

1 **The healthcare field as a marketplace: general practitioners,**
2 **pharmaceutical companies, and profit-led prescribing in Pakistan**

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20 **The healthcare field as a marketplace: general practitioners,**
21 **pharmaceutical companies, and profit-led prescribing in Pakistan**

22 Incentivisation of general practitioners (GPs) by pharmaceutical companies is
23 thought to affect prescribing practices, often not in patients' interest. Using a
24 Bourdieusian lens, we examine the socially structured conditions that underpin
25 exchanges between pharmaceutical companies and GPs in Pakistan. The analysis
26 of qualitative interviews with 28 GPs and 13 pharmaceutical sales representatives
27 (PSRs) shows that GPs, through prescribing medicines, met pharmaceutical sales
28 targets in exchange for various incentives. We argue that these practices can be
29 given meaning through the concept of 'field' – a social space in which GPs, PSRs,
30 and pharmacists were hierarchically positioned, with their unique capacities, to
31 enable healthcare provision. However, structural forces like the intense
32 competition between pharmaceutical companies, the presence of unqualified
33 healthcare providers in the healthcare market, and a lack of regulation by the state
34 institutions produced a context that enabled pharmaceutical companies and GPs to
35 use the healthcare field, also, as space to maximise profits. GPs believed the effort
36 to maximise incomes and meet socially desired standards were two key factors that
37 encouraged profit-led prescribing. We conclude that understanding the healthcare
38 field is an important step toward developing governance practices that can address
39 profit-led prescribing.

40 Keywords: healthcare, general practice, pharmaceutical industry, incentivisation,
41 capital

42 **Introduction**

43 The overuse and/or misuse of medicines has become a key global health concern
44 due to negative health outcomes and increased costs to the healthcare systems and to
45 patients (Brownlee et al., 2017). Recent biomedical research has shown a significant
46 relationship between the increased use of antibiotics and the development of
47 antimicrobial resistance (AMR) in pathogens (Holmes et al., 2016; Wu et al., 2018;
48 Wushouer et al., 2018). Various factors are viewed as contributing to the overuse and/or
49 misuse of medicines, including the wide availability and use of over the counter (OTC)

50 medications from pharmacies (Ali et al 2020), the large number of informal health care
51 providers (Shaikh and Hatcher, 2005) and the informal system of incentivisation between
52 pharmaceutical companies and care providers (Ali et al 2020). For instance, studies in
53 low and middle income countries (LMICs), highlight that sometimes from pharmacies
54 people can directly access medications like antibiotics from pharmacies for which
55 generally prescriptions are required (Ali et al., 2020; Marathe et al., 2020). Other studies
56 point to how medical practice by informal providers contributes to overuse and/or misuse
57 of medicines (Das et al., 2020; Suy et al., 2019). It is estimated that there are over 600,000
58 informal providers operating in small clinics in Pakistan who can prescribe/dispense a
59 high volume of antibiotics to patients with self-resolving ailments like cold and flu
60 (SHCC, 2022).

61 Pharmaceutical incentivisation to healthcare providers is also a major factor (Ali
62 et al., 2020; Deo et al., 2019; Khazzaka, 2019; Roblek et al., 2018). Pharmaceutical
63 companies may encourage profit-led prescribing by giving incentives to physicians
64 (Davari et al., 2018; Khazzaka, 2019; Schwartz & Woloshin, 2019; Wood et al., 2017).
65 Well-documented incentives include the donation of free drug samples, medical books,
66 dinners, sponsoring attendance at conferences, and gifts (Blake & Early, 1995; Chren et
67 al., 1989; Fadlallah et al., 2018; Fickweiler et al., 2017; Mitchell et al., 2021). In Pakistan,
68 these practices have increased against the background of a burgeoning private health
69 sector (Hassan et al., 2017). While the provincial and federal governments are primarily
70 responsible for healthcare delivery under the constitution, insufficient investment in the
71 public health sector has paved the way for the private health sector to flourish (Kurji et
72 al., 2016).

73 Currently more than 600 pharmaceutical companies are registered with the Drug
74 Regulatory Authority (DRAP) in Pakistan (John, 2022). In 2021, the DRAP, which is a

75 federal body, required all the provinces in Pakistan to mandate the prescription of
76 medicines with generic names. Furthermore, according to the DRAP's rules of ethical
77 marketing in the health sector, items like (but not limited to) cash, gift cards, food, gift
78 baskets, flowers or any type of branded promotional goods should not be given by the
79 pharmaceutical industry to physicians (DRAP, 2021, p.2). However, these guidelines are
80 not enforced and medicines in the country are frequently prescribed using brand names,
81 allowing pharmaceutical companies to incentivise private physicians that prescribe their
82 products (Jamshed et al., 2012).

83 The issue of profit-led prescribing and its contribution to negative social and
84 health outcomes among patients is understudied in the context of Pakistan. In this article,
85 we unveil the types of incentives that GPs receive from pharmaceutical companies and
86 the conditions that enable this practice, despite it being illegal. An important aspect of
87 our study is to understand the logic behind the exchange of incentives from the
88 pharmaceutical industry to GPs. The analysis of social structural conditions that underpin
89 this practice is guided by recent social research on this topic conducted in other countries.
90 For instance, Wall and Brown (2007) found that such incentives create reciprocal
91 obligations, so that pharmaceutical companies and physicians benefit each other
92 regardless of patients' interests. Once incentivised, physicians are compelled to favour
93 specific pharmaceutical companies when they prescribe medicines. Mather (2005) argues
94 that neoliberal capitalism has enabled the pharmaceutical industry to acquire an enormous
95 amount of power, reshaping the entire health sector. For instance, the industry invests
96 financial capital into innovation that helps produce new therapies, gets them approved,
97 and uses marketing skills to recover investments and generate profit. Furthermore,
98 Goswami and Chaudhuri (2020) suggest symbolic power or prestige enjoyed by
99 healthcare providers plays out when it comes to unethical exchanges between

100 pharmaceutical companies and GPs. Bourdieu (1979) introduced the concept of symbolic
101 power to explain how individuals can dominate other social actors because they possess
102 various forms of political, cultural or educational recognition that are valued in society.
103 Our study builds on Bourdieu's (1986) theory of social practice and the empirical works
104 based on this theory. We use Collyer's (2018) concept of the healthcare field, to
105 understand the exchange relationships between GPs and pharmaceutical companies
106 within the domain of the private primary health sector in Pakistan. We also attempt to
107 tease out different forms of incentives that GPs typically receive from pharmaceutical
108 companies, the contextual conditions that favour incentivisation, and the social logic
109 behind profit-led prescribing.

110 *The theory of social practice*

111 Bourdieu's theory of social practice helps make sense of human behaviours in specific
112 social domains. The theory is particularly useful for examining how structural- and
113 individual-level forces reinforce each other and shape actions in social domains such as
114 health, economy, and bureaucracy.

115 According to Bourdieu, social fields are multidimensional spaces in which social
116 relations occur (Bourdieu, 1977). And within each field, individuals are connected
117 through relationships of exchange. These relationships are influenced by the unique
118 *habitus* of each social actor – a combination of dispositions, competencies, and
119 worldviews – and various forms of capital/resources they possess. While *social fields* are
120 spaces that offer individuals opportunities, these opportunities are bounded by the *habitus*
121 of individuals and their relative positions within a given *social field* (Collyer et al 2015).
122 A unique property of *social fields* is their 'internal logic' which is formed in part by *doxa*
123 (Bourdieu (1990, p. 68) or the way that individual worldviews are limited, and their

124 expectations and choices in given settings are solidified and perpetuated. Furthermore,
125 Bourdieu (1986) attempts to link these concepts with a nuanced conception of power,
126 arguing that power derives from three fundamental forms of capital: economic, social,
127 and cultural. He argues that these forms of capital play out within given social fields for
128 individuals to improve their social and/or financial status. Thus, accruing specific forms
129 of capital that are valued in a given field is critical to individuals' improvement of their
130 socioeconomic status.

131 Drawing on the concept of *social fields*, Collyer (2018) explains the
132 commercialisation of the healthcare field and how its doxa which is fundamentally
133 capitalist in nature helps biomedical experts to sustain power within the field. In the
134 Australian context, Broom et al. (2014) used the Bourdieusian concepts of the social field
135 to analyse antibiotic prescribing in a hospital setting. This study found that doctors'
136 decision to prescribe antibiotics was rooted in their habitual practices rather than being
137 guided by antibiotic stewardship principles; that is, the need to avoid reputational damage
138 for doing not enough and the professional obligation to do everything possible to treat the
139 patients. Similarly, Chen et al. (2020) used the concept of capital to demonstrate how
140 antibiotic prescribing practices in Chinese rural areas were maintained and perpetuated
141 through sets of obligations in which physicians needed to maintain relationships with
142 patients even when they were uncertain about illness.

143 Building on these contributions, our study examines different types of capital that
144 underpin the relationship between GPs and the pharmaceutical industry, the field
145 structure of the private primary healthcare system that supports this practice, and why
146 GPs overlook patients' interests by prescribing them medicine even when this might be
147 unnecessary.

148 **Methods**

149 In 2021, the study was conducted in Karachi, the biggest city in Pakistan which is also
150 home to the largest number of GPs and pharmaceutical companies in the country. The
151 methodology we used to conduct this study rests on the interpretive sociological tradition.
152 We aimed to achieve an understanding of social mechanisms through which the exchange
153 of resources between GPs and pharmaceutical companies was determined and actualised
154 through profit-led prescribing. Subsequent to ethical approvals by the National Bioethics
155 Committee (# 4-87/NBC-582/21/1364), the Aga Khan University (# 2020-4759-1129)
156 and the London School of Hygiene and Tropical Medicine (# 26506), we conducted semi-
157 structured interviews with 28 qualified GPs. We used the snowball sampling technique
158 to identify eligible GPs (Etikan et al., 2016). In the interviews with GPs, we explored
159 their perspectives on their relationships with the pharmaceutical industry and their views
160 about pharmaceutical incentivisation as a marketing strategy. Because pharmaceutical
161 incentivisation to GPs was a sensitive issue, and direct questions about it could contribute
162 to negative feelings among participants, we presented various scenarios (each presenting
163 a unique ethical dilemma) to elicit a more open conversation about this topic. Following
164 their responses to the ethical dilemmas, we discussed with GPs their views about the
165 provisions of incentives by the pharmaceutical industry. During these discussions, many
166 GPs mentioned that they or their colleagues received many incentives such as medical
167 equipment, air conditioning units or financial support to attend local or international
168 conferences. Considering this information, we then probed GPs about their views on
169 pharmaceutical incentivisation and whether it influenced their prescribing practices.

170 We also conducted interviews with 13 pharmaceutical sales representatives
171 (PSRs), identified through our contacts with managers of pharmaceutical companies in
172 Karachi. In our sample, selected PSRs were salespersons for multinational, national, or

173 franchise-based companies. Interviews with PSRs focused on their assessment of GPs'
174 material/financial needs and how this information helped them to engage in profit-led
175 prescribing.

176 All except one interview with a GP were audio-recorded and conducted in the
177 local Urdu language, with each interview lasting approximately 60 minutes. The audio-
178 recorded interviews were translated and transcribed, except for one PSR interview, which
179 was excluded from the analysis due to poor audio quality.

180 The analysis of the interviews was approached as a meaning-making exercise
181 between the study participants and the research team. While reading and re-reading the
182 transcripts, we observed how GPs and PSRs gave meaning to their roles, the
183 incentivisation process, and the reasons that underpinned it. Indeed, the process of
184 analysing the data began at the fieldwork stage – the research team reviewed an initial
185 subset of transcripts and discussed emerging themes to determine whether the interview
186 guides needed any revision. Following minor revisions, and once all interviews had been
187 completed, we used the qualitative data analysis software NVivo (version 12) to develop
188 a coding frame and organise the qualitative data into three major themes, namely the PSR-
189 physician relationship, the incentive/resource-types mobilised, and GPs' views on profit-
190 led prescribing. Additionally, we sought to relate the emerging themes in our dataset to
191 the Bourdieusian theoretical concepts. To maintain confidentiality, we have anonymised
192 all quotes from the interviews with PSRs and GPs by assigning them codes.

193 **Results**

194 In the presentation of the findings below, the emerging themes from the interviews are
195 organised around three overarching domains, which reflect key concepts in the
196 Bourdieusian theory: the types of capital sought and exchanged in profit-led prescribing

197 practices; the structuring conditions in which these exchanges happen; and the logic
198 behind the offer and acceptance of pharmaceutical incentives.

199 *Forms of capital accrued from pharmaceutical companies*

200 Both GPs and PSRs reported that GPs obtained a range of resources from pharmaceutical
201 companies including money (in the form of cash and cheque), material resources (items
202 for clinic and/or home), and educational/professional resources (i.e., access to scientific
203 journals and medical conferences). The types of resources offered to GPs were contingent
204 on the specific policies and strategies adopted by different pharmaceutical companies. In
205 particular, many PSRs and GPs mentioned that multinational companies would sponsor
206 consultants and GPs to attend local/international conferences, while national companies
207 rather provided material gifts such as air-conditioning units (for home or the clinic) or
208 clinical equipment. Lastly, franchised companies sponsored recreational trips and
209 provided cash. A PSR, for instance, talked about the extent to which franchises have the
210 freedom to give GPs money:

211 Franchises normally put money on the table first and speak later. Sales reps from
212 franchises therefore can even penetrate clinical settings where their presence is
213 strictly prohibited. They always have a separate budget to give doctors money
214 directly. They really want doctors to prescribe their medicines... they would
215 straightway go to a doctor and put half a million rupees in advance (PSR-10).

216 Pharmacies were often used as an indirect means to give money to GPs. As some
217 participants mentioned, a percentage of profits generated through specific products sold
218 via GPs' prescriptions was allocated back to GPs and the partner pharmacies. One GP
219 spoke about how pharmaceutical companies mobilise funds to connect pharmacies and
220 GPs and enhance the sales of medicines:

221 When a pharmaceutical company engages a doctor, it first takes the nearby
222 pharmacies on board. The pharmacies launch the product as they are also looking
223 for a commission. The doctors are then advised that the medicines have been made
224 available to a particular pharmacy. The doctors then prescribe patients those
225 medicine and advise them to buy them from specific pharmacies (GP-10).

226 Some GPs said that GPs often prescribed unnecessary medicines so to obtain
227 commissions mediated by pharmacies:

228 The profit from the sales of pharmaceutical products is shared between doctors,
229 pharmaceutical companies, and drugstore owners. Even if a patient needs some
230 antiallergy for a problem like a runny nose, doctors will prescribe antibiotics because
231 they need to meet targets for pharma companies. They often prescribe medicines to
232 get benefits from pharmaceutical companies they make deals with (GP-005).

233 Some participants reported that GPs routinely used money obtained from
234 pharmaceutical companies to organise social events:

235 Nowadays, pharma companies give lots of money to doctors – they even pay for the
236 funerals of their parents or the wedding of their children... imagine how far we have
237 gone! (GP-14).

238 Almost all participants said that GPs receive what Noor (2021, p. 34) calls
239 ‘material capital’ – items for personal, family, and professional use. Such items included
240 clinical equipment, air-conditioning units, water dispensers, and, occasionally, cars.

241 A few PSRs justified these practices by saying that the incentives would somehow
242 benefit the GP’s patients:

243 I have given ECG machines, stethoscopes, and books to many doctors and have also
244 helped with the sponsorship of their education on topics like hypertension. You see
245 there is a benefit in all this for both doctors and patients. A more educated and
246 qualified doctor provides a better diagnosis, which would benefit the patient. If we
247 sponsor a doctor to undertake a course, the doctor is improving academically, so this
248 is a good thing (PSR-09).

249 However, the amount of money invested by pharmaceutical companies in GPs
250 was contingent on the magnitude of the sales that GPs contributed to and was monitored
251 through a system involving pharmacies. Specifically, pharmacy staff counted the number
252 of prescriptions they received from partner GPs and passed this information on to PSRs.
253 This mechanism was in place to adjust the level of incentivisation, depending on financial
254 returns brought by a GP. For example, one GP reported he had witnessed pharmaceutical
255 companies withdrawing from partnerships with GPs if the required targets were not met:

256 There are a lot of stories of how doctors have even taken cars from pharma
257 companies to prescribe their products. Those [doctors] who were not able to meet
258 targets, had to return cars to pharma companies. The message is simple: no business,
259 no nothing! (GP-02).

260 Some participants also mentioned that other incentives were routinely provided,
261 including material items for personal use, the clinics or educational material:

262 Let me tell you one thing, the problem of incentivisation has increased over time.
263 Nowadays pharmaceutical companies even renovate doctors' homes to make them
264 prescribe their medicines (GP-001).

265 Some of the interviews indicated that PSRs also organised money from
266 pharmaceutical companies to purchase medical books if GPs needed:

267 I asked a pharma company to buy me a book that was about PKR 5,000 and there
268 was a surgeon in Sukkur, and he asked for a book on surgery that was available
269 outside the country. The book's price was 15,000 (PKR) at that time, and they (the
270 pharmaceutical company) bought it for him (GP-19).

271 The analysis of interviews with PSRs also indicates that pharmaceutical
272 companies sponsored doctors (some top GPs and usually consultants) to attend national

273 and international academic conferences. However, some participants believed that
274 support to attend professional conferences was in effect a means to facilitate leisure trips:

275 What if the doctor you are visiting wants to see Singapore? To justify it, you add
276 some CME to it. The CME is usually for 2 to 4 hours or one day, but the tour is for
277 three days. All these things are done in a way that serves all the purposes (PSR-08).

278 Through the material presented in this section, we have attempted to unveil and
279 classify various types of capital, which pharmaceutical companies reportedly used to
280 maximise profits in private healthcare settings. Thus, GPs and PSRs acted as important
281 sources of social capital for each other – PSRs gave GPs access to resources like money,
282 items for personal/professional/family use, and educational events, and in return, GPs
283 benefitted pharmaceutical companies by prescribing their products. For many GPs and
284 PSRs, the provision of money, and items for personal/family use, was unethical.
285 However, Many PSRs justified the donation of clinical equipment, books, and
286 sponsorship to attend educational events, as these resources were believed to increase the
287 capacity of doctors and improve the quality of care for patients. In the next section, we
288 will analyse conditions that enabled GPs to receive resources from pharmaceutical
289 companies - a practice that breached existing guidelines on medical ethics and the law
290 (DRAP, 2021).

291 ***Healthcare field that sustains profit-led prescribing***

292 Given the practice of profit-led prescribing is against medical ethics in Pakistan, we
293 explored conditions that drive GPs' engagement with it. GPs, PSRs, and pharmacy staff
294 were all connected in a social space which was characterised by specific practices and
295 implicit agreements. Each of these actors possessed unique competencies and resources
296 that they used to maximise profits and each actor played a particular role in a structured

297 social domain, where GPs provide health care, PSRs market pharmaceutical products and
298 chemists sell medicines to patients.

299 Interviews with GPs and PSRs indicated that pharmaceutical incentivisation was
300 shaped by certain structural conditions such as the intense competition in the
301 pharmaceutical industry, institutionalised corruption, and a lack of formal training in
302 medical ethics. A GP, for example, discussed how intense competition in the
303 pharmaceutical industry had led to using incentivisation as a tool of marketing:

304 Pharmaceutical companies are doing business. In this business, there are a lot of
305 competitors. When I started practice twenty to twenty-five years ago, there were a
306 few companies, and their focus was to educate us about pharmaceutical products.
307 But today after ten years, I can see hundreds of companies. Competition has
308 increased a lot, and something wrong has happened with marketing. Companies have
309 now started to approach doctors and offer them money or something else (GP-04).

310 In keeping with this comment, some PSRs thought the number of pharmaceutical
311 companies in the country should be regulated but that institutional corruption obstructs
312 regulatory bodies to do so:

313 Where it takes three to four years to get a product registered by a multinational
314 company, a local company gets this in a few days. What is the reason behind it? If
315 you want to control pharmaceutical companies, DRAP plays a role. Also, I think that
316 it is very difficult to control private medical practice, but institutions like PMC can
317 do this. A while ago, doctors' bank accounts were monitored, but it was useless
318 because doctors usually deal in cash. As soon as any law is made, we produce
319 alternative ways (PSR-01).

320 While competition in the pharmaceutical market and institutional corruption
321 paved the way for unethical incentivisation in medical practice, a lack of formal training
322 in medical ethics set the conditions for profit-led prescribing to become normative
323 practice. For example, some GPs argued that inadequate training in medical ethics meant

324 that they were not able to distinguish between ethical and unethical practices when they
325 interacted with PSRs:

326 In most medical schools, there are no formal classes for prescription writing.
327 Unfortunately, GPs are not trained in medical ethics. Young doctors during their
328 training years observe what senior doctors do and imitate it when they enter the
329 market (GP-01).

330 Taking advantage of the lack of monitoring and regulation from the state
331 institutions, pharmaceutical companies encouraged PSRs to establish informal ties with
332 pharmacies and GPs, and build financial partnerships with them:

333 During training, sales representatives are given orientation about the sales targets
334 they need to achieve and to do so, they need to engage with pharmacies (PSR-06).

335 Usually, PSRs first established connections with pharmacies to gather some
336 information about GPs' prescribing patterns:

337 Before introducing a specific medicine to a doctor, we first get some information
338 from the chemist about how frequent a doctor normally prescribes this generic and
339 what are the chances that the doctor will switch to another company, and on what
340 basis. The chemists know this because they are the ones who sell medicines based
341 on doctors' prescriptions. For example, if five companies sell ciprofloxacin, and one
342 specific company is being prescribed repeatedly, this means that the doctor has some
343 sort of deal with that company, and chemists know this clearly because they also
344 receive a share of money from sales for making that brand available at the store
345 (PSR-05).

346 Once PSRs gathered some information about their target GPs, they attempted to
347 build a relationship with them. Many PSRs described that informal relationship-building
348 was important because it enabled them to negotiate sales targets and incentives. To
349 establish these informal ties, PSRs usually invited GPs and their families to meals at

350 popular restaurants. An additional objective of these informal interactions, according to
351 a GP, was to make GPs feel obliged to support their products:

352 They [PSRs] normally invite GPs and their families to eat meals in restaurants like
353 BBQ Tonight. We have to understand that nobody is going to give you something
354 for free. There is always a give-and-take relationship, like, they [PSRs] are doing all
355 this for us because they need business from us (GP-12).

356 After building friendly relationships with GPs, PSRs openly discussed the
357 products they wanted to promote, the sales targets, and the type and magnitude of
358 incentives they would give to GPs in return. If GPs were already engaged with another
359 pharmaceutical company, the PSR would offer better incentives. As a result, GPs would
360 often shift their allegiances depending on the level of incentives:

361 Suppose a company is providing a doctor with money equal to 20% of the sales of
362 each product... in that case, the doctor would expect 25% from another company. A
363 5% difference is a big thing. Further to it, the companies can attract doctors with
364 gifts like booking at the Pearl Continental Hotel Bhurban [a resort holiday package].
365 After the resort holiday is over, they [PSRs] will visit you at the clinic and ask you
366 to start prescribing their products (GP-12).

367 According to some PSRs, GPs would prescribe medicines including painkillers,
368 antibiotics, and multivitamins just to meet the incentivised sale targets, even when they
369 were not necessary for the patients. Thus, GPs' prescribing practices were partially
370 controlled by pharmaceutical companies and were not always in the patients' best
371 interests. Importantly, after receiving incentives, GPs were reportedly facing considerable
372 pressures to meet their sales targets:

373 If I have spent money on a doctor, this means that now my hand is on his throat. If
374 he is not going to do it [prescribe for us], we can pressurise him to do so (PSR-01).

375 In this section, we have examined contextual elements that enable exchanges
376 between pharmaceutical companies and GPs. Conditions such as intense competition
377 between pharmaceutical companies, and between qualified (GPs), combined with a lack
378 of monitoring and regulation of the health system, create a structural context that
379 facilitates pharmaceutical incentivisation to GPs. As we will see in the next section, this
380 happened even if both GPs and PSRs were clearly aware that accepting such incentives
381 is against ethics in medical practice.

382 ***Decisions and choices: GPs' logics behind profit-led prescribing***

383 When asked whether pharmaceutical incentivisation is ethical or unethical, a PSR had no
384 hesitation in calling this practice wrong:

385 Unethical, totally unethical. Leave ethics, sometimes companies and doctors call it
386 a business agreement and I think this is also wrong from this angle too. Even though
387 doctors may not be convinced by the quality of someone's medicines, they prescribe
388 them, just to get benefits. They support the companies who make better deals with
389 them, without considering the quality of medicines, and this can be harmful to
390 patients. Ideally, the doctor should prescribe something that they believe can benefit
391 their patients (PSR-05).

392 Despite awareness of wrongdoing, incentivisation was believed to happen due to financial
393 motives and the social pressure to gain the prestige and recognition attached to being a
394 'wealthy doctor'. Some GPs gave examples of how they associated wealth with the
395 medical profession as well as financial issues arising from the long time needed to
396 complete medical training:

397 You must go into the roots; I mean you need to understand the thought process of
398 students when they get admission to a medical school. Once you complete your
399 MBBS and a postgraduation, you are already somewhere between 35-40 years old,

400 and at this point, you think you need to accumulate money as much as you can (PSR-
401 01).

402 Some participants, after graduation, earned a less than expected income from
403 clinical practice, and this, coupled with societal expectations attached to the medical
404 profession, exerted extra pressure to look for other income-generation options.
405 Furthermore, the competition of unqualified doctors was seen as another factor that
406 encouraged malpractices such as profit-led prescribing:

407 Doctors struggle, like I did because they have to compete with quacks. It sometimes
408 becomes difficult to even justify our fees to patients because quacks charge less (GP-
409 13).

410 In Pakistan, like many LMICs, thousands of informal health providers,
411 commonly referred to as “quacks”, routinely prescribe and/or dispense allopathic
412 medicines to their patients (Gautham et al., 2021). They have a strong customer base
413 because their services are cheap and easily accessible because of their presence in many
414 locations. Additionally, patients are sometimes unable to differentiate between qualified
415 physicians and informal providers (Ulhaq, 2016). Thus, GPs viewed informal providers
416 as their competitors in the private healthcare market and recognised that this competition
417 could negatively affect their incomes:

418 It is not easy for doctors to practice in an area where there are many quacks. I think
419 the government should provide doctors with some financial support, as they cannot
420 earn good incomes due to quacks (GP-03).

421 Many participants said that financial constraints on the one hand, and a desire to
422 improve their financial status, on the other hand, create a situation in which GPs chose to
423 generate extra incomes by engaging in profit-led prescribing:

424 I am a doctor, I have kids, have old parents and inflation is there but we have to take
425 care of our status (GP-28).

426 In this section, we have seen how GPs' previous and ongoing experiences
427 structure perceptions about their social status, defined by prestige, recognition, and
428 wealth. To keep up with these expectations, GPs are induced to engage in profit-led
429 prescribing, even if they are aware of best practices in medical ethics.

430 **Discussion**

431 In this paper, we examined the social logic behind profit-led prescribing among
432 private GPs in Pakistan. Previous studies in other countries have largely focused on how
433 incentivisation by the pharmaceutical industry can shape GPs' prescribing practices, and
434 whether this practice has implications for the health system and health (Almasri et al.,
435 2020; Dyer, 2018; Khazzaka, 2019). Compared to these studies, we have also explored
436 the social processes that underpin these practices. We have particularly highlighted the
437 dynamics of the private health sector in the country, and how these create perfect
438 conditions to encourage malpractices such as profit-led prescribing.

439 In Pakistan, private GPs and clinics account for a large proportion of consultations
440 and treatment (Kurji et al., 2016). At the same time, the pharmaceutical industry has
441 grown exponentially, with over 600 companies operating in the country and helping to
442 meet 80% of the pharmaceutical needs (Mehmood et al., 2016). This increase in the
443 number of pharmaceutical companies brings with it competition, encouraging
444 incentivisation as a tool to maximise profits in a challenging market environment (Gul et
445 al., 2021). Consequently, the health and wellbeing of patients may be affected negatively,
446 if unnecessary and/or expensive medicines are prescribed. Patients are often unaware of
447 this malpractice, and therefore are unlikely to question medical advice and prescription.
448 This power imbalance between patients and physicians is also due to patients' poverty

449 and a lack of awareness about medicine and the health market, increasing their
450 dependency on physicians when they are ill (Arsani et al., 2020; Saleem et al., 2021).

451 Using Collyer’s (2015) concept of the healthcare field, which is an extension of
452 Bourdieu’s (1990) original concept of *social field* – we have explored the profit-
453 generation mechanisms of the pharmaceutical industry and private GPs in Pakistan. Our
454 analysis suggests that within the healthcare field, social actors such as GPs, PSRs, and
455 pharmacists accumulate different forms of capital (mainly financial capital) exploiting
456 the opportunities offered by prescribing. In particular, pharmacists acted as brokers
457 between PSRs and GPs, as they not only shared profit with GPs from the sales of
458 medicines, but also provided PSRs with information on GPs’ prescribing practices, their
459 ties to other companies, and resources that GPs are likely to shift partnerships. In other
460 words, pharmacists acted as what Putnam (2000) calls ‘bridging social capital’ since they
461 mediated the process of incentivisation. In return, PSRs give pharmacists a cut on the
462 sales of medicines, if they manage to strike a good deal with the GPs.

463 Our analysis also indicates how PSRs convert their formal social capital (derived
464 from their relationship with GPs) into informal social capital (Warr, 2006) by inviting
465 GPs and their families to lunch/dinner in local restaurants. Indeed, this capital conversion
466 allowed PSRs to openly discuss incentivisation offers. At the same time, the offer of
467 lavish meals, leisure trips, and sponsorship to attend local/international conferences
468 helped GPs maintain their desired social status and living standards. If GPs can maintain
469 their social status through these practices, in return they would help sustain the industry’s
470 power by maximising pharmaceutical sales through their prescriptions. Of concern, this
471 accumulation of various forms of capital by PSRs, pharmacists, and GPs may happen at
472 the expense of patients’ health and wellbeing, especially if unnecessary and/or expensive
473 medicines are prescribed.

474 Furthermore, this complex process involving the exchange of capital between
475 PSRs and GPs is shaped by two unwritten rules or *doxa* in the healthcare field. First, PSRs
476 need to assess the sales potential in relation to the GPs they make the deals with, so they
477 determine the volume of capital they can provide GPs with. Second, PSRs need to
478 exercise power if/when GPs cannot meet pharmaceutical targets, as PSRs not only can
479 stop the deals but can also take back previously gifted items from GPs. GP and PSR
480 practices are additionally shaped by the lack of effective regulations and the operations
481 of government institutions (like DRAP), which Bourdieu and Farage (1994) would refer
482 to as the bureaucratic field. Our qualitative data indicates that new local companies may
483 mobilise money to get approval sooner than multinational companies from the regulatory
484 bodies and begin operations in the pharmaceutical market. The conditions whereby
485 guidelines cannot be appropriately followed by institutions may permit GPs and PSRs to
486 also act opportunistically in their own selling and prescribing practices. Hence, due to
487 gaps in the regulatory system, GPs and PSRs may also ignore the existing ethical
488 guidelines on the sale of medicines, and this reinforces a value system in which everyone
489 makes decisions that benefit themselves rather than patients.

490 Our results also indicate that patients are not only passive victims of
491 pharmaceutical incentivisation but can also exercise agency in setting certain
492 expectations from GPs. For instance, patients may want a quick recovery from a self-
493 resolving ailment such as cold or flu and for this they may ask GPs to prescribe antibiotics.
494 GPs may do so, as they believe patients may switch to seeking healthcare from informal
495 providers who may treat them with antibiotics with no hesitation. And this fear of losing
496 customers adds to the pressure to meet pharmaceutical sales targets.

497 Lastly, the GPs' decisions to engage in profit-led prescribing are also shaped by
498 their *habitus* – individual worldviews constructed by socialisation in the past and present

499 and which orient future behaviour (Bourdieu, 1990). GPs, for example, are clearly aware
500 of strong social expectations about prestige and wealth linked with the medical profession
501 and therefore they engage in practices that increase their chances to meet these
502 expectations. The length of time required to complete medical education and become
503 registered practitioners also contributes to profit-led prescribing because this can
504 compensate for long periods of low income attached to medical training.

505 Future studies could consider a deeper analysis of the market forces and policy
506 gaps underlying the uncontrolled expansion of the pharmaceutical industry in the country.
507 Additionally, our study was bound to Karachi. Given the sociocultural and geographic
508 diversity in Pakistan, multi-sited studies would provide a more comprehensive analysis
509 of these practices. Similarly, studies with consultants (medical professionals with a
510 postgraduate education), hospital staff, pharmacists and informal providers may enable
511 exploration of various other forces that shape profit-led prescribing and how these might
512 bring negative outcomes for the health system (more broadly) and patients' health.

513 In terms of policy recommendations, our findings also suggest that shifts in the
514 bureaucratic field can reduce profit-led prescribing among GPs. The DRAP has recently
515 come up with a regulation that bans the provision of money, gifts for personal and family
516 use, leisure trips, and sponsorships for local/international conferences (DRAP, 2021).
517 This serves as an opportunity for regulatory authorities including DRAP, PMC, and
518 provincial Healthcare Commissions (HCC) to devise mechanisms by which the
519 interactions between PSRs and GPs can be monitored. When provincial healthcare
520 commissions take strict actions against informal providers, this reduces the risk to
521 patients' health but also contributes to GPs' positive perceptions about the health
522 regulation system, something that supports them to decline pharmaceutical incentives.
523 Also, health programs that use an insurance system to cover the patients' medical costs

524 may encourage GPs to reduce their profit-led prescribing. There is evidence of how the
525 use of prescription monitoring mechanisms in many countries has brought promising
526 outcomes in this regard. Introducing stricter regulation would restructure the kinds of
527 resources that pharmaceutical companies can make available (i.e., reduce personal gifts,
528 but maybe sustain legitimate promotional items that may be useful to GPs and patients
529 such as books and less expensive medical equipment). These changes to the bureaucratic
530 structure of pharmaceutical-doctor relations would shape GPs' habitus, instilling a clearer
531 idea of what counts as ethical choices. Finally, through the platform of PMC, ongoing
532 training for GPs that specifically focuses on medical ethics and patient welfare may be
533 useful to improve healthcare delivery in the domain of private primary healthcare.

534 **Conclusion**

535 This paper has attempted to demonstrate the social logic behind profit-led prescribing in
536 the private primary healthcare settings of Pakistan. Because engagement in profit-led
537 prescribing can lead to a financial burden on the health system and negative health
538 outcomes among patients (particularly AMR if antibiotics are prescribed unnecessarily),
539 it is important to investigate factors that contribute to GPs' engagement in it, in the first
540 place. We found that entanglement between various structural (i.e., weak policies and
541 their implementation and sociocultural standards associated with the medical profession)
542 and interpersonal forces (i.e., personal and family needs) shaped GPs' worldviews in a
543 way that made participating in profit-led prescribing an acceptable and rational choice.
544 More attention to these issues can provide important insights to reform policy and
545 practice.

546 **Acknowledgements**

547 We are thankful to the Pakistan Medical Commission and the Sindh Healthcare

548 Commission for endorsing our research. We are grateful to the AKU Microscopy
549 Laboratory staff to carry out for their support in organising logistics for data collection.
550 We express our gratitude to the UK Research and Innovation to provide us with funding
551 to research conflicts of interest in medical practice in Pakistan.

552 **References**

- 553 Ali, M., Abbasi, B. H., Ahmad, N., Fazal, H., Khan, J., & Ali, S. S. (2020). Over-the-
554 counter medicines in Pakistan: misuse and overuse. *The Lancet*, 395(10218),
555 116.
- 556 Almasri, M., Bukhari, Y. R., Alzuair, B. S., Almadi, M. K., & Abdulrahman, A. K. B.
557 (2020). Ethical considerations in doctors & pharmaceutical industries
558 relationship: a narrative review. *Int J Med Dev Countries*, 4(1), 244-252.
- 559 Arsani, A. M., Ario, B., & Ramadhan, A. F. (2020). Impact of education on poverty and
560 health: Evidence from Indonesia. *Economics Development Analysis Journal*,
561 9(1), 87-96.
- 562 Blake, R. L., & Early, E. K. (1995). Patients' attitudes about gifts to physicians from
563 pharmaceutical companies. *The Journal of the American Board of Family*
564 *Practice*, 8(6), 457-464.
- 565 Bourdieu, P. (1977). Outline of a Theory of Practice. 1972. *Trans. R. Nice*, 16.
- 566 Bourdieu, P. (1979). Symbolic power. *Critique of anthropology*, 4(13-14), 77-85.
- 567 Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of*
568 *theory and research for the sociology* (pp. 241-258). Greenwood.
- 569 Bourdieu, P. (1990). *The Logic of Practice* (N. Richard, Trans.). Stanford University
570 Press.
- 571 Bourdieu, P., & Farage, S. (1994). Rethinking the state: Genesis and structure of the
572 bureaucratic field. *Sociological theory*, 12(1), 1-18.
- 573 Broom, A., Broom, J., & Kirby, E. (2014). Cultures of resistance? A Bourdieusian
574 analysis of doctors' antibiotic prescribing. *Social science & medicine*, 110, 81-
575 88.
- 576 Brownlee, S., Chalkidou, K., Doust, J., Elshaug, A. G., Glasziou, P., Heath, I., Nagpal,
577 S., Saini, V., Srivastava, D., & Chalmers, K. (2017). Evidence for overuse of
578 medical services around the world. *The Lancet*, 390(10090), 156-168.
- 579 Chen, M., Kadetz, P., Cabral, C., & Lambert, H. (2020). Prescribing antibiotics in rural
580 China: the influence of capital on clinical realities. *Frontiers in sociology*, 5, 66.
- 581 Chren, M.-M., Landefeld, C. S., & Murray, T. H. (1989). Doctors, drug companies, and
582 gifts. *Jama*, 262(24), 3448-3451.
- 583 Collyer, F. (2018). Envisaging the healthcare sector as a field: Moving from Talcott
584 Parsons to Pierre Bourdieu. *Social Theory & Health*, 16(2), 111-126.
- 585 Collyer, F. M., Willis, K. F., Franklin, M., Harley, K., & Short, S. D. (2015). Healthcare
586 choice: Bourdieu's capital, habitus and field. *Current Sociology*, 63(5), 685-699.
- 587 Costelloe, C., Metcalfe, C., Lovering, A., Mant, D., & Hay, A. D. (2010). Effect of
588 antibiotic prescribing in primary care on antimicrobial resistance in individual
589 patients: systematic review and meta-analysis. *Bmj*, 340.

- 590 Das, J., Daniels, B., Ashok, M., Shim, E.-Y., & Muralidharan, K. (2020). Two Indias:
591 The structure of primary health care markets in rural Indian villages with
592 implications for policy. *Social science & medicine*, 112799.
- 593 Davari, M., Khorasani, E., & Tigabu, B. M. (2018). Factors influencing prescribing
594 decisions of physicians: a review. *Ethiopian journal of health sciences*, 28(6).
- 595 Deo, S. K., Rijal, S., Kunwar, S. D., Yadav, S., & Gupta, S. (2019). Awareness and
596 Practice of Over-the-Counter Drugs in a Selected Community of Nepal.
597 *Advances in Medical, Dental and Health Sciences*, 2(4).
- 598 DRAP. (2021). *Ethical Marketing to Healthcare Professionals Rules, 2021 (S.R.O.*
599 *1472(I)/2021)*. [https://www.dra.gov.pk/about_us/legislation/sros/ethical-](https://www.dra.gov.pk/about_us/legislation/sros/ethical-marketing-to-healthcare-professionals-rules-2021-s-r-o-1472i-2021/)
600 [marketing-to-healthcare-professionals-rules-2021-s-r-o-1472i-2021/](https://www.dra.gov.pk/about_us/legislation/sros/ethical-marketing-to-healthcare-professionals-rules-2021-s-r-o-1472i-2021/)
- 601 Dyer, O. (2018). Even a \$13 meal paid by pharma increases doctors' opioid prescribing,
602 study finds. British Medical Journal Publishing Group.
- 603 Etikan, I., Alkassim, R., & Abubakar, S. (2016). Comparison of snowball sampling and
604 sequential sampling technique. *Biometrics and Biostatistics International*
605 *Journal*, 3(1), 55.
- 606 Fadlallah, R., Alkhaled, L., Brax, H., Nasser, M., Rajabbik, M. H., Nass, H., Kahale, L.
607 A., & Akl, E. A. (2018). Extent of physician–pharmaceutical industry
608 interactions in low-and middle-income countries: a systematic review. *The*
609 *European Journal of Public Health*, 28(2), 224-230.
- 610 Fickweiler, F., Fickweiler, W., & Urbach, E. (2017). Interactions between physicians
611 and the pharmaceutical industry generally and sales representatives specifically
612 and their association with physicians' attitudes and prescribing habits: a
613 systematic review. *BMJ open*, 7(9), e016408.
- 614 Gautham, M., Spicer, N., Chatterjee, S., & Goodman, C. (2021). What are the
615 challenges for antibiotic stewardship at the community level? An analysis of the
616 drivers of antibiotic provision by informal healthcare providers in rural India.
617 *Social science & medicine*, 275, 113813.
- 618 Goswami, P., & Chaudhuri, A. (2020). How Far Is Marketization Responsible for the
619 Epidemic Growth of Clinical Depression? A Study in Kolkata, India
620 (*Marketization* (pp. 285-307). Springer.
- 621 Gul, R., Saeed, H., Saleem, Z., Rasool, F., Hashmi, F. K., Islam, M., Imran, I., Raza, S.
622 A., & Danish, Z. (2021). Perceptions of and barriers to ethical promotion of
623 pharmaceuticals in Pakistan: perspectives of medical representatives and
624 doctors. *BMC medical ethics*, 22(1), 1-16.
- 625 Hassan, A., Mahmood, K., & Bukhsh, H. A. (2017). Healthcare system of Pakistan.
626 *IJARP*, 1(4), 170-173.
- 627 Holmes, A. H., Moore, L. S., Sundsfjord, A., Steinbakk, M., Regmi, S., Karkey, A.,
628 Guerin, P. J., & Piddock, L. J. (2016). Understanding the mechanisms and
629 drivers of antimicrobial resistance. *The Lancet*, 387(10014), 176-187.
- 630 Jamshed, S. Q., Ibrahim, M. I. M., Hassali, M. A. A., Masood, I., Low, B. Y., & Shafie,
631 A. A. (2012). Perception and attitude of general practitioners regarding generic
632 medicines in Karachi, Pakistan: a questionnaire based study. *Southern med*
633 *review*, 5(1), 22.
- 634 John, Z. A. (2022). The impact of strategic human resource management on the
635 organizational sales performance: case of national pharmaceutical companies in
636 pakistan.
- 637 Khazzaka, M. (2019). Pharmaceutical marketing strategies' influence on physicians'
638 prescribing pattern in Lebanon: ethics, gifts, and samples. *BMC health services*
639 *research*, 19(1), 1-11.

- 640 Kurji, Z., Premani, Z. S., & Mithani, Y. (2016). Analysis of the health care system of
641 Pakistan: lessons learnt and way forward. *J Ayub Med Coll Abbottabad*, 28(3),
642 601.
- 643 Marathe, P., Kamat, S., Tripathi, R., Raut, S., & Khatri, N. (2020). Over-the-counter
644 medicines: Global perspective and Indian scenario. *Journal of postgraduate
645 medicine*, 66(1), 28.
- 646 Mather, C. (2005). The pipeline and the porcupine: Alternate metaphors of the
647 physician–industry relationship. *Social science & medicine*, 60(6), 1323-1334.
- 648 Mehmood, K. K., Sonia, F., & Umar, A. (2016). Impact of Organic Structure on
649 Competitive Performance of Pharmaceutical Companies in Pakistan: Study of
650 Mediating Roles. *Pakistan Journal of Social Sciences (PJSS)*, 36(2).
- 651 Mitchell, A. P., Trivedi, N. U., Gennarelli, R. L., Chimonas, S., Tabatabai, S. M.,
652 Goldberg, J., Diaz Jr, L. A., & Korenstein, D. (2021). Are financial payments
653 from the pharmaceutical industry associated with physician prescribing? A
654 systematic review. *Annals of Internal Medicine*, 174(3), 353-361.
- 655 Noor, M. N. (2021). The Theory of Capital and Social Practice (*Homeless Youth of
656 Pakistan* (pp. 29-38). Springer.
- 657 Putnam, R. D. (2000). Bowling alone: America’s declining social capital (*Culture and
658 politics* (pp. 223-234). Springer.
- 659 Roblek, V., Bach, M. P., Meško, M., & Bertoneclj, A. (2018). To click or to buy over
660 the counter drugs: exploring the behaviour of Slovenian customers.
661 *International Journal of Electronic Marketing and Retailing*, 9(2), 145-166.
- 662 Saleem, H., Shabbir, M. S., & Khan, B. (2021). Re-examining multidimensional
663 poverty in Pakistan: A new assessment of regional variations. *Global Business
664 Review*, 22(6), 1441-1458.
- 665 Schwartz, L. M., & Woloshin, S. (2019). Medical marketing in the United States, 1997-
666 2016. *Jama*, 321(1), 80-96.
- 667 Shaikh, B. T., & Hatcher, J. (2005). Complementary and alternative medicine in
668 Pakistan: prospects and limitations. *Evidence-Based Complementary and
669 Alternative Medicine*, 2(2), 139-142.
- 670 SHCC. (2022). *Introduction to Anti-Quackery*. Sindh Healthcare Comission. Retrieved
671 25/08/22 from [https://shcc.org.pk/page.aspx/anti-quackery/introduction-to-anti-
672 quackery](https://shcc.org.pk/page.aspx/anti-quackery/introduction-to-anti-quackery)
- 673 Suy, S., Rego, S., Bory, S., Chhorn, S., Phou, S., Prien, C., Heng, S., Wu, S., Legido-
674 Quigley, H., & Hanefeld, J. (2019). Invisible medicine sellers and their use of
675 antibiotics: a qualitative study in Cambodia. *BMJ global health*, 4(5), e001787.
- 676 Ulhaq, I. (2016). Medical malpractice in Pakistan.
- 677 Wall, L. L., & Brown, D. (2007). The high cost of free lunch. *Obstetrics & Gynecology*,
678 110(1), 169-173.
- 679 Warr, D. J. (2006). Gender, class, and the art and craft of social capital. *The
680 Sociological Quarterly*, 47(3), 497-520.
- 681 Wood, S. F., Podrasky, J., McMonagle, M. A., Raveendran, J., Bysshe, T., Hogenmiller,
682 A., & Fugh-Berman, A. (2017). Influence of pharmaceutical marketing on
683 Medicare prescriptions in the District of Columbia. *PloS one*, 12(10), e0186060.
- 684 Wu, J., Taylor, D., Ovchinikova, L., Heaney, A., Morgan, T., Dartnell, J., Holbrook, R.,
685 Humphreys, L., Weekes, L., & Blogg, S. (2018). Relationship between
686 antimicrobial-resistance programs and antibiotic dispensing for upper respiratory
687 tract infection: an analysis of Australian data between 2004 and 2015. *Journal of
688 International Medical Research*, 46(4), 1326-1338.

689 Wushouer, H., Zhang, Z.-X., Wang, J.-H., Ji, P., Zhu, Q.-F., Aishan, R., & Shi, L.-W.
690 (2018). Trends and relationship between antimicrobial resistance and antibiotic
691 use in Xinjiang Uyghur autonomous region, China: based on a 3 year
692 surveillance data, 2014–2016. *Journal of infection and public health*, *11*(3), 339-
693 346.

694