

## RESEARCH ARTICLE

# Aligning global health policy and research with sustainable development: A strategic market approach

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**Abstract**

Attaining Sustainable Development Goal 3 (SDG 3: Health and Well-Being) faces a dual challenge of diminishing returns of established intervention designs, and a threat to future gains from complex inter-connected global health challenges like antimicrobial resistance and global biodiversity loss. The growing movement of context-sensitive approaches could help realise yet untapped potential for intervention designs, but contemporary global health policy and research still remain dominated by a model of individual market style choices. This paper therefore aims to support the development of global health planning processes that are more grounded and integrative across the SDGs. Reiterating calls for disruptive policy change is unlikely to impact the *modus operandi* of global health policy and research. This paper therefore builds on a logic that already finds widespread and intuitive application in their underlying planning processes: 'the market'. However, it challenges the dominant supply-and-demand approach to healthcare markets and redefines them from a strategic marketing perspective. Translated to the interface of populations and health systems, the strategic market is a site for solving problems that are defined by people with multidimensional health needs. This framework offers four guiding questions to define the strategic market and six premises as a simple intellectual starting point and checklist for more grounded and inter-sectorial action across the SDGs. The analysis of data from one of the largest behavioural survey data sets, covering 6683 villagers across China, India, Lao PDR and Thailand, demonstrates the relevance of the premises empirically.

**KEYWORDS**

global health, health behaviour, SDG3, social determinants, survey, sustainable development

## 1 | INTRODUCTION

The world has made encouraging progress towards Sustainable Development Goal 3 (SDG3)—good health and well-being: an unprecedented global decrease of maternal and child mortality, reductions in vaccine-preventable disease deaths, the eradication of smallpox and near-eradication of polio, the transformation of AIDS from an emerging fatal disease to a manageable chronic illness and an expansion of the average life expectancy at birth by 30 years from 52.6 in 1960 to 72.6 in 2015

(Glassman & Temin, 2016; Jamison et al., 2013; Sachs & Ban, 2015; World Bank, 2021). However, global health policy now is not only facing diminishing returns to existing intervention designs, but it is also confronted with increasingly complex sustainable development challenges. Sustainable development researchers have highlighted this issue for many years, demonstrating for instance linkages between health and the environment and climate change (SDG13: Climate Action, SDG14: Life Below Water, SDG15: or Life on Land; see e.g., Liu et al., 2023; Wardani et al., 2022), urbanisation (SDG11: Sustainable

Cities, see e.g., Jorgenson & Rice, 2016), poverty eradication and economic growth (SDG1: No Poverty, see e.g., Gerhardt, 1994; Sarwar et al., 2021), or consumer behaviour (SDG12: Responsible Consumption, see e.g., Hanss et al., 2016).

This paper argues that the integration of SDG3 with other SDGs is necessary to enable context-sensitive—and therefore more effective—approaches to tackle complex global health challenges. For example, the global health priority of antimicrobial resistance (AMR)—also known as ‘drug-resistant infections’—makes past gains in infectious disease control harder to sustain as the treatment and control/elimination/eradication strategies against common infectious diseases become inefficacious (WHO, 2015). However, action against drug resistance is dominated by medical sciences approaches, whereas the World Bank recently argued that ‘there are a number of SDGs that will contribute to containing AMR’ (Berthe et al., 2019, p. 12): drug-resistant infections are an interconnected problem of human, animal and environmental health, and their emergence and spread is further shaped by acute behavioural, structural and deep-rooted historical and political factors (Green et al., 2023; Ogyu et al., 2020; Tompson et al., 2021). This suggests that sustainable development approaches hold promise in addressing global health challenges (also see e.g., McKee, 2021).

Likewise, global change creates unprecedented sustainable development challenges, of which health is but one part. Climate change, environmental degradation and biodiversity loss are already inflicting widespread impacts on planetary life, mental health and social cohesion while continually altering epidemiological patterns and vector habitats around the globe (Lenton et al., 2019; Liu et al., 2023; MacDonald & Mordecai, 2019; Watts et al., 2019)—thus demonstrating the problematic interconnections between human health and Climate Action (SDG13), Life Below Water (SDG14), or Life on Land (SDG15) (Karlner et al., 2019; World Bank, 2017). In parallel, global poverty is trending towards more concentrated, multi-dimensional and conflict-related forms of deprivation (World Bank, 2018), while gradual natural resource depletion is threatening to disrupt established mechanisms of cross-border mobility and technology transfer (Janes & Corbett, 2009; Maggio & Cacciola, 2012; Whitmee et al., 2015). Global health interventions tackling vulnerable populations will thus face growing contextual challenges and higher costs while becoming more difficult to coordinate.

Despite the growing recognition of health as embedded in complex sustainable development challenges, global health policy and interventions still too often remain fragmented and structured around the biomedically-dominated perspectives by national ministries of health that struggle with accommodating local social and historical contexts (Ariana, 2012; Bulled & Puffer, 2017; Byskov et al., 2019; Gerhardt, 1994; Qiu et al., 2018; Vaughan, 2019). Stronger SDG integration will require context-sensitive models to guide global health policy and research.

This paper will develop this argument. Following a brief review of recent conceptual developments around action at the population–health system interface, it will offer an alternative starting point that builds on a logic with already widespread and intuitive application in health policy and research: ‘the market’ (Janes & Corbett, 2009). However, in contrast to the conventional supply-and-demand

approach to healthcare markets, it will employ a strategic marketing perspective that places stronger emphasis on population diversity and the range of available options to solve their needs—many of which may exist outside the health sector and thus relate to (and enable more explicit activation of) the broader dimensions of sustainable development. This framework yields four guiding questions to define the strategic market and six premises to help guide context-sensitive approaches to global health policy and research. Health behaviour survey data from 6683 villagers in China, India, Lao PDR and Thailand will illustrate these premises empirically.

## 2 | BACKGROUND AND CONCEPTUAL FRAMEWORK

### 2.1 | Recent trends in inclusive and context-sensitive global health policy

Global health policy and practice continue to be dominated by individualised models of patients' personal responsibility and knowledge deficits (Birn et al., 2018; Cohn, 2014), but mounting evidence of contextual drivers of health behaviour and health outcomes (Dew et al., 2014; Ribera & Hausmann-Muela, 2011; Venkataramani, Bair, et al., 2019) has supported the emergence of alternative and more context-sensitive models.

The most far-reaching development has been the growing recognition of the ‘social’ and ‘commercial’ determinants of health (Allen, 2020; Braveman et al., 2011; WHA, 2021), which recognise the importance of non-medical factors in shaping population health and health inequalities (Lucyk & McLaren, 2017). Such determinants include for example intersectionality (Nixon, 2019) or precarious employment (Benach et al., 2014) and therefore, in principle, open global health policy and research to the important linkages between SDG3 and other dimensions of sustainable development (Carey & Crammond, 2015). Especially the ‘commercial determinants’ foreground industrial rather than health policy to address population health challenges (Allen, 2020). However, the social and commercial determinants have also been criticised for lacking conceptual cohesiveness and consistent policy design implications, which is partly driven by their atheoretical ‘catch-all’ character and the mechanical language of ‘determinants’ that tends to underplay systemic considerations as well as people's agency (Frank et al., 2020; Harvey et al., 2022; Islam, 2019).

Nevertheless, the recognition of the social determinants of health and a more faithful appreciation of the multiple dimensions of health have sparked concrete policy options that include the growing practice of social prescribing (Calderón-Larrañaga et al., 2022; Drinkwater et al., 2019), the recognition of the arts in health and well-being (Bunn et al., 2020; Fancourt & Finn, 2019), and guidance for inter-sectorial action across the SDGs for specific health topic areas like mental health (WHO Regional Office for Europe, 2019). A yet more encompassing but still policy-oriented set of approaches refers to ‘health in all policies’, which institutionalises health considerations

over the long term across government ministries such as education and labour (De Leeuw & Peters, 2015; Ramirez-Rubio et al., 2019). While all these approaches are more operationalizable than the broader underlying concept of the social determinants of health, they remain driven by a biomedical rationale that places healthcare (rather than e.g., social policy) at the helm of inter-sectorial linkages and are thereby prone to medicalising and formalising activities that may be deemed intrinsically valuable from a social and cultural perspective.

Two other approaches are noteworthy owing to their focus on action at the population–health system interface and their growing importance in global health policy and research: behavioural design and relational community engagement. Behavioural design in public policy is a global trend with strong standing in healthcare (Adhanom Ghebreyesus, 2021), where policy makers would consider cognitive as well as contextual barriers and enablers (e.g., habits, emotions, social norms, the behaviour of peer groups) when trying to make behaviour change interventions as effective as possible (Dolan et al., 2012; Michie et al., 2011; Vlaev et al., 2016). The approach moves away from naïve assumptions that more information, training, restrictions or incentives automatically create desired behaviour change (Kollmuss & Agyeman, 2002; Webb & Sheeran, 2006), and the broad field of behavioural sciences is in principle open to considering the role of context such as poverty or social marginalisation in shaping the decisions that people could possibly make (Michie et al., 2011; Sheehy-Skeffington & Rea, 2017). However, the actual practice of behavioural design continues to foreground individualised models of action that struggle with accommodating the historical, political and contextual drivers of seemingly problematic health behaviour (Crosman et al., 2022; Ewert, 2019; Pendleton et al., 2019).

The second development (relational community engagement) overcomes the individualised and top-down perspective that often underlies behavioural design. The ‘relational’ approach is a recent evolution of community engagement practice and (a) encourages context-sensitive health service provision by foregrounding people’s viewpoints of health priorities and solutions, (b) recognises humans as intrinsically social beings (i.e., expanding away from individualistic models of behaviour and the primacy of physical health) and (c) considers dynamically evolving trust relationships between health service providers and the local population (Baldini et al., 2014; Hasson et al., 2012; Odugleh-Kolev & Parrish-Sprowl, 2018). Global health policy and interventions would consequently revolve around strong community-level integration, thus rendering them potentially more sensitive to other dimensions (and priorities) of sustainable development. However, this modern approach to community engagement is still in its infancy, as a result of which implementation experiences remain scarce.

A final domain of cross-sectorial policy and research approaches has actively brought environmental considerations into focus: One Health encapsulates the idea that human, animal and environmental health are intrinsically interconnected (WHO et al., 2019a). This framing has been employed to respond to issues like zoonotic diseases or AMR (WHO et al., 2019a, 2019b), but has also sparked effective inter-sectorial policy to address animal, environmental and human

health issues simultaneously—such as in the case of Rwanda (Henley et al., 2021; Nyatanyi et al., 2017). Potentially yet more integrative is the notion of planetary health (Wardani et al., 2022), which questions ‘whether health gains are achieved at the cost of eroding the Earth’s underpinning natural systems that provide essential services (e.g., food, fuel, water and shelter) on which human civilisation depends’ (Whitmee et al., 2015, p. 1978) and thus balances the primacy of human (physical) health against other dimensions of sustainable development more progressively. However, policy recommendations based on One Health and planetary health have so far remained relatively incremental, anthropocentric and biomedically driven. Especially the latter has hindered the ability to expand conceptual work into the social drivers of (and community priorities surrounding) One Health and planetary health (Frumkin & Haines, 2019; Kamenshchikova et al., 2019; Veidis et al., 2019).

All these approaches constitute important developments towards more context-sensitive and thus sustainable global health policy. At the same time, key principles for cross-cultural health action have existed for decades: In 1963, medical sociologist Steven Polgar (1963, pp. 411–414) highlighted four common ‘fallacies’ in cross-cultural health interventions:

1. The fallacy of the empty vessels: recipients of international health action often already have localised knowledge and solutions about the problem in question.
2. The fallacy of the separate capsule: the treatment approach of healthcare actors may not overlap neatly with the health behaviour of the general population, the latter of which often extends beyond formal healthcare settings.
3. The fallacy of the single pyramid: administrative units, internal organisation and the more general heterogeneity of target populations may not correspond to Western expectations.
4. The fallacy of the interchangeable faces: mismatches in medical language, concepts and status among intercultural healthcare staff, and across them and their patients, can create subtle forms of exclusion and oppression.

As potential premises for global health policy and interventions, these fallacies draw attention to the existing health knowledge of the general population, to their health behaviour involving actors and activities outside the formally regulated healthcare sector, to diverse sub-populations, to unspoken differences in values and objectives between cross-cultural interlocutors, and more generally to the existing network of solutions and relationships into which global health actors intervene.

Despite their fundamental applicability, Polgar’s premises have received little recognition in over the past 60 years. Reiterating their relevance is therefore unlikely to impact the *modus operandi* of the planning processes underlying global health research and practice. To maximise the possibility to enact change—while retaining and updating the sentiment of Polgar (1963)—this paper therefore develops a framework of thinking that builds on the ‘market’ notion that already permeates global health policy and research, but using a strategic marketing interpretation that can capture the contextual complexities of sustainable development.

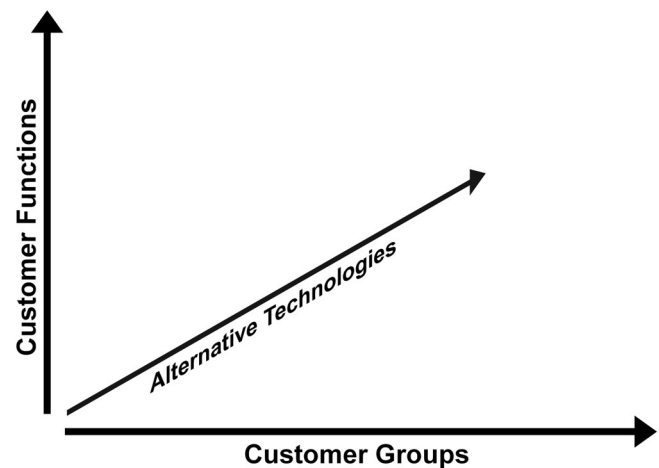
## 2.2 | Neoclassical and strategic markets

The notion of ‘Markets’ has diffused widely into policy and research, wherein people with health needs commonly represent the ‘demand’ that is met by healthcare providers who represent the ‘supply’ of required good and services (Chletsos & Saiti, 2019; Levesque et al., 2013). Akin to ‘marketplace’, this market definition has become so common that full-text queries of ‘(healthcare OR “health care”) AND (supply AND demand)’ now yield 12,631 results in the *PubMed* database, 50,549 in *Scopus*, and as much as 1,300,000 in *Google Scholar* (as of 13 March 2023).<sup>1</sup>

The usefulness of the market-as-marketplace logic to guide global health policy and research is limited. Some insight can be gained from reflecting on opportunities to influence demand and supply forces, how their interactions shape patient behaviours and outcomes or what institutional options exist to rectify market failures. For example, The Review on Antimicrobial Resistance (2016) by the UK government considers market failure in global antimicrobial use and proposes a range of activities to reduce the ‘demand’ of antimicrobials (e.g., vaccination programmes to avoid infectious diseases) and to boost their ‘supply’ (e.g., activities to encourage the development of new antimicrobials). However, none of these considerations corresponds systematically to the known fallacies of cross-cultural health action proposed by Polgar (1963), nor do they provide actionable insight into how global health may become more context sensitive and integrative across the SDGs. One principal limitation is the focus on a single product or a family of related products, like antimicrobials or curative care from public and private healthcare providers.

The market-as-marketplace is neither a natural nor the only definition of ‘the market’. The management studies literature—part of which is intrinsically concerned with business operations in markets—provides an alternative framing. From this perspective, the defining feature of ‘strategic markets’ is not that they are a site of exchange but rather a space in which people solve their problems through a range of solutions across different sectors (Abell, 1980; Day, 1981; Stead & Stead, 2014). A simple illustration of an airline company helps convey the basic principle: In contrast to the neoclassical market-as-marketplace model, the strategic market is not defined by what product or service a company provides, but by the problem that the company solves. People’s main problem in this case tends not to be a desperate desire to be chaperoned around the globe in a closed cabin or to sample the delectable diversity of aeroplane food, but rather, say, to access enjoyable holiday destinations or attend business meetings. While airlines clearly compete with each other, the problem of attending transnational meetings is also solved by other competitors—notably emails and Zoom. Airline companies therefore also compete directly with video-conferencing solutions and email in maintaining transnational business relationships.

This is the conceptualisation of strategic market segments following Abell (1980). This line of management teaching suggests that businesses should not only be concerned with competing producers of similar products, but with solutions from different ‘industries’ that help customers fulfil their needs (Day, 1981). The market does



**FIGURE 1** A strategic market definition, comprising the three dimensions of customer functions, alternative technologies and different customer groups. Source: Adapted from Abell (1980).

therefore not just comprise products, but more general problems or functions that different customers aim to solve, and the various solutions or technologies that can fulfil these functions (Figure 1). For example, a public hospital provider may not only compete with pharmacies and private clinics (e.g., on the basis of quality of care and price) for a homogeneous group of patients. If the underlying purpose of a patient group is not simply to consume medicines but rather to ensure that they can continue earning a living for their family, then hospitals share the market with other solutions that enable continued income generation—for instance flexible working arrangements, sick leave and painkillers.

## 2.3 | Strategic markets as population—Health system interface

This paper argues for the move away from the product-centred market-as-marketplace definition as a site of exchange towards a people-centred strategic market definition as a site for solving problems that are defined by people with multidimensional health needs. Such a conceptual shift helps formulate guiding questions for analysis that relate closely to Polgar’s (1963) fallacies and that correspond to the broader sociological and anthropological understanding of health action at the interface of populations and health systems (e.g., van der Geest & Whyte, 1989; Whyte et al., 2002).

The first question would involve a ‘stocktaking’ exercise to determine The Market prior to a health intervention: How do patients and the broader target population behave in relation to health? The second question would correspond to ‘the fallacy of the empty vessels’ and assess Customer Functions by asking, which problem(s) may people aim to solve through their behaviour or by using the available medical technologies? Thirdly and corresponding to ‘the fallacy of the separate capsule’, the analyst would then ascertain *Alternative Technologies* by asking, if we want to influence or change this

behaviour, then what other (potentially non-health) solutions could help people to solve the problem? A final question in correspondence with 'the fallacy of the interchangeable faces' helps identify Customer Groups by asking, do these problems and solutions matter equally to everyone?

Polgar's (1963) fallacies of cross-cultural health action can thus be interpreted as a strategic market issue, with the strategic market representing the interface between populations and health systems (broadly defined) (Haenssngen, Charoenboon, Althaus, et al., 2018; Haenssngen, Charoenboon, Zanello, et al., 2018).<sup>2</sup> This logic underlines the heterogeneity of 'customer groups' (i.e., people with health needs) and the diverse problems (e.g., curative care, reassurance) that they solve during complex illness processes (Haenssngen & Ariana, 2017a; Kroeger, 1983; Lieber et al., 2006; Ribera & Hausmann-Muela, 2011). Similarly, it appreciates that the formal and informal health system counterparts exercise discretion in how they respond to people with health needs, while also being conscious of their competing demands and constraints as human actors (Erasmus, 2014; Lipsky, 2010). In addition, this translation of the strategic market into healthcare also highlights that new interventions do not operate in a vacuum but in a complex web of solutions that link populations and health systems in potentially unintuitive ways (Coupaye, 2009; Miller, 2010; Scott-Smith, 2018), and the objects and solutions associated with people's treatment-seeking behaviour therefore extend quite plausibly beyond the domain of healthcare.

Evidenced by empirical research from medical sociology and anthropology, this modern and market-derived interpretation of Polgar (1963) allows the derivation of six premises that describe the population–health system interface as a conceptual starting point for global health policy makers and researchers:

1. *The landscape of healthcare providers is fragmented and obscure:* The general population will not automatically be drawn to (public healthcare) services provided in global health interventions (Sudhinaraset et al., 2013)
2. *Preferences and means to access healthcare vary within the population:* Populations and behaviours are heterogeneous, even where universal access to healthcare exists (Molina & Palazuelos, 2014).
3. *When navigating these health systems, people share a social space within which they collaborate and compete:* Treatment seeking and access to medicine do not happen in isolation (Ellis et al., 2019; Peglidou, 2010; Sunpuwan et al., 2019)—both to the benefit and detriment of people with health needs (Perkins et al., 2015; Villalonga-Olives & Kawachi, 2017).
4. *New healthcare solutions at the population–health system interface will always interact and compete with existing solutions:* People are not 'empty vessels' but already have ways of solving problems (Hampshire et al., 2015; Polgar, 1963). How do new interventions replicate or complement them?
5. *Social, economic and technological change can affect treatment-seeking behaviours in unforeseen ways:* Even without global health interventions, contexts will inevitably change over time, and health behaviours together with them (Haenssngen, 2018; Ribera & Hausmann-Muela, 2011).

6. *Solutions for what is deemed 'problematic health behaviour' need not be confined to the health sector; they can have similarly if not more effective substitutes in other sectors:* An alternative to individualised approaches are interventions to change the context and structures that influence behaviour at the population–health system interface (e.g., social protection). Existing non-health policy may already have health behaviour consequences without realising it (Ruel et al., 2013; Uribe et al., 2019; Villalonga-Olives et al., 2018).

While these arguments may appear intuitive for sociologists and anthropologists (Janes & Corbett, 2009; Pfeiffer & Nichter, 2008), the underlying strategic market logic offers an accessible pathway for their incorporation into global health policy and research.

### 3 | EMPIRICAL DEMONSTRATION: HEALTH BEHAVIOUR ACROSS LOW- AND MIDDLE-INCOME ASIA

#### 3.1 | Background and data

The applicability of the six premises will be exemplified through health behaviour survey data from resource-constrained rural settings of low- and middle-income Asian countries (i.e., likely targets of global health interventions). The studies are summarised in Table 1 and comprised Gansu province (China), Rajasthan state (India), Salavan province (Lao PDR) and Chiang Rai province (Thailand). All surveys are built on the logic presented in this article (interpreting the strategic market as a healthcare 'activity space'; Haenssngen, Charoenboon, Zanello, et al., 2018).

Despite slightly varying objectives, the common underlying logic enables these surveys to shed light on the six premises derived from the framework (see Haenssngen & Ariana, 2017b; Haenssngen et al., 2019, for main study results and survey instruments). The survey instruments were developed through prior qualitative research in all study sites (semi-structured interviews and cognitive interviewing for questionnaire development). All six surveys consequently considered the guiding questions of the strategic market logic as follows:

Defining The Market through the question, 'How do patients and the broader target population behave in relation to health?', the surveys captured pathways of care in the physical and social environment of local healthcare landscapes. Customer Functions captured through the question, 'Which problem(s) may people aim to solve through their behaviour or by using the available medical technologies?' were included the surveys through people's self-perceived symptoms as motivator to initiate treatment, and the role of tools and solutions (incl. mobile phones, cars, and in the case of Surveys 3–6 also the social support of peers) in connecting to and navigating the healthcare landscape. To ascertain Alternative Technologies via the guiding question, 'If we want to influence or change this behaviour, then what other (potentially non-health) solutions could help people to solve the problem?', Surveys 5 and 6 captured short-term (3-month) community-level changes (e.g., in employment) through their 2-round survey design.

TABLE 1 Overview of survey data sets.

| Survey no. (country)     | Objective  | Survey design and implementation dates           | No. of primary sampling units | No. of responses | No. of illness episodes | Degree of representation                              |
|--------------------------|--|--|-------------------------------|------------------|-------------------------|---|
| 1. Gansu (China)         | To study the role of mobile phone use in people's health behaviour prior to the introduction of new mobile-phone-based health interventions ('mHealth')                                | 3-stage cluster random sample (09-10/14)         | 16                            | 400              | 356                     | Rural Gansu province, 2 districts (2,700,000 adults)  |
| 2. Rajasthan (India)     |  | 3-stage cluster random sample (08-09/14)         | 16                            | 398              | 315                     | Rural Rajasthan state, 2 districts (1,900,000 adults) |
| 3. Salavan (Lao PDR)     | <i>(In addition to above)</i><br>To study the social dimensions of antibiotic use in local healthcare landscapes   | 3-stage cluster random sample (02-05/18)         | 30                            | 983              | 356                     | Rural Salavan province (190,000 adults)               |
| 4. Chiang Rai (Thailand) |  | 3-stage cluster random sample (12/17-03/18)      | 30                            | 1158             | 608                     | Rural Chiang Rai province (522,000 adults)            |
| 5. Salavan (Lao PDR)     | <i>(In addition to above)</i><br>To study the treatment-seeking behaviour of villagers who were directly and indirectly exposed to community-level public health engagement activities | 2-round census survey (12/17-02/18 and 03-05/18) | 2                             | 2480             | 796                     | All adult members of 2 villages (1342 adults)         |
| 6. Chiang Rai (Thailand) |  | 2-round census survey (11-12/17 and 03-04/18)    | 3                             | 1264             | 625                     | All adult members of 2 villages (694 adults)          |
| Total                    |  |  | 97                            | 6683             | 3056                    |   |

Note: Completed illness episodes only. Thai and Lao data include adult illnesses as well as episodes of children aged <18 years under the respondents' supervision. Primary sampling units can comprise several administrative villages in a confined geographical area (e.g., Surveys 3 and 4 covered 69 and 65 administrative villages, respectively, within the 30 primary sampling units). For background information on Survey 1 and 2, see Haenssgen and Ariana (2017b); for Survey 3 and 4, see Haenssgen et al. (2019); and for Survey 5 and 6, see Charoenboon et al. (2019); Haenssgen, Xayavong, Charoenboon, et al. (2018).

Lastly, the surveys identified Customer Groups (guiding question: Do these problems and solutions matter equally to everyone?) by capturing preferences and recognition of the various types of care providers within the local healthcare landscapes as well as contextual constraints such as poverty, marginalisation (multi-dimensional social and economic exclusion), and precariousness (fragile self-dependence caused by uncertain working and living conditions).<sup>3</sup>

As shown in Table 1, the data comprise representative (Surveys 1–4) and community census surveys (Surveys 5 and 6). Data collection took place between 2014 and 2018 and included a total of 6683 responses from the general population aged 18 years and above, who represented rural adult populations in excess of 5.3 million people (for details on the sampling process, see Haenssgen, 2015). Among these respondents, the surveys captured 3056 episodes of acute illnesses and accident-related injuries (2-month recall period), and the associated treatment-seeking processes as a sequence of distinct steps (e.g., 'ignore', 'self-care at home', 'treatment at public clinic').

Descriptive statistical analysis using the strategic market elements from the survey data will illustrate and provide empirical support for the six premises. Table 2 summarises the data sets, indicators, and levels of analysis that come into play for each of the premises. For example, the

combined data set allows describing whether villagers recognise the full range of available healthcare options locally, which enables an insight into the fragmentation of healthcare landscapes (Premise 1). Conversely, only Surveys 5 and 6 provide information on short-term contextual changes that may have a (SDG- and policy-relevant) bearing on treatment-seeking behaviour. Utilising illness episode data across two survey rounds can thereby inform whether 'non-health' developments such as employment changes provoke more beneficial health behaviours (Premise 6).

## 3.2 | Demonstrating the premises

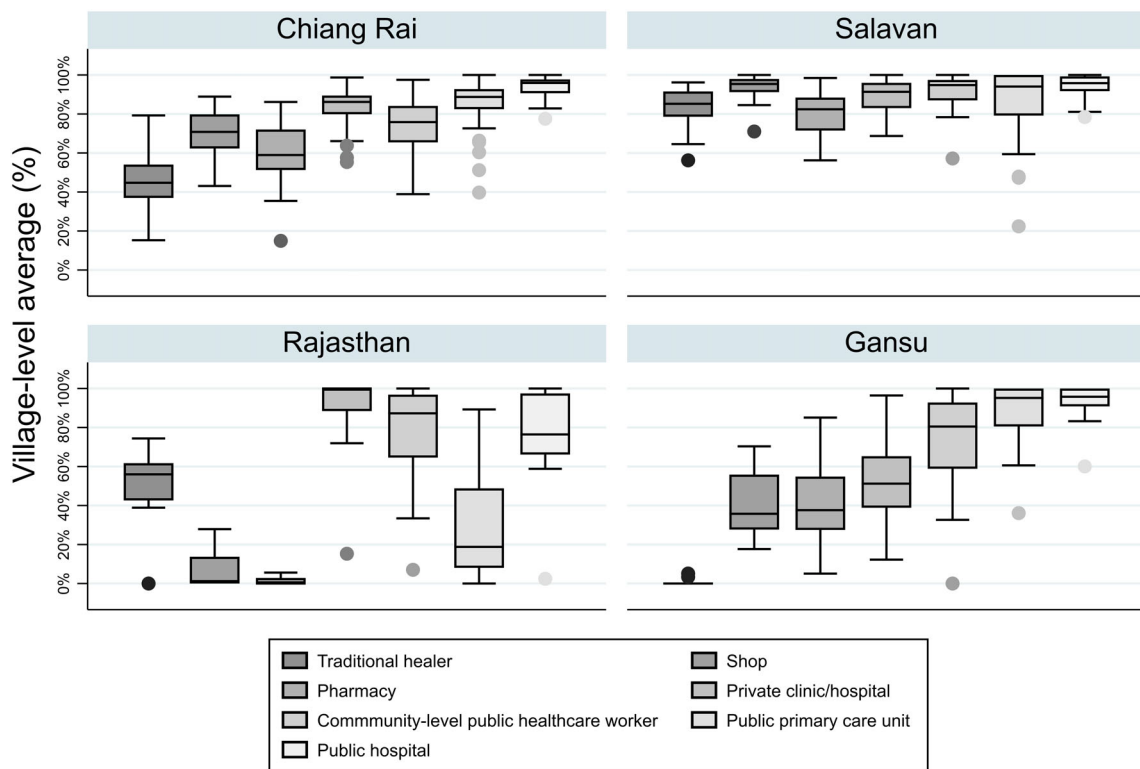
### 3.2.1 | Premise 1: Fragmented landscapes

Health systems especially in low- and middle-income countries have long been understood to comprise a wide variety of formal as well as informal healthcare providers (Sudhinaraset et al., 2013). How survey respondents perceived their immediate formal and informal healthcare environment therefore helps illustrate the first premise. The village- and individual-level analysis captures the share of respondents who consider healthcare options available to them.

**TABLE 2** Use of data sets to support premises empirically.

| Premises                 | 1. Fragmented landscapes       | 2. Varied preferences                 | 3. Shared social space                   | 4. Interference with new solutions | 5. Impact of contextual change           | 6. Non-health health solutions |
|--------------------------|--------------------------------|---------------------------------------|--|------------------------------------|--|--------------------------------|
| Data                     | Perceived healthcare providers | Hypothetical and revealed preferences | Social support and competitive behaviour | Health-related phone use           | Phone diffusion versus healthcare access | Changes in employment          |
| Level of analysis        | Village, individual            | Village, illness                      | Illness                                  | Illness                            | Village                                  | Illness                        |
| 1. Gansu (China)         | X                              | X                                     |  | X                                  | X  |                                |
| 2. Rajasthan (India)     | X                              | X                                     |  | X                                  | X  |                                |
| 3. Salavan (Lao PDR)     | X                              | X                                     | X  | X                                  | X  |                                |
| 4. Chiang Rai (Thailand) | X                              | X                                     | X  | X                                  | X  |                                |
| 5. Salavan (Lao PDR)     | X                              | X                                     | X  | X                                  | X  | X                              |
| 6. Chiang Rai (Thailand) | X                              | X                                     | X  | X                                  | X  | X                              |

Note: Surveys 5 and 6 enable analysis of short-term community-level changes due to repeated census survey design.

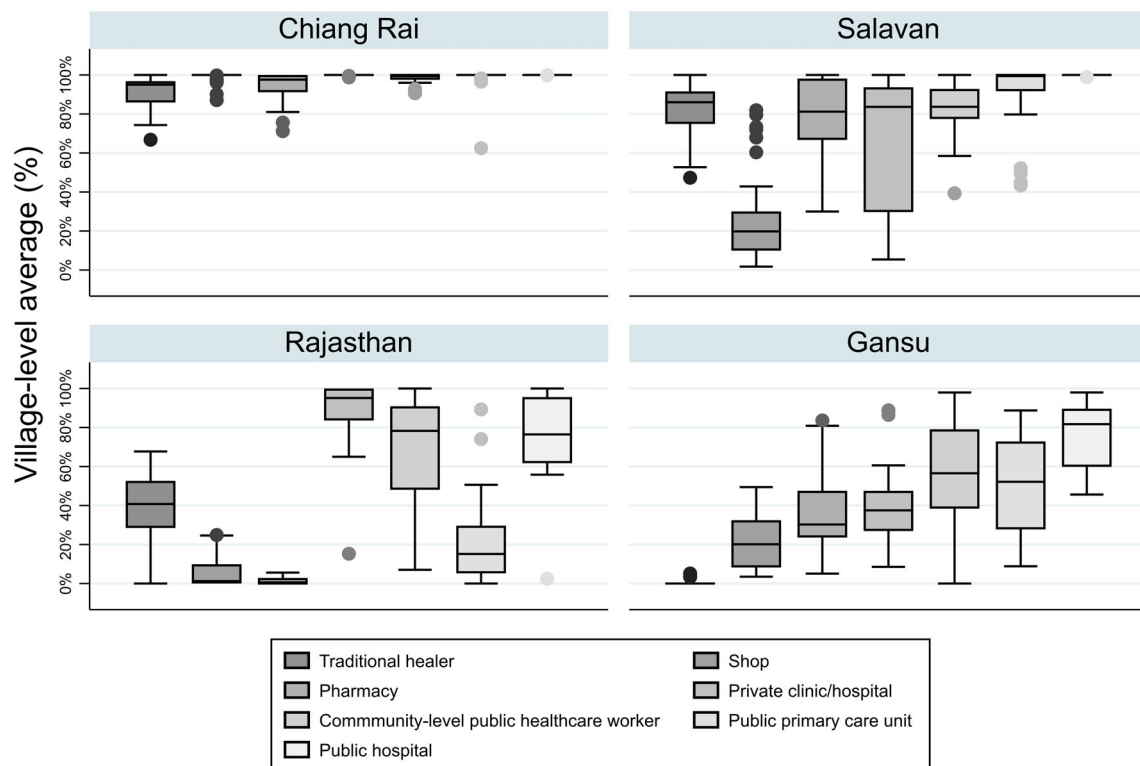


Graphs by Survey Site

**FIGURE 2** Box-and-whisker plots of village-level average responses to the question of whether specific healthcare options are available to the research participant.  $N = 97$ . The box represents a range from 25th to 75th percentile (i.e., inter-quartile range) divided by the median value, whiskers include a range of 1.5 times the inter-quartile range and outliers beyond this range are indicated as separate markers. Source: Author, based on survey data.

An intuitive expectation might be that villagers generally agree whether for example a public hospital, private clinic, or traditional healer is available to them for healthcare. As not only a physical but also a social space, however, people even within the same community may perceive healthcare landscapes differently. Figure 2 visualises the

range of responses per research site through box plots. Boxes falling into the range of 20%–80% indicate noticeable intra-community disagreement about available healthcare options. The figure demonstrates high degrees of agreement within Salavan; across the sites in terms of public hospital availability; and for traditional healers



Graphs by Survey Site

**FIGURE 3** Box-and-whisker plots of village-level average responses to the question of whether the research participant would consider specific healthcare options for treatment.  $N = 97$ . The box represents a range from 25th to 75th percentile (i.e., inter-quartile range) divided by the median value, whiskers include a range of 1.5 times the inter-quartile range and outliers beyond this range are indicated as separate markers. Source: Author, based on survey data.

in Gansu (where traditional Chinese medicine had been integrated into public healthcare provision). More broadly, however, people gave perhaps surprisingly conflicting responses within their villages whether particular types of healthcare were available to them. Disagreements were particularly pronounced for non-public and community-level healthcare providers in Chiang Rai and Gansu, for traditional and local-level public healthcare providers in Rajasthan, and for pharmacies in Salavan.

### 3.2.2 | Premise 2: Varied preferences

Irrespective of perceived availability, people may still express consistent preferences for different types of healthcare. This second premise can be illustrated through villagers' healthcare preferences and the relationship to actual treatment choices.<sup>4</sup>

Retaining the village-level analysis, Figure 3 demonstrates that hypothetical preferences in Chiang Rai were more uniformly distributed than the perceived availability of healthcare providers presented above. Responses in Gansu and Rajasthan were similarly diverse, and preferences in Salavan were relatively more heterogeneous than the agreement about providers' availability. Aside from the strong articulated preference for treatment in public hospitals, noticeable was also

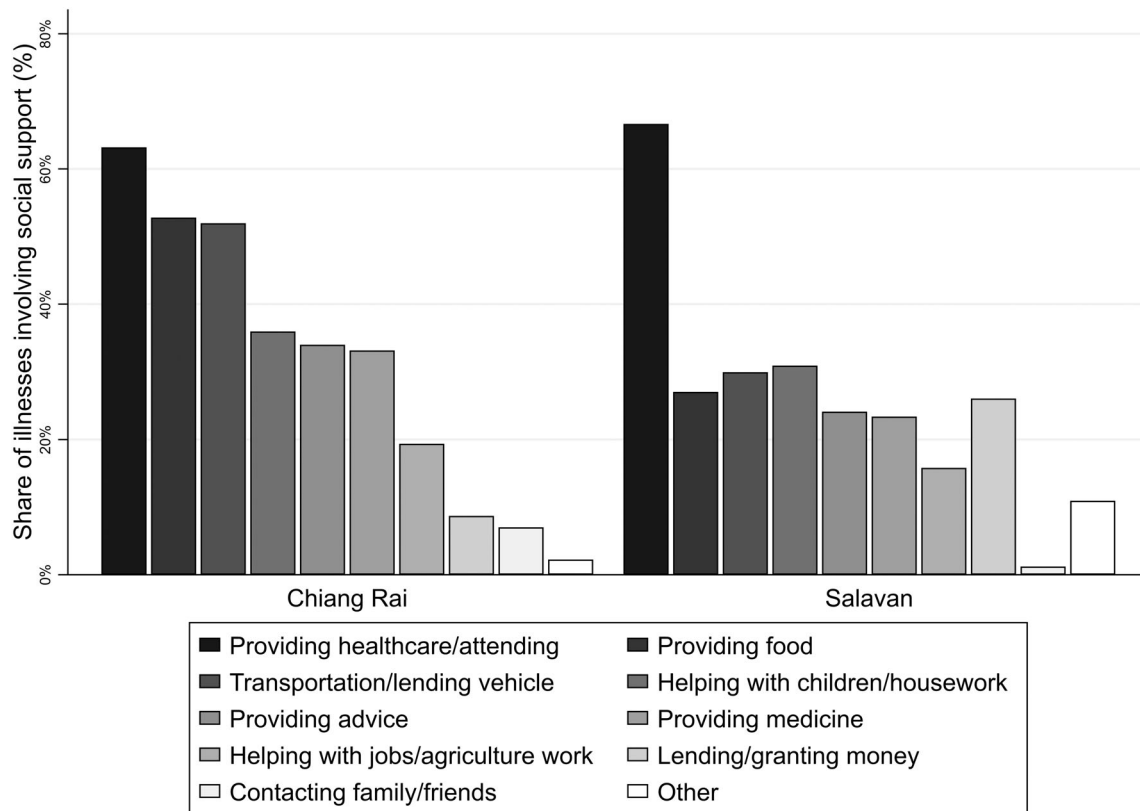
the heterogeneous status that pharmacies enjoyed across the different study sites.

Hypothetical preferences and actual treatment-seeking practice are different matters, however. Social and logistical constraints become binding when people with health needs are trying to convert preferences into action. As a result, 'revealed' preferences in actual illness episodes were generally lower and did not map neatly onto the hypothetical preferences (see Figure A1). Among all respondents who reported at least one illness ( $n = 2137$ ), only 3.7% accessed a provider that was not specified as a 'preference', but almost nobody (0.7%) accessed all the providers they indicated as a preference. Not only are healthcare preferences diverse, but they also do not allow predictions of patients' actions and practices in light of logistical and social realities.

### 3.2.3 | Premise 3: Shared social space

The third premise implies that treatment-seeking behaviour does not happen in isolation. Not only is people's understanding and interpretation of illness socially and culturally conditioned (Janes & Corbett, 2009; Kroeger, 1983), but the decision-making process is also subject to social interaction (Perkins et al., 2015; Ribera & Hausmann-Muela, 2011). While social relationships may be supportive (Ellis et al., 2019), social





**FIGURE 4** Types of support provided by other people during respondents' illness.  $N = 767$ . Analysis on illness level, only including illness episodes with social support. Source: Author, based on survey data.

network studies have also often documented segregation, antagonistic behaviour and exploitation within communities and kinship networks (di Falco & Bulte, 2011; Isakov et al., 2019; Montes et al., 2017; Villalonga-Olives & Kawachi, 2017). The surveys in Chiang Rai and Salavan (Surveys 3–6) specifically enquired whether and how people were involved in the treatment-seeking process.

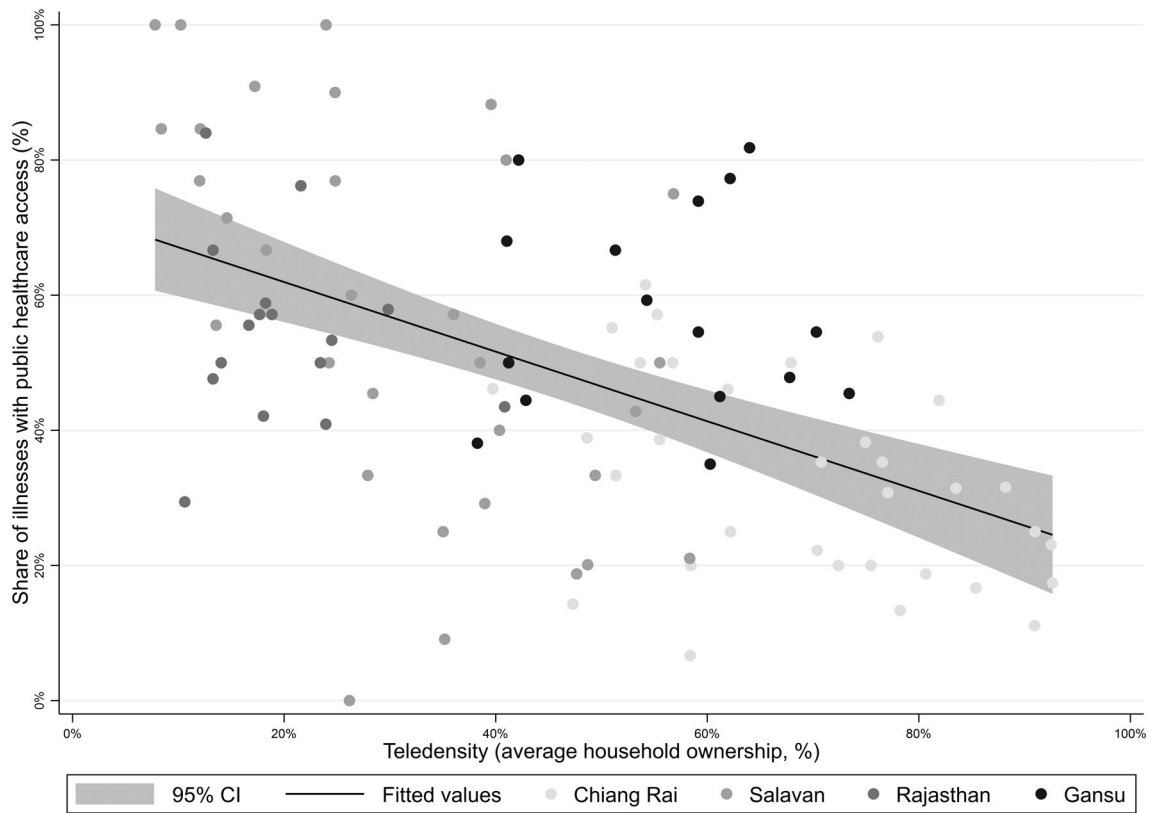
Overall, social support was common. Approximately one-third of all treatment-seeking episodes in these two sites involved the direct involvement of another person (28.9% in Chiang Rai and 35.7% in Salavan). These people were typically family members or relatives (accounting for 95.2% of all support), looking after the patient but also commonly offering food, transportation or helping in the household (Figure 4). Considering that the healthcare environment in Lao PDR involved a higher degree of out-of-pocket payments compared to Thailand (46.5% vs. 12.1% of total healthcare expenditure; World Bank, 2021), financial support from other people was also more common in Salavan than in Chiang Rai.

While these data indicated various forms of social support, the surveys were not designed to directly measure competition between individuals for scarce healthcare resources. However, the treatment-seeking data did offer insights into behavioural patterns that can be regarded as 'competitive'. In light of resource-constrained health services, a simple indicator could be the bypassing of referral systems for mild illnesses, in which a patient would directly visit a secondary-tier hospital without prior consultation of a lower-level formal healthcare provider such as a

public primary care unit. This was the case in 3.7% of all 2385 recorded illness episodes in Chiang Rai and Salavan, or 8.9% in the specific case of mild illnesses. Patients receiving social support were on average almost twice as likely to exhibit such 'competitive' behaviour: In Chiang Rai, patients experiencing social support accessed higher-tier public healthcare without referral in 12.5% of all mild illnesses, compared to 6.9% otherwise; in Salavan, 8.7% bypassed primary care compared to 5.5% of their peers without social support. Where healthcare resources are scarce—as was especially the case in rural Lao PDR—such competitive behaviour can not only be a strain on service provision but also potentially involve crowding out less privileged groups from accessing healthcare. Interpersonal relationships and support are therefore important elements to consider in global health policy.

### 3.2.4 | Premise 4: Interference with new solutions

Pro-technology biases are common in the medical sciences (Greenhalgh et al., 2018), and one technology commonly being propagated is the use of mobile phones to solve long-standing challenges in healthcare provision (Ivatury et al., 2009; Mechal & Donner, 2013; Qiang et al., 2012). Yet, new solutions may interfere with people's existing and informal ways of solving health-related problems (Hampshire et al., 2015). One way to illustrate the fourth premise is therefore to document awareness of formal phone-based service and



**FIGURE 5** Relationship between village-level teledensity and village-level average public healthcare utilisation during illnesses.  $N = 97$ . Trendline indicating linear fit with 95% confidence interval in grey. Teledensity is calculated as a village-level share of households with at least one operational mobile phone. *Source:* Author, based on survey data.

to compare it to ungoverned, informal ways of utilising phones for health-related purposes.

The surveys in rural Rajasthan and Gansu (Surveys 1 and 2) included questions on whether respondents were familiar with locally provided phone services, specifically ambulance services and health advice hotlines. Approximately half of these survey participants were aware of the ambulance services, while 10.1% in Rajasthan and 0.8% in Gansu knew the local health advice hotlines. However, health-related phone use did not in any single case involve hotlines or ambulance services. Yet general health-related mobile phone use was not uncommon across the four sites, ranging from 5.7% of all illness episodes in Rajasthan to 38.3% in Chiang Rai. People tended to call family members and healthcare providers directly for advice or arranged transport privately.

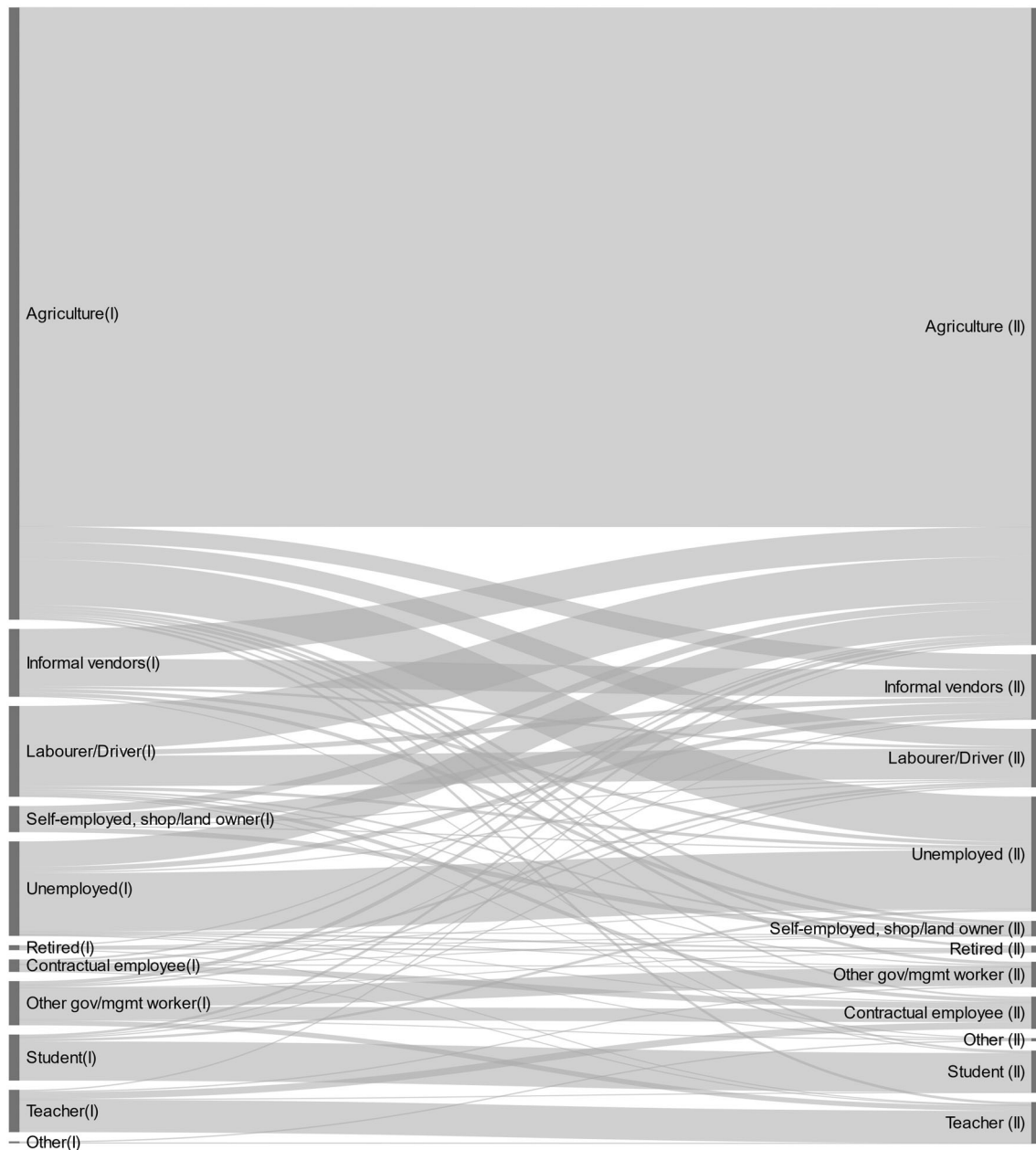
The survey data also indicated that in all sites except Rajasthan, rates of bypassing referral systems for mild illnesses were higher among phone users (similar to patients receiving social support). In the case of mild illnesses and compared to mobile phone non-users, patients with phone support were 99.3% more likely to bypass primary care in Chiang Rai (54.2% vs. 27.2%), 75.4% more likely in Salavan (32.1% vs. 18.3%) and 53.1% more likely in Gansu (19.6% vs. 12.8%).<sup>5</sup> These data demonstrate that people discover uses of mobile phones for their health needs often independently of publicly sanctioned services. In turn, new global health technologies could

interact and potentially interfere with a wide range of existing local solutions (Haenssger, Charoenboon, Althaus, et al., 2018).

### 3.2.5 | Premise 5: Impact of contextual change

Contexts do not remain stable. Seasonal and gradual changes of people's economic, social or technological environment can affect the configuration of local healthcare constraints and solutions. For example, Riley (2018) documented how new mobile money services in Tanzania changed households' ability to cope with risks but also made them more individualistic, which could potentially leave technologically excluded households more prone to fending for themselves in times of health crisis (another example would be seasonal labour migration, leaving remaining household members deprived of social support). Although the impact of contextual changes on health behaviours is notoriously difficult to measure (for refreshing exceptions, see Venkataramani, Bair, et al., 2019; Venkataramani, Cook, et al., 2019; Venkataramani et al., 2017), the data sets enabled at least a preliminary consideration of the socio-technological context, specifically the role of mobile technology diffusion in people's healthcare behaviour.

The spread of household mobile phone ownership was heterogeneous on the village level both within and across the four sites (and considering the survey periods of 2014 vs. 2017–2018), ranging from



**FIGURE 6** Short-term changes (ca. 3 months) in the main occupation in community census surveys in Chiang Rai and Salavan.  $N = 3356$ , including matched panel observations only. Analysis on an individual level. (I) and (II) indicate the respective survey round. Categories are coded manually based on free-text responses to questions about respondents' main and side occupations. Source: Author, based on survey data. Diagram created using SankeyMATIC (Bogart, 2020).

a minimum of 7.8% of households in a village in Rajasthan to a maximum of 92.6% in a village in Chiang Rai. Considering the seemingly high availability and preference towards public healthcare services (see Figures 2 and 3 above), it would be plausible to expect that this form of healthcare access is stable or otherwise positively inclined towards a technological environment that may help overcome logistical barriers. However, Figure 5 demonstrates that villagers living in communities with higher degrees of mobile phone diffusion were systematically less likely to seek public healthcare during an illness. In many cases, this inverse relationship coincided with a higher utilisation of private

healthcare providers, who can be considered to be more 'responsive' to mobile phone use (see Figure A2 for graphs disaggregated by site and type of healthcare access, and Haenssgen, 2018; Haenssgen & Ariana, 2017b, for more detailed analyses).

### 3.2.6 | Premise 6: Non-health health solutions

If the context influences behaviour at the population–health system interface (as has been established by behavioural scientists such as

**TABLE 3** Difference-in-difference comparison between people losing versus entering employment of period-change in healthcare preferences and choices.

|                          | Preferences <sup>a</sup> |                        | Choices <sup>b</sup> |                        |
|--------------------------|--------------------------|------------------------|----------------------|------------------------|
|                          | Salavan<br>(n = 224)     | Chiang Rai<br>(n = 98) | Salavan<br>(n = 66)  | Chiang Rai<br>(n = 50) |
| Any informal provider    | +2.9 pp                  | +9.5 pp                | -1.7 pp              | +35.0 pp               |
| Village health volunteer | +11.1 pp                 | 0.0 pp                 | -13.6 pp             | 0.0 pp                 |
| Pharmacy                 | +0.2 pp                  | +6.0 pp                | +5.8 pp              | +6.3 pp                |
| Private clinic/hospital  | +10.6 pp                 | +4.8 pp                | -16.9 pp             | +8.8 pp                |
| Public primary care unit | +21.4 pp                 | +4.8 pp                | -5.2 pp              | +18.8 pp               |
| Public hospital          | -1.2 pp                  | 0.0 pp                 | -11.6 pp             | -12.5 pp               |

Note: First differences calculated across survey rounds, difference-in-difference calculated of people losing employment versus people entering employment across the two survey rounds. Positive values therefore correspond to a relatively more pronounced positive period change (or less pronounced negative period change) among people losing employment when compared to the period change occurring among people entering employment.

<sup>a</sup>Individual-level data based on matched panel, that is, average within-person change of expressed preferences.

<sup>b</sup>Illness-level data based on repeated cross-sections across two survey rounds, that is, site averages of healthcare choices.

Source: Author, based on survey data.

Michie et al., 2011), then global health policy may more commonly consider inter-sectorial action across the SGDs that goes beyond influencing individual decision-making and treatment-seeking processes. The data sets used in this illustration do not include contextual interventions, but they enable a preliminary view into short-term changes of employment (the ramifications thereof are discussed at the end of this section). Although the community-level census surveys (Surveys 5 and 6) re-interviewed villagers after only 3 months, Figure 6 demonstrates that almost one-third of all residents were involved in a different main occupation (23.9% in Chiang Rai, 31.6% in Salavan; based on balanced panel data). Furthermore, 6.0% of the panel entered unemployment (5.1% in Chiang Rai, 6.5% in Salavan), whereas 3.6% gained employment over the same period (3.8% in Chiang Rai, 3.5% in Salavan).

Does the transition into and out of employment coincide with different health behaviour? The community census surveys allow analysing changes in healthcare preferences on the individual level (like-for-like comparisons of matched individuals) and changes in healthcare choices during illnesses (unmatched samples owing to low incidence of repeated illnesses among individuals). Table 3 compares how such employment changes were linked to changes in healthcare preferences and choices (detailed information on period changes is presented in Table A2). The table suggests among others that people losing their jobs did not change their already high preferences towards public hospitals, but were 11.6–12.5 percentage points less likely to

seek hospital care compared to villagers who entered employment. Curiously, although people losing their jobs in Salavan increased their preferences towards public and private primary care, they also became relatively less likely to actually access these out-of-pocket and often distant health services (contrary to Chiang Rai, where only hospitals were comparatively less likely to be accessed).

Albeit an arguably very limited analysis, one possible interpretation of this table is that people entering employment become relatively more likely to seek more distant public healthcare services. With respect to the sixth premise, this lends support to the notion that contextual interventions may affect health behaviours of interest for the attainment of SDG3. Such interventions could for instance pertain to increasing job security through employment guarantee schemes or unemployment insurance, both of which have been demonstrated elsewhere to improve health and nutrition outcomes (Benach et al., 2014; Nair et al., 2013; Park & Baek, 2019; Raifman et al., 2021; Rocco et al., 2018; Vadoros et al., 2019). Also, marketable non-health solutions may have such consequences. In particular financial services like private insurances (e.g., for crop loss or other economically threatening situations), access to emergency loans or transaction services to facilitate remittances have been found to correlate with improved health, disaster resilience and other development outcomes (Deloach & Lamanna, 2011; Diwakar & Lacroix, 2021), but also raise parallel concerns about issues such as stress and indebtedness (Ashta et al., 2015; Ganle et al., 2015). More generally, the mixed patterns of change documented in this section suggest that contextual interventions might also provoke unforeseen and diverse behavioural responses. Whether and how such inter-sectorial health interventions may complement or even replace individualised global health interventions should therefore be subject to further research, based on the premise that local contexts are important drivers of health behaviour.

## 4 | DISCUSSION

While the analysis provided empirical support for the premises, it is important to also consider its limitations. Specifically, the brief and overarching presentation of survey data in this paper cannot do full justice to site-specific complexities, which pertain not only to formal and informal health system structures but also for example local expressions of healthcare practices or the diversity of tangible and intangible solutions that already govern people's interactions with the local health system. To ensure systematic policy integration across the SDGs, the current focus on the population–health system interface also requires complementary research for instance on behaviour within the health system, at the health system–industry interface, and in other sectors of sustainable development. One successful example of the latter is the formulation of nutrition-sensitive development interventions that go beyond the individualised provision of food supplements and instead address broader social determinants of malnutrition, such as a lack of social safety nets (Ruel et al., 2013).

Conceptual limitations of this exposition are also worth highlighting. A fundamental challenge is that the explicit use of the market

paradigm could reinforce the dominant logic that the paper intended to diversify. Aside from the general notion of 'the market', especially the explicit language of 'customers' in the underlying management studies literature (Abell, 1980) is prone to playing into a problematic transactional logic of patient choice from which other dimensions such as care processes remain omitted (Martin et al., 2015; Mol, 2008). The six premises as explicit conceptual starting points together with the de-medicalising language of 'people with health needs' aim to mitigate this risk at least partially, but critical engagement with the concepts would require the ongoing intellectual work and advocacy of anthropologists and sociologists, especially from the Global South.

Considering these limitations, this applied framework can nevertheless help understand (and frame responses to) practical health issues such as venue shopping, widespread utilisation of the informal health-care sector, or the different forms of social support during an illness episode (Heaney & Israel, 2008; Sudhinaraset et al., 2013). But can the strategic market logic be applied in practice? Returning to the example of AMR, global strategies build explicitly on the neoclassical market definition and habitually perpetuate individualised approaches including 'a massive public awareness campaign' to reduce population demand for antimicrobials (The Review on Antimicrobial Resistance, 2016, p. 4). However, the interdisciplinary literature is awash with arguments that education has complex links with antimicrobial use (Diao et al., 2018; Wall, 2019, p. 15), that AMR awareness campaigns can backfire (Charoenboon et al., 2019; Fynbo & Jensen, 2018), and that much of seemingly problematic antimicrobial use is driven by structural (economic, social, political) factors that reflect broader questions of sustainable development (Doron & Broom, 2019; Hinchliffe et al., 2018).

The strategic market logic suggests that individualised approaches should not be the first and intuitive resort in global health policy. Instead, the four guiding questions to define (1) the market, (2) customer functions, (3) alternative technologies and (4) customer groups draw attention to the diversity of people and their healthcare experiences (Cooke et al., 2020; Om et al., 2017), and they help reflect on the diverse social purposes that antimicrobials may fulfil at the interface of population and health systems—such as infection control, managing clinician workloads, or 'quick fixes' to stay productive (Denyer Willis & Chandler, 2019; Om et al., 2016; Pearson & Chandler, 2019). Inter-sectorial health interventions may then consider for example social protection schemes relating to SDG1 (end poverty) and SDG8 (decent work) to alleviate hardship that drives people into antimicrobial use (Haenssngen et al., 2020), as for instance the World Bank has recently advocated (Berthe et al., 2019). Innovative interdisciplinary research like a medical humanities approach to community engagement demonstrated by Cooke et al. (2020) can help reveal these perspectives and define the strategic market by giving local target populations a louder voice.

More generally, the strategic market can inform and complement the broader movement towards context-sensitive global health policy and research. Behavioural design processes are for example generally prepared to acknowledge contextual factors through the physical and social environment (Michie et al., 2011), but the six premises underlying the strategic market logic can serve as checklist to partially

safeguard against individualised victim-blaming and to consider the broader structural forces that constrain individual choices. In addition, the strategic market is essentially a behavioural system, the definition of which can be integrated through the four guiding questions into mandatory stocktaking exercises during the early stages of the behavioural design process (i.e., establishing first why people behave they do before declaring their behaviour inappropriate and necessary to change)—similar to (albeit less complex than) the UK obesity systems map developed by the UK Government Office for Science (Vandenbroeck et al., 2007).

## 5 | CONCLUSION

As diminishing returns and interconnected sustainable development challenges like biodiversity loss or AMR threaten the future gains of global health policy, this paper set out to offer a framework that could promote a stronger integration of Health and Wellbeing (SDG3) with other SDGs—supporting thus a growing movement of context-sensitive approaches that are as diverse as social prescribing, behavioural design, or One Health. The paper reframed the prevailing logic of 'the market' from a management studies perspective, which offered four guiding questions to define the strategic market as the population—health system interface (highlighting the key elements of [1] the market, [2] customer functions, [3] alternative technologies and [4] customer groups), and a set of six premises on which to build future global health policy and research initiatives and establish the presence of: (1) fragmented landscapes, (2) varied preferences (3) shared social spaces, (4) interference with new solutions, (5) impact of contextual change and (6) non-health health solutions. This logic can encourage the development of intervention knowledge beyond conventionally defined health policy boundaries and with closer attention to local realities and the interlinkages across the SDGs. Priority areas for its application include the health consequences of climate change and AMR, but also future global health priorities such as the non-communicable disease burden and living with multiple conditions (Academy of Medical Sciences, 2017; Moreno-Juste et al., 2023).

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## CONFLICT OF INTEREST STATEMENT

I declare that no conflict of interest—financial or otherwise—exists.

## DATA AVAILABILITY STATEMENT

The dataset containing Thai and Lao data is available in the UK Data Service repository (S/N SN-853658, doi: <https://doi.org/10.5255/UKDA-SN-853658>), The reference for the data is Haenssgen, M. J., P. Ariana, H. F. L. Wertheim, R. C. Greer, C. Jones, Y. Lubell, et al. 2019. Antibiotics and activity spaces: rural health behaviour survey in Northern Thailand and Southern Laos 2017–2018. Colchester: UK Data Service. The surveys from Gansu and Rajasthan did not involve data sharing provisions. Data can be obtained upon reasonable request from the corresponding author.

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## ENDNOTES

<sup>1</sup> Conversely, according to Scopus, only 9 out of 555 sources citing Abell (1980) are from the field of medicine (broadly defined, also including global health and evaluation journals) – the core strategic marketing source on which this paper builds.

<sup>2</sup> A broad definition of health systems builds on the common 2007 definition of the World Health Organisation as, “all organisations, people and actions whose primary intent is to promote, restore or maintain health” (WHO, 2007), but embraces the plurality of health-related actors without an explicit system goal or a central controlling body of system

elements (Bloom et al., 2008; Kroeger, 1983). This broader definition includes actors whose actions have a bearing on human health, whether or not it is intended (e.g. fast food companies, parks, or gyms).

<sup>3</sup> Note that these contextual constraints can also reveal “customer functions” that compete with healthcare (e.g. the need to continue making a living).

<sup>4</sup> The surveys enquired for the various types of local healthcare providers whether the respondent “would (hypothetically) consider treatment.” Actual healthcare choices were extracted from the treatment-seeking pathways during recent acute illnesses and accident-related injuries.

<sup>5</sup> Health-related phone use and social support only overlapped in 22.3% of all illnesses and in 15.9% of mild illnesses.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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