when examining empirical evidence, as healthcare needs could only be met when the latter occurs and this depends on both factors related to service users (demand side) and factors related to service providers/planners (supply side). Therefore, we separated out utilisation of healthcare from 'accessing health care' to highlight that it requires a match between demand and supply side factors.

demand and supply side factors. Data on study population, study design, country in which the study was conducted, methodology and associ-ated factors were extracted using a data-charting spreadsheet which was developed and continuously updated as the review progressed by two of the reviewers (J-EP and 2 Y-FC). Whether a study was conducted exclusively within slums and whether a comparison was made between slum and non-slum urban or rural residents were also noted. Coding of phenomena and factors and data charting were conducted by one reviewer (I-EP) and checked by a second reviewer (PK, GY, OO, Y-FC). Disagreements were ing discussed between reviewers until consensus was reached. ę

Patient and public involvement

Given the focus of this scoping review on published literature, we did not directly involve residents and service providers/planners from slum settings. Nevertheless, our wider project has a work package that specifically engages with slum residents and service providers and planners,²⁸ and early plans and findings of this review were shared with the wider project team who provided comments based on their experiences of community engagement.

RESULTS

≥ The reporting of this review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews.³⁷ Using the Bu search strategy described earlier, a total of 15469 records were retrieved from the initial and updated searches (MEDLINE 4688, Embase 5090, Web of Science 3553, Cochrane 381, CINAHL 1757), with 9916 records remaining after excluding duplicates. Two additional articles^{18 38} were identified from references of the included studies. As described earlier, screening was limited to the 4368 records published from 2016 onwards.

A total of 111 articles were included in this scoping review (figure 3). Thirty-two studies reported factors 8 associated with healthcare accessing of slum residents, 73 studies reported factors related to healthcare service utilisation and 10 articles reported the factors related to provision of healthcare services in slums (four studies reported factors related to more than one phenomenon of interest). Seventy-four of the 111 studies were quantitative studies, 21 studies were qualitative studies and 14 studies were undertaken using mixed methods. The remaining two studies were systematic reviews. A total of



Figure 3 Flow chart.

42 (38%) studies were conducted in India, followed by Kenva (14 studies, 13%) (table 1).

Participants, country, study design, methodology, observed phenomena and outcomes, and factors of interests for each study are described in online supplemental tables 1-3. Online supplemental table 1 shows 32 studies reporting factors associated with general healthcareseeking behaviours; healthcare seeking for children or women; slum residents' preference for healthcare providers; and healthcare seeking related to HIV testing. Online supplemental table 2 presents various factors reported in 73 studies related to general healthcare utilisation as well as use of specific services such as childhood immunisation, maternal healthcare and possession of health insurance. In online supplemental table 3, ten studies reporting factors related to the provision of health services in slums are summarised. Key findings are described below.

Demand side: factors associated with healthcare accessing and healthcare utilisation of slum residents

We found 104 articles which identified many different factors affecting healthcare accessing and utilisation. These factors are often inter-related and exert their influence at different levels (eg, from personal, family to community level) in different circumstances. We classified various factors into seven categories (figure 2). Factors particularly relevant to slum settings and other commonly identified factors within each category are highlighted below.

Personal and biological factors: The common factors associated with healthcare accessing and utilisation included intrinsic factors such as age, 21 $^{39-55}$ sex 18 21 41 45 51 53 $^{55-58}$

Table 1 Char		finaludad atudiaa	
Category	Subcatego	rv	Studies, n (%)
Publication	2016		22 (20)
year	2010		17 (15)
	2018		23 (21)
	2019		22 (20)
	2020		18 (16)
	2020		9 (8)
Analysis	Quantitative		74 (67)
method	Qualitative		21 (19)
	Mixed meth	Mixed methods	
	Narrative sv	nthesis	2 (2)
Study location	Asia	India	42 (38)
		Bangladesh	9 (8)
		Nepal	4 (4)
		Pakistan	3 (3)
		Mvanmar	2 (2)
		Iran	2 (2)
		Sri Lanka	1 (1)
	South America	Brazil	7 (6)
		Peru	2 (2)
	Africa	Kenva	14 (13)
		Fthiopia	7 (6)
		Malawi	4 (4)
		Uganda	3 (3)
		South Africa	2 (2)
		Sierra Leone	1 (1)
		Nigeria	1 (1)
		Favot	1 (1)
		Zambia	1 (1)
		Namibia	1 (1)
		Ghana	1 (1)
	North	Haiti	1 (1)
	America	. iaiti	. (.)
	Multiple nations		1 (1)
Healthcare	Healthcare accessing		32
services in	Healthcare service utilisation		73
SIUMS	Provision of healthcare services		10
Total			111 (100)
*One study repo	orted factors re	elated to both heal	thcare accessing

*One study reported factors related to both healthcare accessing and healthcare utilisation and three studies reported factors related to both healthcare utilisation and provision of healthcare services.

and ethnicity,²¹ familial factors such as birth order of the sick child,^{21 46 59-61} as well as personal health and type of illness,^{45 58} disability⁴⁷ and morbidity,^{21 51 62 63} and the specific features of the health condition.^{52 55 64} Slum residents are more likely to seek healthcare services when sick

children are younger,^{48 49 52 55} but evidence on the association between mother's age and child's vaccination was inconsistent.^{21 39} Healthcare seeking and utilisation were different by sex, but the association was context dependent. Several studies reported higher healthcare utilisation among female slum dwellers,^{18 51 55 57} while other studies showed male children had higher vaccination coverage⁵⁶ and incurred more medical expenditure.⁵⁸ Major life events such as recent migration^{21 49 65-67} and relocation⁴⁸ into slums tend to be associated with lower healthcare seeking and utilisation. Recency of migration to slums was also related to lower uptake of Rashtriva Swasthya Bima Yojana (RSBY), a national health insurance programme run by the Indian government for poor families.⁶⁸ People with specific symptoms (such as fever, tachypnoea, persistent vomiting), 525564 disability⁴⁷ and illnesses including chronic disease²¹⁵¹⁵³⁶²⁶³ tend to use healthcare services more. Although people with tobacco habit were less likely to participate in breast cancer screening, they were more likely to take part when they had family history of cancer or history of cancer screening.⁶⁹ Lower birth order of the child was associated with increased utilisation of hospitals for childbirth,^{21 46 59-61} while the use of family planning service⁴⁶ and out-of-pocket expenditure was higher in multigravida than primigravida.⁶

Cognitive and experiential factors: These factors were not included in our initial conceptual framework but rather emerged inductively from our data. Consequently, their identification led us to revise the conceptual framework for this scoping review. A wide range of factors formed through cognitive processes and influenced by individual's upbringing, past experience and surrounding environment were reported to be associated with both healthcare seeking and healthcare utilisation of slum residents. Perception, ${}^{3950526770-76}$ knowledge ${}^{5277-82}$ and experience of symptoms and illnesses⁵⁰ were commonly found to influence healthcare seeking and utilisation. Mothers who experienced child death and subsequently planned pregnancy showed higher use of antenatal healthcare services.⁵⁰ When people perceived the symptom or disease to be serious they tend to seek healthcare services. 52 70 72 76 Although lack of knowledge could be a barrier to accessing healthcare services,^{77 78} one study showed caregivers with good knowledge of child danger signs were less likely to seek healthcare services timely.⁵² People perceiving their health status as good showed lower odds of having insurance,⁸³ but awareness and knowledge of health problems led people to use healthcare services.³⁹ ⁷³ ⁷⁵ ⁷⁹ ⁸⁰ ⁸² Home remedy and home management delayed healthcare-seeking behaviour.^{52 70 81 84} In addition, perception,^{21 42 63 75 83 85-89} knowledge^{21 42 48 60 67 74 81 85 90-95} and experience of health-care services^{39 49 59 61 66 69 74 79 86 96 97} including fear and distrust of healthcare services,^{21 38 67 71 74 75 78 88 98–100} and preference related to care provider's gender^{87 101} were frequently cited factors. Provider shopping associated with distrust of healthcare providers and denial of diagnosis delayed first care seeking and treatment initiation of patients with pulmonary tuberculosis in India.⁷⁰ Perception or experience of healthcare services also affected uptake or renewal of health insurance.^{83 94}

Socioeconomic factors: Socioeconomic status was associated with utilisation of healthcare services, ^{21 39 40 46 56 61 81 102} and even though one study showed that slum residents of lower socioeconomic class were more likely to enrol in health insurance than slum residents of higher socioeconomic class,⁴⁰ the latter were more likely to use healthcare services.^{39 46 56 61} One study reported higher **__** public hospital visits (compared with private hospital visits) among lower socioeconomic status.¹⁰³ Income g and wealth²¹ ⁴¹ ^{48–50} ⁶⁰ ⁶⁵ ⁶⁷ ⁸⁰ ^{104–108} including financial and weatin including infancta is constraint $^{19213845737678848689100102109-113}$ featured prominently. Higher education level $^{394855-58606165-676980-82106-108114-116}$ 8 and higher income^{21 48–50 55 57 60 65 67 80 104 106–108 117} were and higher income^{21 48–50 55 57 60 65 67 80 104 106–108 117} were associated with more seeking and utilisation of healthcare services. With some exceptions,^{66 104} previous studies reported that employed slum residents tend to seek and a use healthcare services more frequently than unemployed slum residents and housewives.^{48 50 65 66 69 80 82 83 118} ßu Even though married people tend to seek and use more healthcare services,¹⁸⁶⁹ the reported influence of family type was inconsistent.^{39 50 115} Female slum residents in nuclear family used more antenatal services than those in joint family type,⁵⁰ but female slum residents in joint family type used more postnatal service³⁹ and immunisation service for their children.¹¹⁵ Smaller family size used more maternal healthcare services,⁶⁶ and bigger households had higher odds of having health insurance.68 The socioeconomic challenges faced by slum residents also manifested as competing priorities^{73 93 119} and lack of time^{21 100 120} for healthcare seeking and utilisation,

also manifested as competing priorities^{73 93 119} and lack difficulties in disclosing the symptoms, postponed their health processon is because of their responsibilities at home and engaged in self-treatment practices such as home remediations. *Park J-E, et al. BMJ Open 2022;12:e055415. doi:10.1136/bmjopen-2021-055415.*

of sociocultural influences towards healthcare-seeking behaviour.⁷⁷ Women in Ethiopia reported not returning to postnatal care due to religious and cultural expectation for the mother and the baby to stay home for 80 days after birth.⁹³ One Indian survey showed that some women could not seek healthcare services during labour since their husband or family did not allow that.³⁸

Legal, political and policy factors: Type of slums (in terms of official recognition and availability of basic facilities) and possession of a ration card were found to be associated with uptake of the Indian RSBY national health insurance programme.⁶⁸ One study reported that slum residents could not seek healthcare facilities for abortion because of the perceived illegality of abortion.⁷⁸

Health system factors: Slum residents were also influenced by many factors related to health systems when they sought healthcare. These included accessibility associated with the location^{21 101} and timing of services^{21 84 86}; quality of healthcare services^{38 66 85 86 101 112 124} such as delay in advising patients to go for related tests or referral, likelihood of receiving appropriate examination⁸⁴ ¹⁰⁹ and adverse events.⁷⁵ Slum residents considered service organisation including medical turnover,¹³⁰ availability of supplies/healthcare workers,^{46 84 109 112} attitude of healthcare providers,⁸⁶ type of healthcare facilities^{38 85 116 131} and waiting time.^{72 84-86 109 111 132} Slum residents tend to seek government and non-governmental organisation facility¹¹⁷ and avoid private hospitals³⁸ for healthcare services. Healthcare utilisation was higher among slum residents with healthcare insurance than those without it,^{18 82} and households with higher quarterly out-of-pocket healthcare expenditure had lower scores for an index of access to primary healthcare.¹³³

In an Ethiopian study, some participants reported unavailability of female birth attendants as a reason for not delivering at healthcare facilities¹¹² (table 2).

Supply side: provision of healthcare services

Ten articles described factors associated with provision of healthcare services in slums from the service providers' perspective. None of the studies reported personal and biological factors. Factors related to other categories are summarised below.

Cognitive and experiential factors: Odhiambo *et al* reported slum residents' fear of side effects, size of tablet and misconceptions regarding treatment as the factors hindering drug administration activities by healthcare workers for a deworming programme in Kenya.¹³⁴ On the other hand, this study also reported a high demand for drugs from slum residents in the final year of this programme because people realised that free treatment was to be ended.¹³⁴

Socioeconomic factors: Effective community mobilisation was a facilitator¹³⁴ whereas poor community support¹³⁵ and insufficient time allocated for providers to implement healthcare programmes¹³⁴ were barriers for provision of healthcare services in slums. In the deworming programme mentioned above, community health workers reported that direct observation of slum residents taking deworming drugs after meals was sometimes not feasible because slum residents skipped meals or ate late at night due to food shortage.¹³⁴ Some slum residents demanded money to take the deworming drugs, either to facilitate purchase of food or to have their own share of the money that they perceived the community health workers would be paid by the programme if they complied with taking the drugs.¹³⁴

Physical environment: Poor sanitation,¹³⁴ ¹³⁶ presence of rodents and no pavement¹³⁶ and bushy and unprotected environment¹³⁴ were reported as factors making the provision of healthcare services difficult in slums.

Cultural and religious factors: Religious beliefs and **b** mistrust of interventions,¹³⁴ lack of a shared understanding of the needs, purposes and consequences of family planning and pregnancy-related services among slum residents and healthcare providers⁷³ were the barriers for healthcare service provision. In the previous deworming programme, portrayal of unrelated death being linked to the programme and related negative publicity affected participants' compliance.¹³⁴

Legal and political factors and policy: Devolution of service delivery through downward transfer of funds and responsibilities from central/national government responsibilities from central/national government responses re sional managerial and technical cadres; tight organisation of public health services; and professional support $\overline{\mathbf{a}}$ from the state directorate of public health were found 5 to strengthen public health service provision in Chennai to strengthen public health service provision in Chennai slums compared with Delhi.¹⁸⁷ One study reported that policies affected healthcare provision negatively because of staff shortage arising from change and suspension of $\mathbf{\bar{s}}$ the appointment of health promoters, which led to overwork and lack of time to provide required care by other healthcare staff.¹³² In Brazil, home visits for the provision **G** ≥ of healthcare services were hampered because slum residents could not present documents required to register for healthcare.¹³⁶ On the other hand, giving priority to socially less developed areas for strengthening the Family **g** Health System in Brazil might have been associated with better service coverage for slum residents with tuberculosis compared with their urban non-slum counterparts.¹³⁸

Health system factors: Pay scale of frontline healthcare workers,¹³⁵ knowledge of intervention area by community health workers,¹³⁴ issues related to rigid task assignment by service managers,¹³⁶ requirement to follow standardised protocol,¹³⁶ demands from the management,¹³⁶ work burden^{132 136} and no incentive,¹³⁵ insufficient time,¹³⁴ attitude⁷³ and support of healthcare providers,¹³⁵ ill-defined geographical boundary of service with unserved areas and left-out urban slum pockets¹³⁹ were associated with healthcare service provision in slums.

Lack of community-based care (such as schoolbased education for reproductive health and community support networks for women),¹³² unreliable immunisation and household data¹²⁸; and inefficient utilisation of funds,¹²⁸ affordability (price) and availability of

perspective		
Factors	Healthcare accessing	Healthcare utilisation
Personal and biological factors		
Age	(–) Age ^{52–55}	(±) Age ^{21 39–51} ; (+) age of household head ¹⁸
Gender	(±) Sex ^{53 55 57 58}	(±) Sex ^{18 21 41 45 51 56 58} ; (male) sex of household head ¹³³
Ethnicity		Ethnicity ²¹
Migration		(-) Recent migration ^{21 49 65–68} ; (-) relocation ⁴⁸ ; (-) return to home village ²¹
Biological	(+) Symptoms such as fever, tachypnoea, chest in drawing, persistent vomiting ^{52 55 64} ; having disease ⁵³	Type of illness ^{45 58} ; (+) having a disability ⁴⁷ ; (+) morbidity ^{21 51 62 63}
Other personal	(-) Tobacco habits ⁶⁹ ; (+) family history of cancer and history of cancer screening ⁶⁹	(-) Birth order of sick child ^{21 46 59-61} ; (-) parity ^{42 46 62 148}
Cognitive and experiential factors		
Knowledge/experience of symptoms and illnesses	(+) Perception of symptoms ⁷⁰ or illness ^{52 72 76} ; (±) knowledge of symptom/disease ^{52 77 78} ; (–) denial and complacency ⁷¹	(+) Experience of child death ⁵⁰ ; (+) planned pregnancy ⁵⁰ ; (+) perceived health status ⁸³ and health problem ³⁹ ^{73 75} ; (+) knowledge of symptom ⁸² ; disease ^{79 80}
Ability/experience in handling health- related conditions and perceived needs for accessing health services	(+) Awareness of the need for healthcare services ^{38 53 55} ; (–) home remedies ⁷⁰ or management of childhood illness ^{52 84}	(+) Perceived needs for healthcare services ^{21 67 74 75 90 93 112 128} ; (–) home delivery ⁸¹
Perception/knowledge/experience/preference of health services	(-) Fear of mistreatment ^{71 100} and (-) doubts about medical care ^{38 78 99} ; gender-induced affordability ¹⁰¹ ; (-) provider shopping ⁷⁰	(positive) Perception of healthcare services ^{21 42 63 75 83 85–89} and providers ²¹ ^{84 93 111 124} ; (+) knowledge of health services ^{21 42 48 60 67 74 81 85 90–93} or facilities ^{21 94 95} ; (+) previous use of related healthcare services ^{39 42 49 59 61 66} ^{79 96 97} ; (–) bad experiences of friends and relatives at healthcare facilities ⁹⁴ ; (–) misunderstanding or fear ^{21 67 74} ^{75 88 98 128} ; gender healthcare worker preference ⁸⁷ , (–) side effect ⁸¹ ; lack of trust ⁴⁵
Socioeconomic factors		
Socioeconomic status	(–) Social class ¹⁰³ ; social group (caste) of caregiver ⁵³	(+) Socioeconomic status ^{21 39 40 46 56 61} $^{81 102}$; caste ^{108 114} ; (-) insecure or poor residential background ^{21 46 68 81} ; (+) possession of ration card ⁶⁸
Marital status	(married) Marital status ⁶⁹	(married) Marital status ^{18 41} ; duration of marriage ⁴²
Family composition and living arrangement	(-) Family size ⁵³	(±) Family type ^{39 50 115 126} ; (±) family size ^{66 68} ; (–) number of children in household ^{21 44 48} ; (+) number of male children ¹⁴⁹ ; (+) housing condition ²¹
Education	(+) Education ^{53 55 57 69}	(+) Education $^{39 \ 41-43 \ 48 \ 56 \ 58 \ 60 \ 61 \ 65-67}$ $_{80-82 \ 106-108 \ 114-116 \ 126 \ 148}; (\pm)$ husband education $^{44 \ 50};$ (+) mother's education and literacy $^{21 \ 43 \ 46 \ 56 \ 59}$

Continued

Table 2 Continued		
Factors	Healthcare accessing	Healthcare utilisation
Income and wealth	(+) Income ^{55 117} ; (+) wealth ^{54 57} ; (-) inability to afford care ^{19 38 76 78 84 89 100} 109 110	(+) Income ^{41 49 50 67 80 104} ; (+) wealth ^{21 48} $_{60 65 105-108}^{60 65 105-108}$; (-) financial constraint ^{21 45 73} 86 102 111-113
Occupation	(+) Occupation ^{53 57 69}	(+) Employment ^{21 65 83 118 126} ; (±) occupation ^{48 66 80 82 104 148} ; (±) occupation of spouse ^{50 60} or household ⁶⁸
Social support	(-) Difficulty in reaching services (security risk at night) ⁹⁹ ; (+) accompanying person ⁷⁶ ; decision-making person for seeking healthcare ⁵³	(+) Family support ^{74 87} ; (+) social connectedness ⁹³ ; (+) socioeconomic support ¹²¹ ; permission for immunisation by decision-maker ¹²⁸
Competing priorities/lack of time	(-) Competing priorities (ability to work and income) ¹¹⁹ ; (-) not want to miss work ⁷⁰ ; (-) lack of time ¹⁰⁰	(–) Competing priorities ^{73 81 93} ; (–) risk of lost income ²¹ ; (–) parents being too busy ²¹
Physical environment		
Distance from health facility	Proximity of healthcare facilities ^{38 54 76} ^{84 122} ; geographical distance of formal healthcare ¹⁰¹	(-) Distance from health facility ^{21 46 80 85} 95 108 123-126
Transport	(+) Travel assistance ⁷⁶ ; (–) no transportation ³⁸	(–) Lack of transportation ^{82 95 102} ; (–) variability in traffic congestion ¹²⁷
Environment of residence area	 (-) Difficulty in reaching services (darkness at night)⁹⁹ 	Residential background ^{21 68 105}
Cultural and religious factors		
Religion	Religion ⁶⁹	Religion ^{41 56 59 75 114 128}
Sociocultural influence	 (-) Stigma^{78 101 129}; mother tongue⁶⁹; (-) difficulties in disclosing the symptoms, (-) neglecting behaviours and sociocultural influences⁷⁷; (+) cultural competency of care¹⁰¹; (+) easy communication¹⁰¹; living with the burden of cultural expectations¹⁰¹; (-) no permission to seek care from family³⁸ 	(–) Exposure to media ^{79 97} ; stigma ¹²⁸ ; (–) cultural expectation for women after birth and fear of stigma for pregnancy out of wedlock ⁹³
Tradition	(-) Traditional medicine ⁹⁹	(–) Traditional remedies ⁷⁵ ; (–) home remedies ⁸⁶
Legal, political and policy factors		
Legal issues	(-) Perceived illegality of abortion ⁷⁸	Type of slums and possession of a ration card ⁷⁹
Health system factors		
Accessibility	(+) Ease of access ¹⁰¹ ; (-) late facility opening times ⁸⁴	(-) Limited access to the services due to location ^{90 93} ; (-) timing of services ²¹ ⁸⁶ ; household visit by health workers ²¹
Quality and safety of services	Quality of treatment and expected outcome of therapies ^{38 101} ; (–) delay in advising related tests ⁷⁰ ; referral ⁷⁰ ; optimal examination ^{84 109} ; (–) provider shopping ⁷⁰	Quality of service ^{66 85 86 91 112 124} ; (-) adverse events ⁷⁵
Charges for health services	(+) Insurance coverage of both public and private providers and of extended family members ¹⁵⁰	(–) Average out-of-pocket healthcare expenditure ¹³³ ; healthcare insurance ¹⁸

Continued

Table 2 Continued

Factors	Healthcare accessing	Healthcare utilisation
Service organisation and delivery arrangement	(-) Medical turnover and overload or healthcare providers ¹³⁰ ; (+) government/NGO facility ¹¹⁷ ; (-) private hospital ³⁸ ; early engagement by healthcare workers ⁵⁴	Attitude of healthcare providers ⁸⁶ ⁹⁵ ; mode of delivery ^{39 56 59 62 81 151} ; (–) hospitals refused to accept health insurance cards ⁹⁴
Facility and resources	Availability of medicines and supplies ^{84 109} ; (–) lack of healthcare facilities ¹⁴⁴	Type of healthcare facility ^{40 85 95 116 131} ¹³³ ; inadequate resources ⁹⁰ ; (+) number of available healthcare workers ⁴⁶ ; (–) unavailability of female birth attendants ¹¹²
Waiting time	(–) Waiting time ^{72 84 109}	(-) Waiting time ^{85 86 111 132}

(-) Negative association; (±) inconsistent/conflicting evidence or context dependent; (+) positive association. NGO, non-governmental organisation.

medicine,¹⁴⁰ limited medical supplies^{73 135} and infrastructural facilities,¹³⁵ inadequate space and equipment,^{136 139} suboptimal training of staff,¹³⁹ insufficient availability of logistics and health manpower¹³⁹ also affected service provision (table 3).

Comparison between slums and other settings

Seven studies which met our inclusion criteria also included data from non-slum urban and/or rural areas and potentially allowed exploration of factors associated with healthcare access across different settings. Key findings from these studies are summarised in table 4.

These recent studies showed a mixed and dynamic picture of healthcare access across slum and other settings and reported various factors associated with this. For example, the proportion of young children fully immunised was found to be lower in slums compared with non-slum urban setting but was higher than rural settings in Nigeria. Nevertheless, the coverage improved over time across all settings.⁵⁹ While many common factors associated with full immunisation of young children were identified, giving birth in health facilities (as opposed to home) had a larger positive effect on subsequent immunisation coverage in slums compared with non-slum urban and rural settings.⁵⁹ A narrowing of gaps in delivery by skilled birth attendants between slum and non-slum urban settings over time and a reverse of the trend from having lower usage to higher usage of modern contraceptive methods by married women in slums versus urban non-slums were reported in Bangladesh.⁴⁶ Slum residents reported financial issues being the main reason for not taking prescribed drugs whereas getting better was the cited main reason for urban non-slum residents in Iran.¹¹³ Better coverage of services and higher rates of treatment completion were reported for patients with tuberculosis in slums compared with non-slum urban setting in two studies in Brazil,^{51 138} where a higher priority given to enhancing the Family Health System in socially less developed areas in recent years was suggested to be

Protected by copyright, including for uses related a likely factor associated with better service provision in $slums^{138}$ (table 4).

DISCUSSION

Statement of principle findings

This scoping review of recent literature examined the demand side factors associated with slum residents' healthcare accessing and utilisation, as well as supply side factors associated with provision of health services in g slums. We found over 104 studies related to the former but only 10 studies related to the latter. We identified a different factors associated with accessing, utilisation and provision of health services in slums, and mapped them to a conceptual framework developed and refined for this review into seven broad categories (figure 2).

Findings in the context of existing literature

Al traini Even though previous reviews have investigated factors associated with healthcare access in various settings,^{141 142} to our best knowledge this scoping review is the first that has examined wide-ranging factors across different service areas of healthcare in slums. Our findings are consistent with previous studies which highlighted common factors associated with healthcare seeking and utilisation such as age, income and education.¹⁴¹¹⁴³ We identified several factors that are particularly pertinent in slum settings, such as costs of healthcare, ¹⁹ ²¹ ⁷³ ⁷⁶ ⁷⁸ ⁸⁴ ⁸⁹ ¹⁰⁰ ¹⁰² ^{109–111} lack of time due to slum residents' competing prior-ities²¹ ¹⁰⁰ ¹²⁰ and issues arising from adverse physical **2** environment,^{82 102 134 136} security,^{99 136} fear of formal registration due to distrust of the authorities¹³⁶ and proximity of healthcare facilities.^{21 76 80 84 85 108 122-125} In addition, included studies showed that the effects of a given factor may differ between slum, urban non-slum and rural settings.⁵⁹

Healthcare cost is a major barrier between the intention to seek care and actual utilisation of services.^{109 144} Healthcare provision supported by tax-based financing and/or various forms of social and private insurance

Table 3 Factors associated with provision	of healthcare services in slums from service provider's (supply side) perspective
Cognitive and experiential factors	
Perception/knowledge/experience/ preference of health services	Fear of side effects, size of tablet and misconceptions regarding treatment, high demand for drugs in the final year of treatment ¹³⁴
Socioeconomic factors	
Income and wealth	Difficulty in directly observing deworming treatment at mealtime due to food shortage ¹³⁴
Social support	Effective community mobilisation ¹³⁴ ; poor community support ¹³⁵ ; non- involvement of community members and urban local bodies ¹³⁹ ; absence of community members during the drug administration exercise ¹³⁴ ; demand for incentives by community members to take deworming drugs ¹³⁴
Physical environment	
Environment of residence area	Environment (sanitation, territory) ¹³⁶ ; unsanitary environmental conditions ¹³⁴ ; inaccessibility (filthy and bush environment) ¹³⁴
Cultural and religious factors	
Religion	Religious beliefs and mistrust of interventions ¹³⁴
Sociocultural influence	Lack of shared understanding of the problems in community ⁷³ ; unrelated death and the associated negative publicity (of a deworming programme) by the media ¹³⁴
Legal, political and policy factors	
Policy issues	Devolution of service delivery transferring funds and responsibilities to elected local bodies ¹³⁷ ; management by professional managerial and technical cadres ¹³⁷ ; tight organisation of public health services ¹³⁷ ; professional support from the state directorate of public health ¹³⁷ ; healthcare policies ¹³² ; policy prioritising low social development areas ¹³⁸
Legal issues	Fear of requirement for formal registration ¹³⁶
Health system factors	
Cost	Pay scale of frontline healthcare workers ¹³⁵ ; medicine price ¹⁴⁰
Quality and safety of services	Knowledge of intervention area by community health workers ¹³⁴
Service organisation and delivery arrangement	Issues related to assignment of tasks ¹³⁶ ; requirement to follow standardised protocol ¹³⁶ ; demands from the management ¹³⁶ ; work overload ^{132 136} ; underperformance of staff ¹²⁸ ; documentation work/work burden/no incentive for work ¹³⁵ ; insufficient time ¹³⁴ ; attitude of healthcare providers ⁷³ ; lack of supportive staff ¹³⁵ ; community health worker familiarity with households led to warm reception ¹³⁴ ; opportunity to integrate mass drug administration with other health interventions ¹³⁴ ; presence of community health workers and their supervisory structure, and points of referral for serious side effects ¹³⁴ ; restriction of range of services ¹³⁹ ; unserved areas and left-out urban slum pockets ¹³⁹ ; poor monitoring and supervision ¹³⁹ ; unreliable immunisation and household data ¹²⁸
Facility and resources	Community-based care ¹³² ; inefficient utilisation of funds ¹²⁸ ; affordability and availability of medicine ¹⁴⁰ ; limited medical supplies ^{73 135} ; infrastructural facilities ¹³⁵ ; inadequate space and equipment ¹³⁶ ; suboptimal training of staff ¹³⁹ ; insufficient availability of space, logistics and health manpower ¹³⁹

that reduce out-of-pocket expenditure at point of care could be potential measures to overcome this barrier and help achieve universal coverage goals. Limited evidence showed that initiatives prioritising primary healthcare coverage in slums could improve access,¹³⁸ but there is insufficient evidence from studies included in this review to determine the best model of healthcare financing for improving healthcare access and coverage in slum settings. Although possession of/coverage by health insurance was associated with higher levels of utilisation of health services among slum residents,^{18 82} studies showed that uptake of government-run public insurance among slum residents was low.^{68 83} This may be attributed to lack of awareness, difficulties in navigating through the health system and in obtaining official proof of identity required for enrolment⁶⁸ and poor quality of care and range of services offered.^{68 83} Even among slum residents covered

Table 4 Studies that examined factors associated with healthcare seeking and utilisation in both urban slum and non-slum urban and rural settings Study and location Differences in healthcare access Associated factors Kalyango et al¹⁵⁰ Preferences and willingness to pay for health insurance Coverage of extended family (vs restricted enrolment of Kampala City, Households in non-slum communities had a high preference children); coverage of both private and public providers Uganda for health insurance plans covering chronic illnesses and major (vs private only). surgeries to other plans. Obanewa and Fully immunised child coverage (FIC) From multivariable regression*: year, birth order, antenatal Newell⁵⁹ Proportion in slum lower than urban non-slum but higher than attendance, maternal education level, religion, maternal Nationwide. rural; proportions increased between 2003 and 2013 across all age at child's birth, media exposure, region of the country, interaction between place of residence and place of Nigeria three settinas. delivery. Angeles et al46 Use of modern contraceptive methods From multivariable regression*: parity, mother's age, Multiple cities, Proportion changed from being lower in slums in 2006 to being mother's educational attainment, socioeconomic status, Bangladesh higher in slums in 2013 compared with urban non-slums. interaction (slum×time period). From multivariable regression*: residing in slums, parity, Deliverv by skilled birth attendant Proportion substantially lower in slums compared with urban mother's age, mother's educational attainment, length of non-slums but the gaps narrowed over time. stay in current city of residence, socioeconomic status, number of available community health workers, distance from health facility, interaction (slum×time period). Islam¹⁰⁶ Antenatal care visits Level of educational attainment, wealth index of the Multiple cities, 'there was a large inequality' between slum and urban non-slum household. Bangladesh (detail not reported). Using contraceptive methods Not reported. 'Prevalence rate higher among slum women' than urban nonslum women. Tabrizi et al¹¹³ Utilisation of health services in the past 30 days High cost of services. Tabriz, Iran Similar utilisation overall, but with lower proportion received needed health services and used private clinics, higher use of vaccination and maternal health services, and lower use of services for heart failure and hypertension for slum residents compared with urban non-slum. High cost of services. Home care services Very little use both in slum and urban non-slum areas. Prescribed drug during last visit to health facilities Not reported. Lower proportion for slum versus urban non-slum. Not taking drugs prescribed Main reason: financial problems for slum versus getting better/feeling well for non-slum urban. Higher proportion for slum versus urban non-slum. Snyder et al51 Directly observed treatment coverage for tuberculosis (TB) Not examined. Rio de Janeiro. Higher for slum versus urban non-slum patients with TB. Abandonment of TB treatment From multivariable regression*: residency in a slum, Lower for slum versus urban non-slum patients with TB. sex, age, extrapulmonary clinical disease, HIV/AIDS, interaction (directly observed treatment×residency in a slum). Prado Junior et Coverage under Family Health System for patients with TB Giving the Family Health Strategy priority to coverage of Higher for slum versus urban non-slum. areas with lower social development. Rio de Janeiro,

*From the model with most comprehensive adjustment including residency in slum as one of the variables; only factors that were statistically significant (at 5% level) are shown.

by health insurance, access to care was often refused and additional charges were frequently requested.⁹⁴ Policies that aim to improve access to healthcare services among slum residents through public health insurance will need to address these challenges.

Several studies reported lack of time and competing priorities as a factor affecting healthcare-seeking behaviour¹⁰⁰ ¹¹⁹ ¹²⁰ and health service utilisation.²¹ ⁷³ ⁹³

This suggests a delicate balance between factors that individual slum residents have to strike when making decisions on healthcare seeking and utilisation. van der Heijden et al showed that health was considered as an asset for working ability in slums,¹¹⁹ but paradoxically the ability to work often seems to impede healthcare seeking for health issues. This highlights the importance of considering slum residents' interest and priorities when

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providing healthcare services and promoting healthcare utilisation in slums.

Strengths and weaknesses of the review

This scoping review has several strengths. We conducted a comprehensive literature search using generic terms related to slums with few other restrictions. The search was therefore likely to be sensitive for identifying relevant literature. Contemporary methodological guidelines for undertaking scoping reviews were followed,²² and a conceptual framework which was adapted based on emerging findings was used to facilitate the organisation of evidence.

The review has enabled theory building and refinement of a conceptual framework. Our preliminary framework included six categories (figure 1). During data coding and extraction, it emerged that many studies reported perception, knowledge and experience of slum residents being associated with their healthcare seeking and utilisation. We subsequently classified these factors as cognitive and experiential factors, which primarily consist of three subcategories: knowledge/experience of illness, perceived needs for accessing healthcare services and perception/experience of healthcare services. These factors were influenced by other factors included in our original conceptual framework, but highlighted the crucial links between those factors and the ultimate actions by individual slum residents to access health services. Future interventions to promote health service utilisation for slum residents¹⁴⁵ could make use of our framework to develop programme theories and map out causal pathways.

This review also has some limitations. Given time constraint, we were only able to examine the most recent literature published in English in academic journals, and have not examined the methodological quality of individual studies (which we noted to be quite varied) in detail. We attempted some preliminary synthesis to configure the identified evidence but have not explored the complex relationship between the factors identified and their interplay with the context of individual slums in depth. Nevertheless, the findings from this scoping review will provide a good foundation for further syntheses.

Methodological considerations

A number of challenges in the process of classifying and coding data are worth mentioning. First, access to healthcare has been conceptualised and defined in various ways in previous studies. The WHO suggested six building blocks of a health system including service delivery, health workforce, health information systems, access to essential medicines, financing and leadership/ governance to strengthen health systems¹⁴⁶ and, in its report, defined access to healthcare as public responsibility for ensuring all citizens' entitlements to the protection of their health beyond simply a proportion of a target population that benefits from an intervention, towards universal coverage.¹⁴⁶ They also pointed out system constraints such as financial access difficulty, physical access difficulty, low knowledge and skills, poorly motivated staff, weak leadership and management, ineffective intersectoral action and partnership as barriers to access.¹⁴⁶ The WHO's definition and conceptual framework focus on health system-level factors and would be particularly useful when examining supply side factors, which seem to be understudied based on our findings. As described in the Methods section, we primarily adopted the conceptual model of healthcare access developed by Levesque and colleagues given our shared focus on service users. However, in our conceptual model, we separated the dynamic stages of 'accessing' healthcare from the actual 'accessed' healthcare (utilisation) to highlight the crucial match required between the demand side and supply side factors to facilitate utilisation of healthcare when there is a need.

Several factors associated with healthcare accessing and utilisation can be viewed from different perspectives and therefore potentially be coded under different categories. For example, barriers for healthcare seeking and utilisation related to costs can be considered as socioeconomic issues from the slum dwellers' perspective but can also be viewed as health system issues for not offering the services in an affordable way. Indeed, previous access frameworks suggested that access is created and negotiated in a dynamic interchange between households/communities and healthcare workers/systems (ie, demand and supply) on each access dimension.³⁴¹⁴⁷ In such situations, we tried to code a factor under the category that most directly reflects the original data through discussions within the review team (in the example of healthcare cost, the factor was coded primarily under socioeconomic factors rather than health system factors when the factor was reported \blacksquare by slum residents as a barrier); otherwise, more than one category was coded (eg, bad experience from previous utilisation of health services was coded both as a cognitive and experiential factor and a health system factor).

Implication for research and practice

The multitude of factors identified in this review are often inter-related and interacting, and span across personal, family, community and society levels. For example, the association between occupation and healthcare utilisation was reported in several studies.^{48 60 66 80 82 104} The effect of predominantly casual work undertaken by slum residents on their healthcare access could be mediated through working hours, income level, knowledge of & health and available services, etc. There is also possibility **g** that occupation was associated with health status and hence needs for healthcare services, instead of/in addition to behaviour of using healthcare services. Teasing out the complicated relationships between various determinants and their interaction with the diverse contexts of slums will require in-depth analysis and a more holistic approach to synthesising the evidence. Given the unique features of individual slums, service planners and policy makers will need to examine these relationships with due

consideration to the context specific to each locality and geospatial features and neighbourhood effects that characterise slum settings.⁴

We found far fewer studies that have examined health service providers' perspective than studies that have investigated factors associated with accessing healthcare from slum residents' perspective. There may be scope for greater research and policy attention to supply side factors, including experiences and practices of local frontline healthcare providers, availability of healthcare facilities and infrastructure and policy to support them in order to overcome the many barriers highlighted from both supply and demand sides.

Although only six of the included studies explored factors associated with healthcare access or health service provision across slum and non-slum settings, they showed a generally encouraging picture that access to and provision of healthcare are continuously evolving (and often improving) in slums and other settings, and equality between different settings is not beyond reach.

CONCLUSION

This scoping review summarises a large body of recent literature evaluating factors associated with seeking and utilisation of healthcare by slum residents, but found substantially fewer studies examining factors associated with provision of health services from providers' perspective. Recent migration into slums; knowledge, perception (including misconception and distrust) and past experience of illness, healthcare needs and health services; financial constraint, competing priorities and inadequacy of social support; adverse physical environment and unfavourable locality; sociocultural expectations and stigma; lack of official recognition; and various problems in existing health system all contribute towards the challenges faced by slum residents. Future research and policy aimed at improving healthcare services in slums should pay more attention to supply side issues ranging from individual healthcare providers and practices to structural and policy-level factors to tackle different barriers faced by slum residents, which in turn need to be evaluated holistically and take into account local context and geospatial features of slums.

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Contributors J-EP, BH, MMA, FG and Y-FC conceptualised the scoping review. J-EP carried out literature searches. J-EP, PK, GY, O0 and Y-FC participated in study screening and coding. J-EP and Y-FC performed data charting and drafted the initial manuscript. NA, PG and RJL provided critical input during the drafting of the manuscript. All authors commented on and contributed to the revision of subsequent versions and approved the final version for submission. Y-FC is the guarantor for this article.

Funding This research is funded by the NIHR Global Health Research Unit on Improving Health in Slums using UK aid from the UK government to support global health research. MMA gratefully acknowledges the support provided by the Warwick Institute of Advanced Study Global Challenges Research Fund Fellowship (IAS/32013/1914). FG receives funding as South Africa Research Chair in Health Policy and Systems from the National Research Foundation, South Africa. RJL is supported by the NIHR Applied Research Collaboration (ARC) West Midlands, UK. Y-FC is supported by Warwick Evidence, which is a Technology Assessment Review team funded by the NIHR Evidence Synthesis Programme. PG is NIHR Senior Investigator and supported by the NIHR ARC West Midlands. Upon submission, NA had joined the Population Health Sciences Institute, Newcastle University (UK).

Disclaimer The views expressed in this publication are those of the author(s) and not necessarily those of the NIHR or the UK Department of Health and Social Care.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Ethics approval This realist synthesis included literature that is available in the public domain and did not involve the collection of personal data.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information.

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