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ABSTRACT

The Impact of Physician-Patient Gender Match on Healthcare Quality: An Experiment in China

There is a lack of understanding of what may drive gender disparities in healthcare utilization and outcomes. We present novel evidence on the impact of physician-patient gender match on healthcare quality using standardized patients (SPs) in an experiment, and collected interactions between SPs and physicians in a primary care setting. We find that, compared with female physicians treating female SPs, female physicians treating male SPs had a 23.4 pp increase in correct diagnosis and a 19.0 pp increase in correct drug prescriptions. Despite substantial gains in healthcare quality, there was no significant rise in medical costs or time investment. The gains in care quality were partly attributed to better physician-patient communications, not the presence of more clinical information. More importantly, female physicians treating male SPs prescribed more unnecessary tests but fewer unnecessary drugs to balance their time commitment and costs. The results suggest the role of gender norms and physician defensive behavior when female physicians treat male SPs. Our findings imply that improving patient centeredness may lead to significant gains in the quality of healthcare with modest costs, while reducing gender gaps in care quality.

JEL Classification: I11, I12, I14, J16, J22

Keywords: gender disparities, healthcare quality, standardized patient, experiment, China

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1. Introduction

Gender is one of the first characteristics we notice in others. This acute awareness of gender can be problematic, because our gender-related thinking, feeling, and behavioral responses to others can lead to undesirable gender disparities. In the medical setting, prevalent gender disparities that disadvantage female patients are reported in access to critical health interventions (Hoffmann and Tarzian, 2001; Milcent et al., 2007), potentially life-saving treatments (Clarke et al., 1994; Hamberg, 2008), and health outcomes (Shannon et al., 2019). However, little is known about what drives these disparities and what policy interventions may affect them. To address this gap, we investigate the role of physician-patient gender match in explaining gender-related disparities in healthcare quality.

Healthcare quality determines the extent to which health services for individuals and populations increase the likelihood of desired health outcomes (WHO, 2022). Existing findings suggest significant gaps between what physicians know how to do and what they do in practice (Leonard and Masatu, 2010; Mohanan et al., 2015). The low quality of healthcare attributed to "know-do" gaps is of general concern in developing countries (Brownlee et al., 2017; Das et al., 2012; Su et al., 2021; Sylvia et al., 2015), especially for female patients. In practice, patients often know little about the quality of care they receive (Arrow, 1963; Dulleck and Kerschbamer, 2006), while their decisions on treatments heavily rely on physicians' advice. Growing evidence from developed countries suggests that physicians do not practice solely based on science but vary their behaviors and choices depending on values, beliefs, race, and gender (Greenwood et al., 2018; Gross et al., 2008; Malhotra et al., 2017). It is challenging to isolate gender effects from other unobservable factors (i.e., modified patient behavior or preference) using observational study designs (Cabral and Dillender, 2024; Daniels et al., 2019; Wallis et al., 2021; Weisse et al., 2005). For instance, patients have preferences regarding physician gender (Janssen and Lagro-Janssen, 2012), which results in selection biases. Therefore, how

physician-patient gender match determines healthcare quality is poorly understood, partly due to methodological challenges.

Using an experiment with the standardized patients (SPs) method, we assess the impact of physician-patient gender match on healthcare quality. SPs are well-coached actors who are trained to present symptoms of an illness to physicians in a standardized, unvarying manner and to then record in detail the interactions between them (Wiseman et al., 2019). SPs present their initial symptoms and respond to physicians' inquiries consistently across all interactions, and thus unobservable factors from the patient side that may confound any identified relationship between physician-patient gender match and healthcare quality can be mitigated. The SP method has been widely used in medical education in developed countries and is increasingly used to evaluate healthcare quality in developing countries as well (Das et al., 2016b). We leverage the exogenous variation of assigning SPs to randomly pair with primary care physicians, due to the walk-in nature of primary care in our setting, to evaluate the impact of physician-patient gender match.

2. Methods

2.1 Study Setting

The study was conducted in Xi'an, China between August 17–28, 2017 and between July 30–August 10, 2018, when a project was conducted to evaluate the impact of a policy of clinician training on quality of primary care in western China. Through the project, we recruited 18 SPs from the local communities, of whom 15 were female and 3 were male. The SPs were recruited from local communities, with their ages ranging from 45 to 60, no history of chronic diseases, and no history of employment in health care or medicine. Their educational attainment was required to be high school or above. During the recruitment process, we attempted to achieve SPs' balanced background. As we will show, while our SP training did not collect demographic information on education and occupation, other observable characteristics across SP gender were tested and

found balanced. We offered a compensation of 200 Chinese Yuan (CNY) per day (the average local daily earning rate) for SPs, plausibly due to, on average, higher reservation wages for males than females, only 3 male residents registered to participate in the project, and we included all of them. The SPs participated in rigorous training to ensure their performance was comparable before seeing physicians at community health centers (CHCs). After the audit study, each SP was offered an additional bonus (1,000 CNY) if they participated in the whole study (and all SPs did). More details about SP training and scripts are available in *Supplement 1*.

2.2 Disease Selection

The SPs portrayed 2 gender-neutral diseases, unstable angina and asthma, the incidence of which was high in the study region. The symptoms of asthma can be minor but may lead to a life-threatening attack. Asthma affects 1–18% of the population in a range of countries (Global Initiative for Asthma, 2018). Asthma is a prevalent but largely undiagnosed condition in China (Huang et al., 2019). The second disease, unstable angina, may lead to a heart attack. Therefore, it should be treated as an emergency as suggested by the American Health Association. In 2017, stroke and ischemic heart disease were the leading causes of death in China (Luan et al., 2021), with 149 and 124 in every 100,000 deaths attributed to stroke and heart attack, respectively (Zhou et al., 2019). We note that asthma prevalence did not differ between men and women (Huang et al., 2019) while angina is more common in women than men in China (Quashie et al., 2019).

Despite the high prevalence and risks, it is important to note that individuals with asthma and unstable angina can often appear normal in daily life. Asthma is often triggered by allergens, including pollen, dust mites, mold spores, pet dander, and certain foods. When someone with allergic asthma inhales these allergens, their immune system overreacts, causing the airways to become inflamed, narrow, and produce extra mucus. Similarly, unstable angina is a condition characterized by unexpected chest pain or discomfort that occurs at

rest or with minimal exertion. It is a type of acute coronary syndrome and a warning sign that a heart attack could occur soon. Unlike stable angina, which occurs predictably with exertion and is relieved by rest, unstable angina is more unpredictable and severe.

The two hypothetical cases were not complicated, and they were specifically chosen so that the opening statement by the SPs would be consistent with multiple underlying illnesses. In addition, the conditions could be portrayed easily and presented a low risk of prompting invasive examinations. Explicit, predefined guidelines for physician practice were available for the two tracer conditions and had been adapted from earlier studies in India and China (Das et al., 2012; Sylvia et al., 2015). A panel of doctors determined that appropriate history taking and examinations should lead providers toward the correct diagnosis and treatment.

2.3 Physician-Patient Pairing

CHCs in China are *de-facto* 'ambulatory hospitals', providing outpatient services, mainly for common clinical conditions, and very limited inpatient services. CHCs provide walk-in services. No referral or appointment is required for patients to use either outpatient or inpatient services. SPs were randomly sent to engage with physicians on a workday without an appointment. The arrival time of an SP determines which physician sees him/her. Since the physician shift was predetermined before the SP visits, physicians and patients were randomly paired during these visits.

During the SP visits, patients answered physicians' all inquiries, accepted all non-invasive medical tests, and paid for the consultation, medical tests, and all medications. We required SPs to report their detailed interactions with physicians by administering a structured questionnaire immediately after they left the CHC. We then further checked SPs' responses using an audio recording to ensure accuracy. In total, we collected 492 interactions between 169 physicians and 18 SPs.

All 63 CHCs in Xi'an, China granted approval for the study to be conducted in their facilities. Written consent forms were obtained from CHCs and physicians three months before the SPs' visits, but physicians were not aware of the diseases to be tested. The study was approved by the Ethics Committee of Xi'an Jiaotong University Health Science Center (approval number: 2015-406); this committee also permitted the recording of interactions between physicians and SPs using hidden audio devices.

2.4 Healthcare Quality Measures

We focus on one essential aspect of quality: the degree to which patients receive timely and accurate diagnoses and evidence-based treatment for their conditions without facing financial hardship (Das et al., 2018). We use four metrics to measure healthcare quality.

1) *Consultation length* refers to how long (in minutes) the physician-patient communication lasts and is used as a proxy for provider effort (Das et al., 2016b).
2) *Medical costs* include the fees incurred for consultation, medical tests, and drugs prescribed.
3) *Correct diagnosis:* We use a binary variable to classify diagnoses as "correct" or "other" (i.e., partially correct or incorrect—see *Supplement 4*). SPs were instructed to consult physicians directly at the end of their visits if a diagnosis had not been provided.
4) *Correct drug prescription:* We use another binary variable to classify drugs as "correct" or "other" (i.e., unnecessary or harmful—see *Supplement 5*) (Das et al., 2016b; Sylvia et al., 2017).

2.5 The Empirical Model

Our econometric specification is very straightforward:

$$y_{ijct}^{k} = \beta_0 + \beta_1 Gender_{ij} + \beta_2 X_j + \pi_c + \varphi_t + \mu_d + \epsilon_{ijct}^{k} \quad (1)$$

where y_{ijct}^{k} represents quality metric *k* for SP individual i visiting physician *j* in the CHC c on day *t*. $Gender_{ij}$ is specified to control for three sets of variables repeatedly in regressions: 1) physician gender $Gender_j$ and patient gender $Gender_i$ separately, 2) physician gender and patient gender separately with an interaction term, or 3) four pairs of physician–patient gender matches using the pair of female physicians treating female SPs (F) as a reference group $Gender_{i=F,j=F}$. X_j is a set of observable demographic factors of physicians j. π_c indicates CHC fixed effects, and μ_d indicates disease fixed effects. φ_t indicates month, day of the week, and year fixed effects. ϵ_{ijct}^{k} is the error term.

Linear regression models were estimated. Robust standard errors were clustered at the CHC level. Conditional on balanced observable SP factors in our study design, the outcome differences we find should be attributable to patient-physician gender match.

3. Results

3.1 Main Findings

Female physicians accounted for 54.47% of physician–patient interactions, while female SPs accounted for 83.54% of interactions. In terms of physician–patient pairs, female physicians treating female SPs accounted for 46.14% of all interactions, male physicians treating female SPs accounted for 37.40% of all interactions, female physicians treating male SPs accounted for 8.33% of all interactions, and male physicians treating male SPs accounted for 8.13% of all interactions. The observable CHC and physician characteristics were statistically balanced across patient gender, physician gender and the four pairs of physician–patient gender matches *(Table S1)*. However, female physicians tended to be younger than male physicians in our setting, and thus the effects of physicians' age were adjusted for in the regression analysis.

We summarize the quality metrics per physician gender, patient gender, and the four pairs of physician–patient gender match in *Table 1*. First, we find little difference per physician gender in terms of the quality metrics. Second, in terms of patient gender, we find that physicians treating male SPs reach a higher rate of correct diagnosis and correct drug prescriptions, although there is no difference in consultation time and medical costs. Third, we compare quality metrics over the four pairs of physician-patient gender matches. Female physicians treating male SPs was significantly associated with a higher probability of prescribing correct drugs, but higher medical costs compared with the other pairs. We do not find any significant difference in the consultation length, or the probability of correct diagnosis.

We further estimate regression models to examine the impact of physician–patient gender match on healthcare quality. First, by using physician gender and patient gender separately in the econometric model, we find no statistical difference per physicians' gender, but male SPs had a significantly higher probability of receiving a correct diagnosis and drug prescription than their female counterparts (*Table 2 Panel A*). Second, when interacting physician gender with patient gender in the econometric model, we further find that male physicians treat male SPs resulting in 19.68 CNY lower cost significantly while the original effects for male SPs become stronger (*Table 2 Panel B*). This motivates us to use the four pairs of physician-patient gender matches to uncover the difference. In doing so, we find that, compared with female physicians treating female SPs, female physicians treating male SPs resulted in a significant 23.4 percentage-point increase in correct diagnosis and a 19.0 percentage-point increase in correct drug prescriptions. However, we find no significant change in medical costs or the length of consultation (*Table 2 Panel C*). The point estimates and 95% confidence intervals of four pairs of physician-patient gender matches are further visualized in *Figure 1*.

3.2 Potential Channels and Explanations

We investigate potential channels to explain the gains in healthcare quality. First, physicians basically can do better in giving a correct diagnosis or drug prescriptions with more clinical information (Das et al., 2016b). We use the checklist items in clinical guidelines to measure the presence of information (*Supplement 2* and summary statistics are shown in *Table S2*). However, we find that compared with female SPs, less information was obtained from male SPs, especially in essential tests. The results were marginally driven by the pair of male physicians treating male SPs, while there was no difference in the adherence to a checklist of, either essential or recommended, guideline items for the pair of female physicians treating male SPs (*Table 3*).

Second, patient-centered communication (PCC) in terms of effective and trustworthy communication with patients can help physicians achieve better performance (*Supplement 3*), apart from factual information exchange. We use a theoretical framework of PCC from Stewart (1995) and Su et al. (2021). We use three dimensions to measure the process of the PCC: exploring disease and illness experience (component 1), understanding the whole person (component 2), and finding common ground (component 3). The three components are additives to lead to a total score (PPC total). We find no significant difference in PPC across male and female SPs. There is a 1.559 increase (in component 3) in the effort to find a common ground, although there was no significant change in the other two components or PCC total (*Table 3*).

Since SPs were instructed to communicate with physicians in a standardized manner, all variations in outcome metrics should be attributed to the physician side. One plausible explanation for the identified impact is that physicians take greater care in their treatment of men because men are often the main income earners in families in China and worldwide (Chen and Ge, 2018; Chen et al., 2013). Therefore, male SPs may receive better patient-centered communications and more serious consideration than their female counterparts during a medical consultation, leading to an overall higher probability of correct diagnosis and drug prescriptions.

However, this hypothesis fails to explain why we only see the impact when female physicians treat male SPs but not when male physicians treat male SPs.

Another potential explanation is that female physicians, in an attempt to practice defensive medicine, are more cautious in their diagnosis and treatment of male SPs. Previous studies have found that physicians often respond to risks of malpractice litigation and workplace violence (Avraham and Schanzenbach, 2015; Currie and MacLeod, 2008; Frakes and Gruber, 2019; He, 2014; Keane et al., 2020; Kessler and McClellan, 1996) by rejecting high-risk patients, conducting fewer surgeries, performing more diagnostic tests, and prescribing more conservative treatment (Jia et al., 2021).

This motivates us to test a third channel by investigating the gender differences in unnecessary prescriptions, since the lenient definition of healthcare quality leads to no penalty for unnecessary or even harmful tests and drug prescriptions (Si et al., 2023; Sylvia et al., 2015). We find that, compared with female SPs, male SPs significantly received 0.413 more unnecessary tests but 0.262 fewer unnecessary drugs. The pattern is more pronounced when female physicians treating male SPs prescribed 0.625 more unnecessary tests and 0.306 fewer unnecessary drugs (*Table 3*).

As discussed above, physicians overall can take greater care in their treatment of men compared with women. However, female physicians may have a stronger motivation to defend themselves when treating male SPs and may try harder to mitigate the risk of misdiagnosis (Ouyang, 2022), given the high prevalence of violence against physicians in China. We use a two-stage transaction model to explain the results (*Figure 2*). First, the cultural gender norms favoring male patients may drive the provider to prescribe more unnecessary medical tests to reduce decisional uncertainty and prescribe at least equivalent, if not more, drugs to guarantee effective and sufficient treatments. Together, these will lead to higher costs and time investments. Second, as for the

physician's defensive behavior, it drives the provider to prescribe more unnecessary medical tests to reduce decisional uncertainty. In this case, female physicians exert more effort during the consultation stage to learn the true state of a disease when treating male patients, even though such effort can sometimes be clinically unnecessary. In contrast, female physicians prescribe fewer drugs at the treatment stage to ensure that the total medical costs and time investment for male patients remain at an easily comparable level with that of other patients. In addition, the consultation time for female physicians treating male patients was similar to the time they spent treating female patients, indicating that female physicians are shifting their efforts from the treatment stage to the consultation stage. Together, these will lead to balanced costs and time investments.

3.3 Robustness Tests

We perform 10 theory-based sensitivity analyses. First, since we only recruited 3 male SPs, we randomly select 3 female SPs and compare their interactions with those of male SPs. After running 500 repeated regressions, the point estimates of female physicians treating male SPs follow normal distributions around our original estimates (*Figure S1*), indicating our estimates are robust and reliable. Second, to rule out the possibility that our findings are being driven by a few SPs being particularly good actors in certain interactions, we perform falsification tests by randomly permuting observations in the treatment group. After running 500 repeated regressions, the point estimates follow normal distributions (*Figure S2*), suggesting no unexpected shocks were introduced. Third, we conduct SP-level sensitivity analyses by randomly dropping one SP at a time. We repeat the regressions 18 times and find our main estimates are robust (*Figure S3*). Fourth, we re-estimate the specification by using the pair of male physicians treating male SPs as the reference group (*Table S4*). The results indicate that female physicians did not do a better job than male physicians when treating male SPs, further attesting our main findings that only female physicians respond to patient gender. Fifth, our findings remain consistent when testing separately in the subsamples of female and male physicians (*Table S5*), although a smaller sample size leads to less efficient estimations. Sixth, we cluster the standard error at the physician

level and our results remain consistent (*Table S6*). Seventh, physician performance remains consistent when we introduce patient fixed effects (*Table S7*), suggesting the SPs were highly comparable. Eighth, in response to the literature that physician–patient gender concordance may improve healthcare quality, we further test this hypothesis, but our results do not lend support (*Table S8*). Ninth, we test the effect of age concordance (i.e., being in the same age bin of 40–50) between physicians and patients and find no impact (*Table S9*). Tenth, to confirm the variations being female physicians' response to patient gender, we estimate the patient gender effect by including physician fixed effect and find our results are driven by the subsample of female physicians (*Table S10*).

4. Discussion

This experimental study shows that, compared with female physicians treating female SPs, female physicians treating male SPs provide a higher quality of care, including a 23.4 percentage-point increase in correct diagnosis and a 19.0 percentage-point increase in correct drug prescriptions. These gains are much higher than the findings from equivalent studies in India, where the intensive training of informal healthcare providers was associated with only a 7.9 percentage-point increase in correct diagnoses and drug prescriptions (Das et al., 2016a). The differences in healthcare quality for female-female versus female-male pairings in our setting are very large, and, more importantly, we do not find any significant increase in overall medical costs and time investment for female physicians treating male patients.

Our findings in relation to healthcare quality are highly consistent with a bulk of literature finding that women face prevalent gender disparities and disadvantages in healthcare use and health outcomes (Clarke et al., 1994; Hamberg, 2008; Hoffmann and Tarzian, 2001; Milcent et al., 2007; Shannon et al., 2019). Our analyses suggest that the physicians' awareness of and behavioral responses to patient gender is an important but always overlooked driver for the gender disparities in health. Despite a well-established strand of the literature arguing

the role of physician-patient gender concordance in explaining health disparities (Cabral and Dillender, 2024; Currie et al., 2016; Greenwood et al., 2018), we provide additional evidence that physician-patient gender match may take more mechanisms beyond the established gender concordance in specific cultural and contextual settings.

Our SP study design mitigates concerns over patient sorting within and across clinics, and the standardized set of patients and conditions also makes physicians' performance highly comparable. However, we acknowledge 3 limitations. First, only a few diseases qualify for the SP approach. Although a growing number of studies implement the SP approach, its generalization deserves further research. Second, more female SPs than male SPs were successfully recruited, which can be partially explained by greater opportunity costs for males to participate in the study than females. Based on the exploratory nature of this study, further SP research should therefore seek to achieve a better SP gender balance in their recruitment. Future SP designs should also consider collecting more information on SPs and testing their balance across SP gender or other characteristics of interest. Third, the study was conducted in one province of China with a focus on community health centers, while physician behavior in non-community-based clinics may be different, especially since healthcare resources are highly concentrated in tertiary hospitals.

Despite the limitations, we believe that our findings provide valuable insights that can be generalized and utilized to inform broader healthcare policies and practices. Our study focusses on two common chronic diseases, unstable angina and asthma, to ensure consistency in SP presentations, and our findings on the impact of physician-patient gender match can be extended to other diseases since effective communication is essential in managing chronic diseases, mental health conditions, and even in acute care settings. Especially, previous studies have suggested that the patterns observed for the SP method and the patterns observed for real patients are essentially very similar (Das et al., 2016b).

The gains in healthcare quality were partly attributed to better physician-patient communications, but not the presence of more clinical information. This insight is valuable for policymakers and healthcare administrators aiming to design interventions that can be implemented across different diseases, regions, and healthcare settings. By emphasizing the training of healthcare providers in effective communication, healthcare systems can achieve significant improvements in patient outcomes. Additionally, our findings support the broader application of PCC strategies, which are universally relevant and beneficial, thereby reinforcing the external validity of our results.

More importantly, our results suggest the role of cultural gender norms and physician defensive behaviors when female physicians treat male SPs. In China, men, compared with women, are often the main income earners in families (Chen and Ge, 2018; Chen et al., 2013; Song and Bian, 2014). Despite gender norms may vary significantly by region in China, western regions maintained more traditional, male-dominated views (Guan and Zuo, 2021), compared with wealthier Eastern regions. In addition, broader sociological research shows that traditional beliefs about male superiority in capability and responsibility continue to affect women's educational, professional development and healthcare access, especially in western and rural regions (Yang et al., 2024). The cultural gender norms and implicit bias favoring men can be incorporated into medical practice where male patients may receive more serious consideration than their female counterparts. Despite acknowledging the important role of gender norms, it cannot explain all our results, especially the difference being driven by female physicians treating male SPs, and this leads us to explore another explanation.

In China, studies using a national representative sample reported that even with exactly the same experience in a hospital, male patients were less satisfied than female patients (Liang et al., 2021; Pan et al., 2015). In addition, 62 percent of physicians in China reported experiencing workplace violence in 2017. This high rate

persists, with physicians working in primary care settings experiencing the highest rates of serious workplace violence (Bo et al., 2020; Cai et al., 2019; Xu, 2014). In such cases, female physicians have an overwhelmingly higher risk of being the victims than their male counterparts do, while the perpetrators are usually men, few of whom have any criminal record or diagnosed mental illness (Hesketh et al., 2012). In the study, to mitigate the concern that physicians' exposure to local medical violence may exaggerate our findings, we conduct a systematic review using *China Core Newspaper*'s Full-Text Database. At least in our study setting and study period in Xi'an during the period 1998–2018, we identified no event of severe violence against medical professionals (i.e., physical injury or murder).

This study deepens our understanding of physicians' decision-making process and sheds light on the potential to achieve higher-quality care in clinical practice, without creating excessive workloads for physicians and additional medical expenses for patients. Our findings also help us to understand the mechanism of physicians' know-do gaps identified in the medical practice of many developing countries (Leonard and Masatu, 2010; Mohanan et al., 2015) and the widely held notion that current health systems in many developing countries fail to motivate physicians to reach their productivity frontier in practice (Kovacs and Lagarde, 2022). For policy makers, compared with the traditional perception of using a clinical-training strategy, designing innovative interventions to improve patient centeredness can lead to substantial gains in the use of some inexpensive but potentially lifesaving diagnoses and treatments and equalize gender inequality in medical care.

Data availability: The study was approved by the Ethics Committee of Xi'an Jiaotong University Health Science Center (approval number: 2015-406). The data are not publicly available due to restrictions of the ethics approval for this study. The code scripts used in this analysis are available from the corresponding authors upon reasonable request.

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Table 1. Quality metrics over physician gender, patient gender, and gender match

Panel A	Physician gender				P-value	Patient gender				P-value
	F_p		M_p			F_{sp}		M_{sp}		
	Mean	S.D.	Mean	S.D.		Mean	S.D.	Mean	S.D.	
Consultation time (mins)	6.37	4.66	6.01	4.35	0.391	6.30	4.54	5.74	4.44	0.314
Medical cost (CNY)	35.9	43.7	33.9	38.2	0.591	34.3	40.5	38.7	45.2	0.376
Correct diagnosis	0.451	0.499	0.429	0.496	0.610	0.423	0.495	0.531	0.502	0.075
Correct drug	0.123	0.329	0.103	0.304	0.477	0.095	0.293	0.210	0.410	0.003

Panel B	Physician–patient gender match								P-value
	$F_p \rightarrow F_{sp}$		$M_p \rightarrow F_{sp}$		$F_p \rightarrow M_{sp}$		$M_p \rightarrow M_{sp}$		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Consultation time (mins)	6.31	4.71	6.28	4.33	6.68	4.44	4.79	4.28	0.206
Medical cost (CNY)	33.0	41.1	35.8	39.7	51.8	53.6	25.3	29.7	0.022
Correct diagnosis	0.427	0.496	0.418	0.495	0.585	0.499	0.475	0.506	0.240
Correct drug	0.093	0.290	0.098	0.298	0.293	0.461	0.125	0.335	0.002

Note: The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. CNY denotes Chinese yuan (exchange rate, 6.37 CNY ≈ 1 US dollar). The statistical differences were analyzed using the chi-square test for binary variables and analysis of variance for continuous variables. S.D. means standard deviation. Chi-square tests were performed on binary and analysis of variance (ANOVA) for continuous variables.

Table 2. The impact of physician gender, patient gender, and gender match

Panel A: Physician gender and patient gender separately	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
M_p	-0.411	-3.458	-0.0135	0.0127
	(0.565)	(4.844)	(0.0643)	(0.0400)
M_{sp}	-0.316	3.693	0.130**	0.109**
	(0.478)	(4.400)	(0.0583)	(0.0499)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.263	0.365	0.333	0.174

Panel B: Physician gender and patient gender interaction	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
M_p	-0.133	0.119	0.0263	0.0437
	(0.597)	(5.362)	(0.0676)	(0.0405)
M_{sp}	0.412	13.06	0.234***	0.190**
	(0.668)	(7.855)	(0.0824)	(0.0852)
$M_p * M_{sp}$	-1.529	-19.68**	-0.219*	-0.170
	(0.978)	(9.763)	(0.122)	(0.110)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.267	0.372	0.339	0.183

Panel C: Physician-patient gender match	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
$F_p \rightarrow F_{sp}$	.	.	.	.
	.	.	.	.
$M_p \rightarrow F_{sp}$	-0.133	0.119	0.0263	0.0437
	(0.597)	(5.362)	(0.0676)	(0.0405)
$F_p \rightarrow M_{sp}$	0.412	13.06	0.234***	0.190**
	(0.668)	(7.855)	(0.0824)	(0.0852)
$M_p \rightarrow M_{sp}$	-1.250	-6.498	0.0413	0.0631
	(0.807)	(5.904)	(0.0787)	(0.0658)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.267	0.372	0.339	0.183

Note: The coefficients in each Panel come from one combined regression. The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. The table was obtained by running our econometric specification. Physician age was controlled for in the regressions. Robust standard errors, clustered at the CHC level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level. The disease fixed effect and gender coefficients using disease-specific samples are shown in *Table S3*.

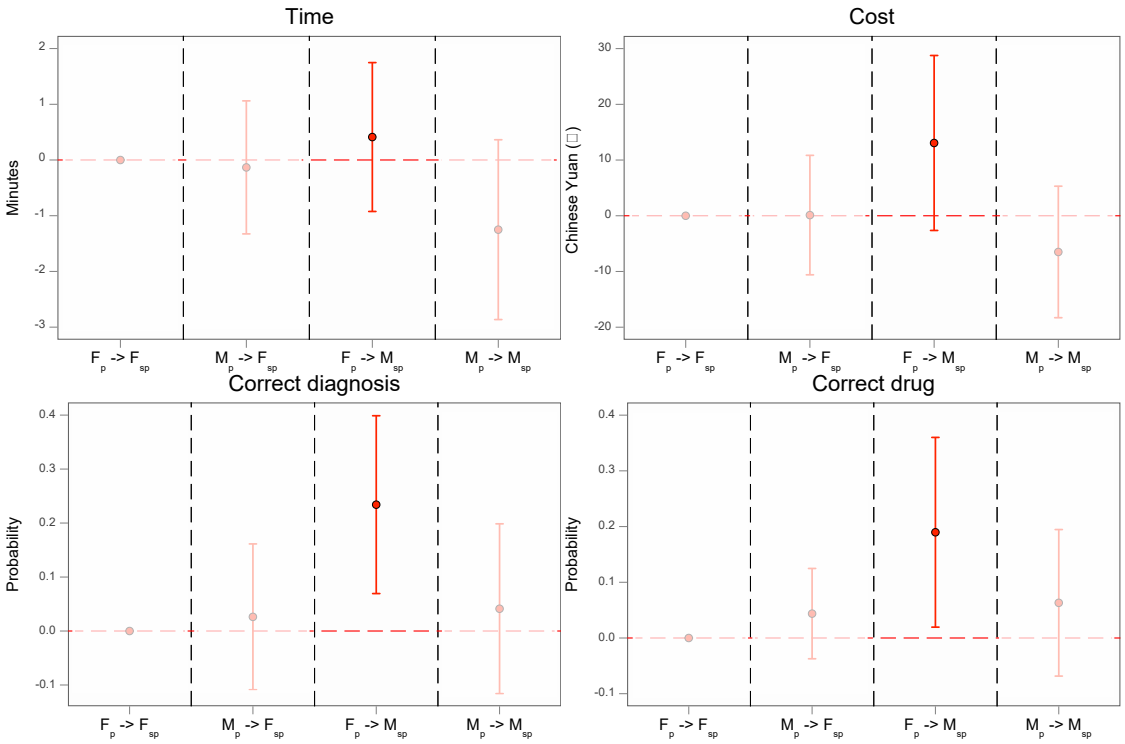


Fig. 1. Impact of physician–patient gender match on healthcare quality

Note: Note: The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. The figure was obtained by running our econometric specification. Physician age, CHC fixed effects, disease fixed effects, month, day of the week, and year fixed effects were controlled for in the regressions. Robust standard errors, clustered at the CHC level.

Table 3. Information exchange, patient-centred communication, and unnecessary prescriptions

	Information exchange						Patient-centered communication				Unnecessary	
	Essen. ques.	Essen. tests	Essen. items	Recom. ques.	Recom. tests	Recom. items	PCC C1	PCC C2	PCC C3	PCC Total	Unnec. tests	Unnec. drugs
Separate genders												
M_p	0.0821	-0.0115	0.0310	-0.154	-0.104	-0.305	-0.244	-0.0371	0.237	-0.0441	-0.0453	0.0678
	(0.104)	(0.0788)	(0.136)	(0.237)	(0.132)	(0.304)	(0.445)	(0.0806)	(0.459)	(0.773)	(0.131)	(0.0915)
M_{sp}	-0.0278	-0.181**	0.144	-0.0471	0.0737	0.131	-0.468	0.00221	0.796*	0.331	0.413***	-0.262**
	(0.0999)	(0.0864)	(0.131)	(0.242)	(0.129)	(0.312)	(0.387)	(0.0842)	(0.401)	(0.704)	(0.150)	(0.118)
Hospital fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	492	492	492	492	492	492	492	492	492	492	492	492
R^2	0.212	0.236	0.264	0.523	0.426	0.500	0.393	0.269	0.251	0.293	0.345	0.284
Gender matches												
$F_p \rightarrow F_{sp}$	.	.	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.	.	.
$M_p \rightarrow F_{sp}$	0.137	0.0134	0.0643	-0.0507	-0.0676	-0.233	0.0669	-0.00667	0.486	0.546	0.0354	0.0509
	(0.124)	(0.0848)	(0.150)	(0.240)	(0.139)	(0.308)	(0.487)	(0.0877)	(0.474)	(0.772)	(0.140)	(0.0884)
$F_p \rightarrow M_{sp}$	0.116	-0.116	0.231	0.223	0.168	0.320	0.346	0.0819	1.449**	1.876*	0.625***	-0.306**
	(0.166)	(0.114)	(0.225)	(0.353)	(0.166)	(0.505)	(0.571)	(0.130)	(0.549)	(0.985)	(0.221)	(0.130)
$M_p \rightarrow M_{sp}$	-0.0491	-0.240*	0.112	-0.395	-0.0980	-0.311	-1.296*	-0.0922	0.564	-0.824	0.216	-0.162
	(0.147)	(0.123)	(0.222)	(0.392)	(0.181)	(0.481)	(0.652)	(0.125)	(0.817)	(1.397)	(0.224)	(0.199)
Hospital fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	492	492	492	492	492	492	492	492	492	492	492	492
R^2	0.215	0.238	0.265	0.525	0.427	0.501	0.398	0.271	0.255	0.301	0.350	0.284

Note: The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. Essen. ques. denotes essential questions and Recom. ques. denotes recommended questions in the checklist. PCC C1, C2, and C3 represent the three components of patient-centered communication, namely exploring both the disease and illness experience, understanding the whole person, and finding common ground. Physician age was controlled for in the regressions. Robust standard errors, clustered at the CHC level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

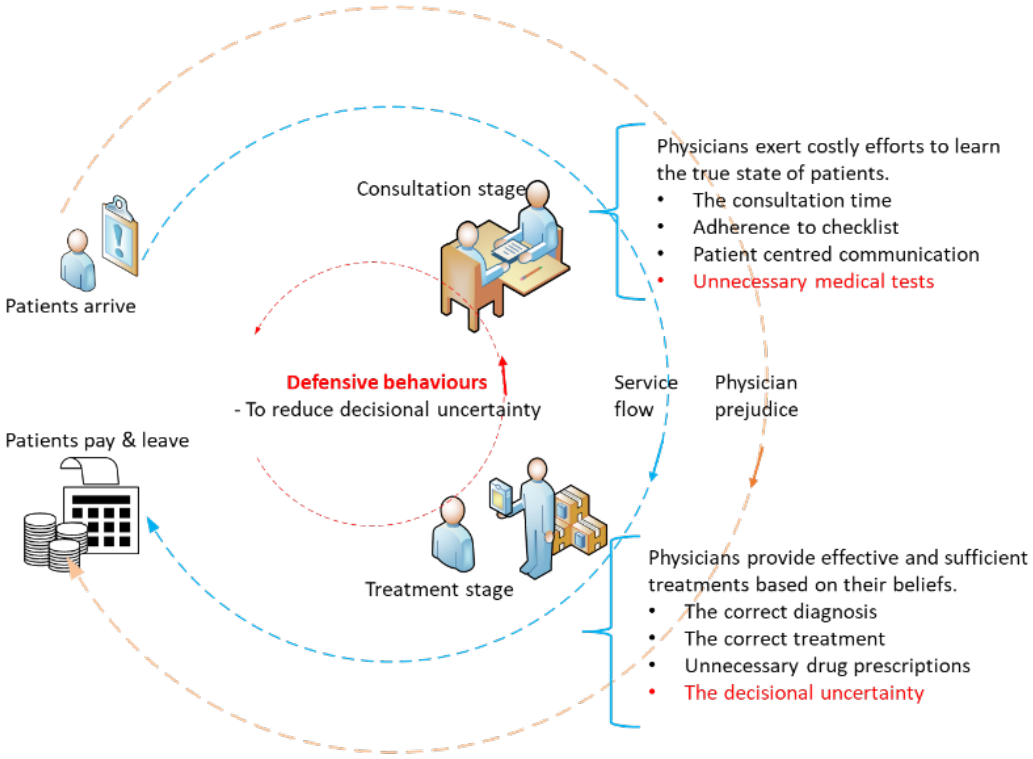


Fig. 2. The provider-patient transaction model

Note: A physician is here to diagnose the true state of the patient and provide treatments accordingly (Das et al. 2016; Si et al. 2023). As indicated as a normal workflow, the physician exerts costly effort to learn about the true state of the patient during the consultation stage, while during the treatment stage, the provider determines the treatment types based on their belief about the true state of the disease. In practice, providers exert the amount of effort and choose the treatments that will maximize their own utility, but these may not be aligned with those of the patient. For example, the cultural gender norms favoring male patients may drive the provider to prescribe more unnecessary medical tests to reduce decisional uncertainty and prescribe at least equivalent, if not more, drugs to guarantee effective and sufficient treatments. Together, these will lead to higher costs. As for the physician's defensive behavior, it drives the provider to prescribe more unnecessary medical tests to reduce decisional uncertainty but prescribe fewer unnecessary drugs to guarantee effective and sufficient treatments. Together, these will lead to balanced costs.

Supplementary information for

The Impact of Physician–Patient Gender Match on Healthcare Quality: An Experiment in China

Contents

Supplement 1 Field Experiment

1.1 Field Settings

This Standardised Patients (SPs) audit study was conducted in a capital city in northwest China. The capital city has a population of over 8.8 million in an area of more than 9,983 $km^{2,}$ and 73.43% of residents of the capital city lived in urban areas in 2017. The per capita Gross Regional Product (GRP) was 71,357 CNY (10,747 USD, PPP by the annual average exchange rate in 2016) at the end of 2016. The residents mainly live in 7 districts of the capital city. All 63 community health centres in the 7 districts were selected for the study.

1.2 SP training

The SPs were recruited from the local community to make sure that they were similar to the actual patients commonly diagnosed by primary care providers. We announced the recruitment online via WeChat (an app similar to WhatsApp). The recruitment requirement included:

- The participants should be in reasonably good physical condition.
- Physicians and other health-related professionals were excluded from recruitment.
- The participants should be in their 40s (for the case of asthma) or 50s (for the case of unstable angina).

We received 20 completed applications in 2017, and of those, 14 attended the interview. SPs were chosen following four basic criteria:

- Time availability for training and SPs medical visits.
- Residence in the capital city over 5 years and speaking the local language fluently.
- A reasonable level of intelligence, critical thinking, memory ability and communication are essential.
- Excellent acting skills are preferred.

Finally, 10 SPs (8 females and 2 males) were selected to participate in this study in 2017.

First, 10 SPs were randomly assigned to 2 disease cases (asthma and unstable angina). Then SPs participated in a 3-day training before visiting hospitals and physicians. The training was conducted by a team consisting of professors, medical experts and our team members.

- Details of assigned diseases and scripts were explained to the SPs and recordings of incognito interactions between SPs and physicians obtained from our pilot study were presented to the SPs.
- Role-playing and one-on-one training methods were used to further develop the scripts, help them understand and memorise the scripts and portray the cases.
- The training on principles of how to respond to physician questions that were not listed in the scripts and how to avoid invasive examinations (e.g., blood tests).
- Peer evaluation was used to improve SPs' acting performance. SPs' acting performance was required to be as similar to the specific disease script as possible. Also, within each disease group, SPs' acting performance should be at a highly comparable level.

We repeated the audit study in 2018. We had 6 out of the 10 initial SPs available to participate in the program. We recruited 2 additional SPs (out of 6 applications) in 2018 following the same standard. All in all, 8 SPs (7 females and 1 males) were selected to participate in this study in 2018.

Overall, we recruited 18 person-years SPs, among which 15 were females, and 3 were males.

1.3 SP scripts

Panel A For Asthma
Name, gender, age, staff

Reason for visit: wheezing, cough
State of consultation: a little sluggish, a little tired, dry cough occasionally
Main complaint: intermittent wheezing and coughing for 2 years, recurrence in the last week, worsening

History of present illness

1. Shen Tao, male, 40 years old, on November 15, 1977, lived in XXXX Street, XXXX District, and his phone number was XXXXXXXXXXX.
2. Liu Mei, female, 40 years old, 40 years old on November 15, 1977, lives in XXXX Street, XXXX District, and her phone number is XXXXXXXXXXX.
3. 2 years ago, I had a fever and cough after catching a cold. I still coughed after the fever subsided, but there was no sputum. At the same time, I felt wheezing. I had a "squeaking" sound and felt suffocated. No palpitation and other discomforts. It happened once in about 3 or 4 months, but after a 15-minute break, it relieved slowly, so I haven't seen it in the CHC or taken medicine.
4. The disease seems to be related to the cold air. It is usually severe in autumn. Sometimes I feel uncomfortable when I enter an air-conditioned room. I usually cough first and soon start to pant.
5. The weather has suddenly become cold in the past week. After the cold, I have coughing and wheezing. It is light during the day and heavy at night. Basically, I don't have enough breath every day, and I feel a little wheezing on the second floor. Intermittent wheezing, a little cough, no fever, no sputum, no palpitation, no leg swelling, no chest pain, no hemoptysis. It takes about 15 minutes for each attack to be particularly uncomfortable, and it takes about 2 hours before and after it to completely heal, and I feel that my whole body is weak.
6. In the past 2 years, I feel that my physical strength is not as good as before, and I feel short of breath after playing a long time. Eating is ok. There is no change in weight. There is no problem with urine.

Past history

I started to change allergic rhinitis 7.5 years ago, sneezing, runny nose during the attack, and taking "Chlorpheniramine" in severe cases can be cured. No other diseases, no history of drug allergy. No surgical trauma. No smoking and alcohol addiction.

Personal history and family history

8. Born locally and went to school until graduation. Unmarried, my mother has allergic rhinitis, which is more serious than me, and sometimes she has to spray "hormones" into her nose. Father is healthy.

Panel B For Unstable Angina

Name, gender, 50, sales
Reason for visit: chest pain
State of consultation: a little sluggish, with chest pain
Main complaint: intermittent chest pain for 1 year, worsening in the last 1 week
1. Wang Junqiang, male, 50 years old, November 15, 1967, lives in XXX Street, XX District, and his phone number is XXXXXXXXXXX.
2. Zhao Feng, 50 years old, November 15, 1967, lives in X Street, XXX District, and his phone number is XXXXXXXXXXX.
3. Daily life is irregular, eating and sleeping are not punctual. When busy, there is no time to eat and sleep for a few hours. I usually like to smoke, one pack of cigarettes a day for 8 years. I like to drink when I go out to eat with my friends and have drunk it for 5 years (the above symptoms are the description of SP for boys, if SP is for girls, they don't smoke, but they often drink because of the nature of work).
4. Gradually, I feel a little overwhelmed by my body. A year ago, I occasionally experienced chest pains when I was working and angry, about once a month or two, but after resting for about three to five minutes, the pain gradually disappeared.
5. But the pain occurred once every four days on the last Wednesday, and it also occurred during rest. When it hurts, I feel dizzy, sweating, fatigue, and short of breath. Now it takes 20 minutes to gradually relieve the pain. Just

two days ago, when he was resting, he had chest tightness and severe chest pain. Because the pain was so severe this time, he was going to see the doctor.
6. Except that blood sugar is a bit high, the body has no other diseases. Usually, the taste is heavier when you eat, and you eat more salt.
7. My elder brother had similar symptoms. The rest of the family is healthy.

1.4 SP visits

SPs visited our sample CHCs in late August 2017 and 2018. Four SPs were randomly assigned and independently visited each CHC (2 SPs portraying unstable angina and the other 2 SPs portraying asthma). To avoid being detected by physicians, SPs who presented the same disease could not visit the same CHC within 7 days after his/her first visit.

Generally, in CHCs, patients need to schedule an appointment onsite and pay a fixed consultation fee. Then they can visit general physicians directly and can choose a physician at this stage. However, in this study, we required SPs to visit the first physician in the first office as though they were an ordinary patient.

The procedure for the SPs to collect data for the study include:

- The whole interaction between SPs and clinicians based on the informed consent signed by CHCs and physicians, using a hidden voice recording device.
- The diagnoses of each visit. SPs were required to ask providers directly whether a diagnosis was given or not.
- The SPs were required to purchase the medications prescribed by physicians or obtain a prescription to collect data about drugs dispensed and the fees charged.
- An exit survey after leaving the medical visit including all information on the process, diagnosis, treatment, and a rating of the physicians.
- The student instructors double-checked the recording together with SPs immediately after the visit, thus, SPs could clarify to enumerators what was taking place.

Based on reports from SPs, none of them were recognised as SPs by physicians either in 2017 or 2018.

Supplement 2 Checklists for unstable angina and asthma

Checklist Items for Asthma

Panel A Inquiry Items			
Item Order	**Item**	**Recommend Item (N=13)**	**Essential Item (N=5)**
1	The time of last attack [Essential]	1	1
2	Progression of disease [Essential]	1	1
3	Means of mitigation [Essential]	1	1
4	Triggers or circumstances of attack [Essential]	1	1
5	Degree or duration of attack [Essential]	1	1
6	Problems with breathing	1	0
7	Time of first attack	1	0
8	Wheezing (breathing sound)	1	0
9	Cold and fever	1	0
10	To produce phlegm (in the throat)	1	0
11	Family medical history	1	0
12	Other diseases	1	0
13	Medical history during childhood	1	0
Panel B Medical Examination Items			
Item Order	**Item**	**Recommend Item (N=7)**	**Essential Item (N=4)**
1	Auscultation of chest or back [Essential]	1	1
2	Pulmonary ventilation function test [Essential]	1	1
3	Bronchodilation test (reversible airway test) [Essential]	1	1
4	Physical examination	1	1
5	Chest X-ray	1	0
6	Blood test	1	0
7	Percussion: Percussive percussion with both lungs	1	0

Checklist Items for Unstable Angina

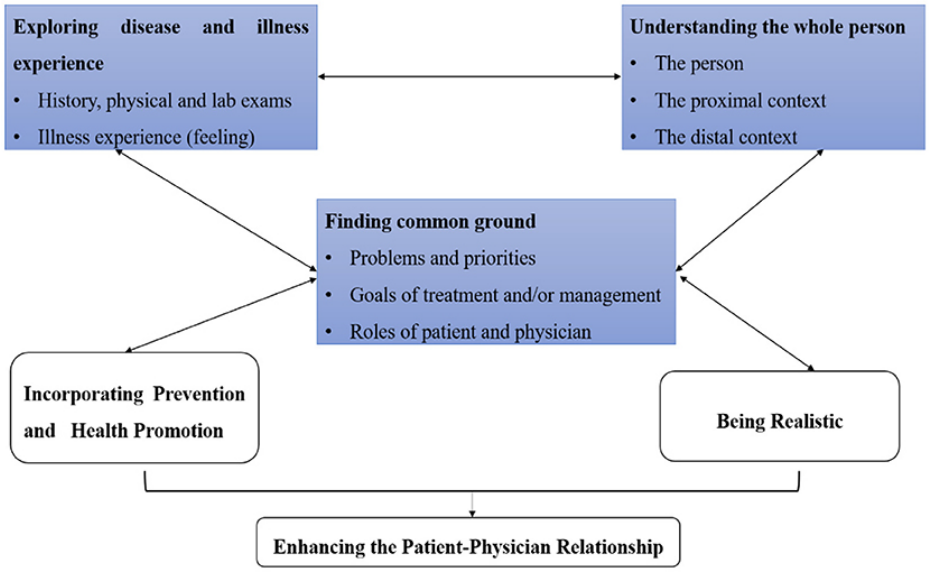
Panel A inquiry Items		
Item Order	**Type**	**Item**
1	The area	The pain location [Essential]
2		The pain type [Essential]
3	Nature of the pain	The degree of the pain [Essential]
4		Radiating pain [Essential]

5	The triggers	When the pain starts while doing something [Essential]
6	Means of mitigation	Means of pain relief [Essential]
7	Time	Duration of the pain [Essential]
8		Earliest onset time
9		Time of last attack
10	Associated symptoms	Short of breathing
11		Nausea and vomiting
12		Sweat
13	Frequency of attack	Frequency of attack
14	Risk factors	Disease risk factors (i.e., blood glucose, blood pressure, blood lipids)
15		Habits（dietary, smoking, drinking）
16		Family history

Panel B Medical Examination Items

Item Order	**Type**	**Item**
1	EKG	EKG [Essential]
2	Coronary check	Coronary artery examination [Essential]
3	Blood pressure	Blood pressure
4	Pulse	Pulse
5	Auscultation	Auscultation (chest and back)
6	Temperature	Temperature

Supplement 3 Patient-centred communication



The figure denotes the theoretical framework of patient-centred communication (PCC). We used three dimensions to measure the process of the PCC in urban China: exploring disease and illness experience, understanding the whole person, and finding common ground.

Supplement 4 Classification of Diagnoses

For Asthma

Correct	Partially Correct	Incorrect
哮喘 (Asthma) 哮喘发作 (Asthma attack) 支气管哮喘，未控制 (Bronchial asthma, uncontrolled) 支气管哮喘 (Bronchial asthma)	呼吸困难 (Difficulty breathing)	其他（例如：天气，气管感染，皮质激素等） 喘息性支气管炎 (Others (e.g. weather, tracheal infection, corticosteroids, etc.) Asthmatic bronchitis)

Note: Partially correct and incorrect diagnoses were combined together in regression analysis.

For Unstable Angina

Correct	Partially Correct	Incorrect
不稳定性心绞痛 (Unstable angina) 急性冠脉综合征 (Acute coronary syndrome) 冠状动脉性心脏病 (Coronary heart disease)	心脏问题 (Heart problems) 心脏病 (heart disease) 心肌缺血 (Myocardial ischemia) 突发/急性心绞痛 (Sudden/acute angina) 心供血不足 (Insufficient blood supply to the heart) 心脏缺血供血方面的问题 (Problems with blood supply to the heart ischemia) 心梗 (Myocardial infarction) 阵发性/轻度心绞痛 (Paroxysmal/mild angina)	Else

Note: Partially correct and incorrect diagnoses were combined together in regression analysis.

Supplement 5 Drug list and classifications

For Asthma (see English version below)

Medicine	Common name	Category	ATC code	ATC classification	Essential drug		Classification
肺炎灵	肺炎灵	不详					U
金维高钙	金维高钙	不详			#N/A		U
气管炎片	气管炎片	不详			#N/A		U
特克灵	特克灵	不详					U
支气管炎制剂	支气管炎制剂	不详					U
碳酸氢钠	碳酸氢钠	西药	A02AH	消化道及代谢-治疗与胃酸分泌相关的药物-治酸药	调节水、电解质及酸碱平衡药-酸碱平衡调节药		U
复方甘草酸铵	复方甘草酸铵	西药	A05BA08	消化道及代谢-肝胆疾病治疗药-肝病治疗药	#N/A		U
蒙脱石散	蒙脱石散	西药	A07BB	消化道及代谢-止泻药，肠道抗炎/抗感染药-肠道吸附药	#N/A		U
口服补液盐	口服补液盐	西药	A07CA	消化道及代谢-止泻药，肠道抗炎/抗感染药-配有碳水化合物的电解质	调节水、电解质及酸碱平衡药-水、电解质平衡调节药		U
乳酸菌素	乳酸菌素	西药	A07FA01	消化道及代谢-止泻药，肠道抗炎/抗感染药-止泻的微生物-产乳酸的微生物	消化系统用药-助消化药		U
水溶性维生素	水溶性维生素	西药	A11	消化道及代谢-维生素类-多种维生素和矿物质	#N/A		U
五维葡萄糖	五维葡萄糖	西药	A11	消化道及代谢-维生素类-多种维生素和矿物质	#N/A		U
维生素 B	维生素 B	西药	A11E	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
维生素 C	维生素 C	西药	A11GA01	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
维生素 B6	维生素 B6	西药	A11HA02	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
葡萄糖酸钙	葡萄糖酸钙	西药	A12AA03	消化道及代谢-矿物质补充剂	维生素、矿物质类药-矿物质		U
氯化钙	氯化钙	西药	A12AA07	消化道及代谢-矿物质补充剂/电解质溶液	#N/A		U
法莫替丁	法莫替丁	西药	A12BA03	消化道与代谢-治疗与胃酸分泌相关的药物-H2 受体拮抗药	消化系统用药-抗酸药及抗溃疡病		U

法莫替丁氯化钠	法莫替丁氯化钠	西药	A12BA03	消化道与代谢-治疗与胃酸分泌相关的药物-H2 受体拮抗药	#N/A		U
氨基酸	氨基酸	西药	A16AA	消化道及代谢-氨基酸及其衍生物	#N/A		U
灭菌注射用水	灭菌注射用水	西药	B05BB	血液和造血气管-静脉注射液-调节电解质平衡的溶液	#N/A		U
葡萄糖氯化钠注射液(5%)	葡萄糖氯化钠注射液(5%)	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖注射液	葡萄糖注射液	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖注射液(10%)	葡萄糖注射液(10%)	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖注射液(5%)	葡萄糖注射液(5%)	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖注射液(50%)	葡萄糖注射液(50%)	西药	B05XA01	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
氯化钠注射液(0.9%)	氯化钠注射液(0.9%)	西药	B05XA03	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖氯化钠注射液(10%)	葡萄糖氯化钠注射液(10%)	西药	B05XA30	血液和造血气管-静脉注射液添加药物-电解质溶液	#N/A		U
硝酸甘油	硝酸甘油	西药	C01DA02	心血管系统-心脏病治疗药-有机硝酸酯类	心血管系统用药-抗心绞痛药		U
肌苷	肌苷	西药	G01AX02	抗感染药和灭菌药	消化系统用药-肝病辅助治疗药		U
醋酸地塞米松	醋酸地塞米松	西药	H02AB02	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	激素及影响内分泌药-肾上腺皮质激素类药		C
地塞米松	地塞米松	西药	H02AB02	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	激素及影响内分泌药-肾上腺皮质激素类药		C
地塞米松磷酸钠	地塞米松磷酸钠	西药	H02AB02	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	#N/A		C
盐酸地塞米松	盐酸地塞米松	西药	H02AB02	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	激素及影响内分泌药-肾上腺皮质激素类药		C
甲泼尼龙琥珀酸钠	甲泼尼龙琥珀酸钠	西药	H02AB04	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	#N/A		C
醋酸泼尼松	醋酸泼尼松	西药	H02AB07	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	激素及影响内分泌药-肾上腺皮质激素类药		C
氢化可的松	氢化可的松	西药	H02AB09	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	#N/A		C
青霉素	青霉素	西药	J01C	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类	抗微生物药-青霉素类		U
青霉素钠	青霉素钠	西药	J01C	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类	#N/A		U

氨苄西林	氨苄西林	西药	J01CA01	系统用抗感染药-系统用抗菌药-β内酰胺，青霉素类-广谱青霉素类	抗微生物药-青霉素类		U
氨苄西林钠	氨苄西林钠	西药	J01CA01	系统用抗感染药-系统用抗菌药-β内酰胺，青霉素类-广谱青霉素类	#N/A		U
阿莫西林	阿莫西林	西药	J01CA04	系统用抗感染药-系统用抗菌药-β内酰胺，青霉素类-广谱青霉素类	抗微生物药-青霉素类		U
阿莫西林克拉维酸钾	阿莫西林克拉维酸钾	西药	J01CA04	系统用抗感染药-系统用抗菌药-β内酰胺，青霉素类-广谱青霉素类	抗微生物药-青霉素类		U
阿莫西林钠克拉维酸钾	阿莫西林钠克拉维酸钾	西药	J01CA04	系统用抗感染药-系统用抗菌药-β内酰胺，青霉素类-广谱青霉素类	#N/A		U
青霉素 V 钾	青霉素 V 钾	西药	J01CE02	系统用抗感染药-系统用抗菌药-β内酰胺敏感的青霉素类	#N/A		U
头孢菌素	头孢菌素	西药	J01D	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药	#N/A		U
头孢硫脒	头孢硫脒	西药	J01D	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药	#N/A		U
头孢氨苄	头孢氨苄	西药	J01DB01	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第一代头孢菌素	抗微生物药-头孢菌素类		U
头孢唑林钠	头孢唑林钠	西药	J01DB04	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第一代头孢菌素	#N/A		U
头孢拉定	头孢拉定	西药	J01DB09	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第一代头孢菌素	抗微生物药-头孢菌素类		U
头孢呋辛	头孢呋辛	西药	J01DC02	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第二代头孢菌素	抗微生物药-头孢菌素类		U
头孢呋辛钠	头孢呋辛钠	西药	J01DC02	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第二代头孢菌素	#N/A		U
头孢呋辛酯	头孢呋辛酯	西药	J01DC02	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第二代头孢菌素	#N/A		U
头孢噻肟钠	头孢噻肟钠	西药	J01DD01	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		U
头孢他啶	头孢他啶	西药	J01DD02	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	抗微生物药-头孢菌素类		U
头孢曲松钠	头孢曲松钠	西药	J01DD04	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		U
头孢克肟	头孢克肟	西药	J01DD08	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		U
头孢克肟钠	头孢克肟钠	西药	J01DD08	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		U
头孢匹胺	头孢匹胺	西药	J01DD11	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		U

磺胺甲噁唑	磺胺甲噁唑	西药	J01EE01	系统用抗感染药-系统抗菌药-磺胺类和甲氧苄啶	抗微生物药-磺胺类		U
吉他霉素	吉他霉素	西药	J01FA	系统用抗感染药-系统用抗菌药-大环内酯类	#N/A		U
红霉素	红霉素	西药	J01FA01	系统用抗感染药-系统用抗菌药-大环内酯类	抗微生物药-大环内酯类		U
麦迪霉素	麦迪霉素	西药	J01FA03	系统用抗感染药-系统用抗菌药-大环内酯类	抗微生物药-大环内酯类		U
罗红霉素	罗红霉素	西药	J01FA06	系统用抗感染药-系统用抗菌药-大环内酯类	抗微生物药-大环内酯类		U
阿奇霉素	阿奇霉素	西药	J01FA10	系统用抗感染药-系统用抗菌药-大环内酯类	抗微生物药-大环内酯类		U
克林霉素磷酸酯	克林霉素磷酸酯	西药	J01FF01	系统用抗感染药-系统用抗菌药-林可酰胺类	#N/A		U
盐酸克林霉素	盐酸克林霉素	西药	J01FF01	系统用抗感染药-系统用抗菌药-林可酰胺类	抗微生物药-其他抗生素		U
盐酸克林霉素氯化钠注射液	盐酸克林霉素氯化钠注射液	西药	J01FF01	系统用抗感染药-系统用抗菌药-林可酰胺类	#N/A		U
林可霉素	林可霉素	西药	J01FF02	系统用抗感染药-系统用抗菌药-林可酰胺类	#N/A		U
盐酸林可霉素	盐酸林可霉素	西药	J01FF02	系统用抗感染药-系统用抗菌药-林可酰胺类	#N/A		U
抗感灵	硫酸庆大霉素	西药	J01GB03	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		U
硫酸庆大霉素	硫酸庆大霉素	西药	J01GB03	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		U
阿米卡星	阿米卡星	西药	J01GB06	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		U
硫酸阿米卡星	硫酸阿米卡星	西药	J01GB06	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		U
硫酸阿米卡星氯化钠注射液	硫酸阿米卡星氯化钠注射液	西药	J01GB06	系统用抗感染药-系统用抗菌药-氨基糖苷类	#N/A		U
氧氟沙星	氧氟沙星	西药	J01MA01	系统用抗感染药-系统用抗菌药-氟喹诺酮类	耳鼻喉科用药		U
诺氟沙星	诺氟沙星	西药	J01MA06	系统用抗感染药-系统用抗菌药-氟喹诺酮类	抗微生物药-喹诺酮类		U
乳酸左氧氟沙星氯化钠注射液	乳酸左氧氟沙星氯化钠注射液	西药	J01MA12	系统用抗感染药-系统用抗菌药-氟喹诺酮类	#N/A		U
盐酸左氧氟沙星	盐酸左氧氟沙星	西药	J01MA12	系统用抗感染药-系统用抗菌药-氟喹诺酮类	抗微生物药-喹诺酮类		U
盐酸左氧氟沙星氯化钠注射液	盐酸左氧氟沙星氯化钠注射液	西药	J01MA12	系统用抗感染药-系统用抗菌药-氟喹诺酮类	#N/A		U
左氧氟沙星	左氧氟沙星	西药	J01MA12	系统用抗感染药-系统用抗菌药-氟喹诺酮类	抗微生物药-喹诺酮类		U

乙酰螺旋霉素	乙酰螺旋霉素	西药	J01RA02	系统用抗感染药-系统用抗菌药-大环内酯类	抗微生物药-大环内酯类		U
甲硝唑	甲硝唑	西药	J01XD01	系统用抗感染药-系统用抗菌药-咪唑衍生物	抗微生物药-喹诺酮类		U
甲硝唑氯化钠注射液	甲硝唑氯化钠注射液	西药	J01XD01	系统用抗感染药-系统用抗菌药-咪唑衍生物	#N/A		U
替硝唑氯化钠注射液	替硝唑氯化钠注射液	西药	J01XD02	系统用抗感染药-系统用抗菌药-咪唑衍生物	#N/A		U
异烟肼	异烟肼	西药	J04AC01	系统用抗感染药-抗分枝杆菌药-顿挫性结核治疗用药-酰肼类	抗微生物药-抗真菌药		U
抗病毒制剂	抗病毒制剂	西药	J05	系统用抗感染药-系统用药的抗病毒药	#N/A		U
利巴韦林	利巴韦林	西药	J05AP01	系统用抗感染药-系统用药的抗病毒药-直接作用的抗病毒药	抗微生物药-抗病毒药		U
利巴韦林氯化钠注射液	利巴韦林氯化钠注射液	西药	J05AP01	系统用抗感染药-系统用药的抗病毒药-直接作用的抗病毒药	#N/A		U
氨基比林咖啡因	氨基比林咖啡因	西药	N02BB53	神经系统-镇痛药-吡唑酮类	#N/A		U
复方氨林巴比妥	复方氨林巴比妥	西药	N02BB73	神经系统-镇痛药-吡唑酮类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		U
去痛片	去痛片	西药	N02BB73	神经系统-镇痛药-吡唑酮类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		U
对乙酰氨基酚	对乙酰氨基酚	西药	N02BE01	神经系统-镇痛药-酰苯胺类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		U
小儿氨酚黄那敏	小儿氨酚黄那敏	西药	N02BE01	神经系统-镇痛药-酰苯胺类	#N/A		U
氨咖黄敏	氨咖黄敏	西药	N02BE51	神经系统-镇痛药-酰苯胺类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		U
酚氨咖敏	酚氨咖敏	西药	N02BE71	神经系统-镇痛药-酰苯胺类/吡唑酮类（复方）	#N/A		U
复方氨酚烷胺	复方氨酚烷胺	西药	N02BE71	神经系统-镇痛药-酰苯胺类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		U
长效β激动剂	长效β激动剂	西药	R03AA	呼吸系统-阻塞性气管疾病用药-肾上腺素能药-α和β肾上腺素受体促效药	#N/A		C
硫酸沙丁胺醇	硫酸沙丁胺醇	西药	R03AC02	呼吸系统-阻塞性气管疾病用药-肾上腺素能药-选择性β2肾上腺素受体促效药	呼吸系统用药-平喘药		C
沙丁胺醇	沙丁胺醇	西药	R03AC02	呼吸系统-阻塞气管疾病用药-肾上腺素能药-选择性β2肾上腺素受体促效药	呼吸系统用药-平喘药		C
舒喘宁	沙丁胺醇	西药	R03AC02	呼吸系统-阻塞气管疾病用药-肾上腺素能药-选择性β2肾上腺素受体促效药	呼吸系统用药-平喘药		C
硫酸特布他林	硫酸特布他林	西药	R03AC03	呼吸系统-阻塞性气管疾病用药-肾上腺素能药-选择性β2肾上腺素受体促效药	呼吸系统用药-平喘药		C

特布他林	特布他林	西药	R03AC03	呼吸系统-阻塞性气管疾病用药-肾上腺素能药-选择性 β2 肾上腺素受体促效药	呼吸系统用药-平喘药		C
喘定	二羟丙茶碱注射液	西药	R03DA01	呼吸系统-阻塞性气管疾病用药-黄嘌呤类	呼吸系统用药-平喘药		C
二羟丙茶碱	二羟丙茶碱	西药	R03DA01	呼吸系统-阻塞性气管疾病用药-黄嘌呤类	呼吸系统用药-平喘药		C
茶碱	茶碱	西药	R03DA04	呼吸系统-阻塞性气管疾病用药-黄嘌呤类	呼吸系统用药-平喘药		C
氨茶碱	氨茶碱	西药	R03DA05	呼吸系统-阻塞性气管疾病用药-黄嘌呤类	呼吸系统用药-平喘药		C
多索茶碱	多索茶碱	西药	R03DA11	呼吸系统-阻塞性气管疾病用药-黄嘌呤类	#N/A		C
盐酸溴己新葡萄糖注射液	盐酸溴己新葡萄糖注射液	西药	R05CB02	呼吸系统-祛痰药-粘液溶解药	#N/A		C
氨溴索	氨溴索	西药	R05CB06	呼吸系统-祛痰药-粘液溶解药	呼吸系统用药-祛痰药		C
盐酸氨溴索	盐酸氨溴索	西药	R05CB06	呼吸系统-祛痰药-粘液溶解药	呼吸系统用药-祛痰药		C
盐酸氨溴索葡萄糖注射液	盐酸氨溴索葡萄糖注射液	西药	R05CB06	呼吸系统-祛痰药-粘液溶解药	#N/A		C
复方磷酸可待因	复方磷酸可待因	西药	R05DA04	呼吸系统-咳嗽和感冒用药-祛痰药-阿片生物碱及其衍生物类	#N/A		U
可待因	可待因	西药	R05DA04	呼吸系统-咳嗽和感冒用药-祛痰药-阿片生物碱及其衍生物类	呼吸系统用药-镇咳药		U
复方福尔可定	复方福尔可定	西药	R05DA08	呼吸系统-咳嗽和感冒用药-祛痰药-阿片生物碱及其衍生物类	#N/A		U
枸橼酸喷托维林	枸橼酸喷托维林	西药	R05DB05	呼吸系统-咳嗽和感冒用药-止咳药-其他止咳药	#N/A		U
咳必清	枸橼酸喷托维林片	西药	R05DB05	呼吸系统-咳嗽和感冒用药-止咳药-其他止咳药	#N/A		U
盐酸苯海拉明	盐酸苯海拉明	西药	R06AA02	呼吸系统-系统用抗组胺药-氨基烷基醚类	抗变态反应药		U
马来酸氯苯那敏	马来酸氯苯那敏	西药	R06AB04	呼吸系统-系统用抗组胺药-取代烷基胺	#N/A		U
盐酸异丙嗪	盐酸异丙嗪	西药	R06AD02	呼吸系统-系统用抗组胺药-吩噻嗪衍生物类	抗变态反应药		U
愈酚喷托异丙嗪颗粒	愈酚喷托异丙嗪颗粒	西药	R06AD52	呼吸系统-系统用抗组胺药-吩噻嗪衍生物类	#N/A		U
盐酸西替利嗪	盐酸西替利嗪	西药	R06AE07	呼吸系统-系统用抗组胺药-哌嗪衍生物	呼吸系统用药-平喘药		U
氯雷他定	氯雷他定	西药	R06AX13	呼吸系统-系统用抗组胺药-其他抗组胺药	抗变态反应药		U
吸氧	吸氧	西药	V03AN01	杂类-其他各种治疗用药品-医用气体	#N/A		U

阿咖酚	阿咖酚	西药			#N/A		U
辅酶 A	辅酶 A	西药			#N/A		U
复方岩白菜素	复方岩白菜素	西药			#N/A		U
核酪	核酪	西药			呼吸系统用药-平喘药		C
细辛脑	细辛脑	西药			#N/A		U
炎琥宁	炎琥宁	西药			#N/A		U
鱼腥草	鱼腥草	西药			#N/A		U
鱼腥草素钠	鱼腥草素钠	西药			#N/A		U

Note: C denotes correct; U denotes unnecessary.

For Asthma (English translation)

Medicine	Common name	Category	ATC code	ATC classification	Essential drug		Classification
Pneumonia Crum	Pneumonia Crum	Unknown					U
Jinwei is high in calcium	Jinwei is high in calcium	Unknown			#N/A		U
Tracheitis tablets	Tracheitis tablets	Unknown			#N/A		U
Turkling	Turkling	Unknown					U
Bronchitis preparations	Bronchitis preparations	Unknown					U
sodium bicarbonate	sodium bicarbonate	Western	A02AH	Digestive tract and metabolism - drugs related to gastric acid secretion - antacids	Regulators of water, electrolytes and acid-base balance - acid-base balance regulators		U
Compound ammonium glycyrrhizinate	Compound ammonium glycyrrhizinate	Western	A05BA08	Digestive tract and metabolic - hepatobiliary disease treatment drugs - liver disease treatment drugs	#N/A		U
Montmorillonite powder	Montmorillonite powder	Western	A07BB	Gastrointestinal and metabolic - antidiarrheal drugs, intestinal anti-inflammatory/anti-infective drugs-enterosorbent drugs	#N/A		U
Oral rehydration salts	Oral rehydration salts	Western	A07CA	Digestive tract and metabolism - antidiarrheal drugs, intestinal anti-inflammatory/anti-infective drugs - electrolytes with carbohydrates	Regulators of water, electrolytes and acid-base balance - regulators of water, electrolyte balance		U
Lactobacillin	Lactobacillin	Western	A07FA01	Digestive tract and metabolism - antidiarrheal drugs, intestinal anti-inflammatory/anti-infective drugs - antidiarrheal microorganisms - lactic acid-producing microorganisms	Digestive system medication - digestive aids		U
Water-soluble vitamins	Water-soluble vitamins	Western	A11	Digestive tract and metabolism - vitamins - multivitamins and minerals	#N/A		U
Five-dimensional glucose	Five-dimensional glucose	Western	A11	Digestive tract and metabolism - vitamins - multivitamins and minerals	#N/A		U
Vitamin B	Vitamin B	Western	A11E	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U
vitamin C	vitamin C	Western	A11GA01	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U

Vitamin B6	Vitamin B6	Western	A11HA02	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U
Calcium gluconate	Calcium gluconate	Western	A12AA03	Digestive tract and metabolic-mineral supplements	Vitamins and minerals - minerals		U
calcium chloride	calcium chloride	Western	A12AA07	Digestive tract & Metabolism - Mineral Supplements/Electrolyte Solutions	#N/A		U
Famotidine	Famotidine	Western	A12BA03	Digestive tract and metabolism - drugs associated with gastric acid secretion - H2 receptor antagonists	Digestive system drugs - antacids and anti-ulcers		U
Famotidine sodium chloride	Famotidine sodium chloride	Western	A12BA03	Digestive tract and metabolism - drugs associated with gastric acid secretion - H2 receptor antagonists	#N/A		U
amino acid	amino acid	Western	A16AA	Digestive tract and metabolism - amino acids and their derivatives	#N/A		U
Sterilize water for injection	Sterilize water for injection	Western	B05BB	Blood and hematopoietic trachea - intravenous solution - solution to regulate electrolyte balance	#N/A		U
Glucose sodium chloride injection (5%)	Glucose sodium chloride injection (5%)	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Glucose injection	Glucose injection	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Dextrose injection (10%)	Dextrose injection (10%)	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Dextrose injection (5%)	Dextrose injection (5%)	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Dextrose injection (50%)	Dextrose injection (50%)	Western	B05XA01	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Sodium chloride injection (0.9%)	Sodium chloride injection (0.9%)	Western	B05XA03	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Glucose sodium chloride injection (10%)	Glucose sodium chloride injection (10%)	Western	B05XA30	Blood and hematopoietic trachea-intravenous fluids are added with drug-electrolyte solutions	#N/A		U
nitroglycerin	nitroglycerin	Western	C01DA02	Cardiovascular system - heart disease treatment drugs - organic nitrates	Drugs for the cardiovascular system - antianginal drugs		U
inosine	inosine	Western	G01AX02	Anti-infectives and sterilizers	Digestive system drugs - adjuvant treatment drugs for liver disease		U
Dexamethasone acetate	Dexamethasone acetate	Western	H02AB02	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	Hormones and endocrine drugs - adrenocorticosteroids		C

dexamethasone	dexamethasone	Western	H02AB02	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	Hormones and endocrine drugs - adrenocorticosteroids		C
Dexamethasone sodium phosphate	Dexamethasone sodium phosphate	Western	H02AB02	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	#N/A		C
Dexamethasone hydrochloride	Dexamethasone hydrochloride	Western	H02AB02	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	Hormones and endocrine drugs - adrenocorticosteroids		C
Methylprednisolone sodium succinate	Methylprednisolone sodium succinate	Western	H02AB04	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	#N/A		C
Prednisone acetate	Prednisone acetate	Western	H02AB07	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	Hormones and endocrine drugs - adrenocorticosteroids		C
Hydrocortisone	Hydrocortisone	Western	H02AB09	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	#N/A		C
penicillin	penicillin	Western	J01C	Anti-infectives for the system - antimicrobials for the system - β lactams, penicillins	Antimicrobials - penicillins		U
Penicillin sodium	Penicillin sodium	Western	J01C	Anti-infectives for the system - antimicrobials for the system - β lactams, penicillins	#N/A		U
Ampicillin	Ampicillin	Western	J01CA01	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	Antimicrobials - penicillins		U
Ampicillin sodium	Ampicillin sodium	Western	J01CA01	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	#N/A		U
Amoxicillin	Amoxicillin	Western	J01CA04	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	Antimicrobials - penicillins		U
Amoxicillin clavulanate potassium	Amoxicillin clavulanate potassium	Western	J01CA04	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	Antimicrobials - penicillins		U
Amoxicillin sodium clavulanate potassium	Amoxicillin sodium clavulanate potassium	Western	J01CA04	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	#N/A		U
Penicillin V potassium	Penicillin V potassium	Western	J01CE02	Systemic anti-infectives - systemic antimicrobials - β-lactam-sensitive penicillins	#N/A		U
Cephalosporins	Cephalosporins	Western	J01D	Systemic anti-infectives - systemic antimicrobials - other β-lactam antimicrobials	#N/A		U

Ceftiamidine	Ceftiamidine	Western	J01D	Systemic anti-infectives - systemic antimicrobials - other β-lactam antimicrobials	#N/A		U
Cephalexin	Cephalexin	Western	J01DB01	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - first-generation cephalosporins	Antimicrobials - cephalosporins		U
Cefazolin sodium	Cefazolin sodium	Western	J01DB04	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - first-generation cephalosporins	#N/A		U
Cefradine	Cefradine	Western	J01DB09	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - first-generation cephalosporins	Antimicrobials - cephalosporins		U
Cefuroxime	Cefuroxime	Western	J01DC02	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - second-generation cephalosporins	Antimicrobials - cephalosporins		U
Cefuroxime sodium	Cefuroxime sodium	Western	J01DC02	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - second-generation cephalosporins	#N/A		U
Cefuroxime ester	Cefuroxime ester	Western	J01DC02	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - second-generation cephalosporins	#N/A		U
Cefotaxime sodium	Cefotaxime sodium	Western	J01DD01	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		U
Ceftazidime	Ceftazidime	Western	J01DD02	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	Antimicrobials - cephalosporins		U
Ceftriaxone sodium	Ceftriaxone sodium	Western	J01DD04	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		U
Cefixime	Cefixime	Western	J01DD08	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		U
Cefixime sodium	Cefixime sodium	Western	J01DD08	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		U
Cefpimide	Cefpimide	Western	J01DD11	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		U
Sulfamethoxazole	Sulfamethoxazole	Western	J01EE01	Systemic anti-infectives - systemic antimicrobials - sulfonamides and trimethoprim	Antimicrobials - sulfonamides		U

Guitaromycin	Guitaromycin	Western	J01FA	Systemic anti-infectives - systemic antimicrobials - macrolides	#N/A		U
erythromycin	erythromycin	Western	J01FA01	Systemic anti-infectives - systemic antimicrobials - macrolides	Antimicrobials - macrolides		U
Medimycin	Medimycin	Western	J01FA03	Systemic anti-infectives - systemic antimicrobials - macrolides	Antimicrobials - macrolides		U
Roxithromycin	Roxithromycin	Western	J01FA06	Systemic anti-infectives - systemic antimicrobials - macrolides	Antimicrobials - macrolides		U
Azithromycin	Azithromycin	Western	J01FA10	Systemic anti-infectives - systemic antimicrobials - macrolides	Antimicrobials - macrolides		U
Clindamycin phosphate	Clindamycin phosphate	Western	J01FF01	Systemic anti-infectives - systemic antimicrobials - lincoamides	#N/A		U
Clindamycin hydrochloride	Clindamycin hydrochloride	Western	J01FF01	Systemic anti-infectives - systemic antimicrobials - lincoamides	Antimicrobials - other antibiotics		U
Clindamycin hydrochloride sodium chloride injection	Clindamycin hydrochloride sodium chloride injection	Western	J01FF01	Systemic anti-infectives - systemic antimicrobials - lincoamides	#N/A		U
Lincomycin	Lincomycin	Western	J01FF02	Systemic anti-infectives - systemic antimicrobials - lincoamides	#N/A		U
Lincomycin hydrochloride	Lincomycin hydrochloride	Western	J01FF02	Systemic anti-infectives - systemic antimicrobials - lincoamides	#N/A		U
Anti-Sensory	Gentamicin sulfate	Western	J01GB03	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		U
Gentamicin sulfate	Gentamicin sulfate	Western	J01GB03	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		U
Amika star	Amika star	Western	J01GB06	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		U
Amikacin sulfate	Amikacin sulfate	Western	J01GB06	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		U
Amikacin sulfate sodium chloride injection	Amikacin sulfate sodium chloride injection	Western	J01GB06	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	#N/A		U
Ofloxacin	Ofloxacin	Western	J01MA01	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	Otorhinolaryngology medications		U
Norfloxacin	Norfloxacin	Western	J01MA06	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	Antimicrobials - quinolones		U
Levofloxacin lactate sodium chloride injection	Levofloxacin lactate sodium chloride injection	Western	J01MA12	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	#N/A		U
Levofloxacin hydrochloride	Levofloxacin hydrochloride	Western	J01MA12	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	Antimicrobials - quinolones		U
Levofloxacin hydrochloride sodium chloride injection	Levofloxacin hydrochloride sodium chloride injection	Western	J01MA12	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	#N/A		U
Levofloxacin	Levofloxacin	Western	J01MA12	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	Antimicrobials - quinolones		U

Acetylspiramycin	Acetylspiramycin	Western	J01RA02	Systemic anti-infectives - systemic antimicrobials - macrolides	Antimicrobials - macrolides		U
Metronidazole	Metronidazole	Western	J01XD01	Anti-infective drugs for system use-Antimicrobial agents for system use-imidazole derivatives	Antimicrobials - quinolones		U
Metronidazole sodium chloride injection	Metronidazole sodium chloride injection	Western	J01XD01	Anti-infective drugs for system use-Antimicrobial agents for system use-imidazole derivatives	#N/A		U
Tinidazole sodium chloride injection	Tinidazole sodium chloride injection	Western	J01XD02	Anti-infective drugs for system use-Antimicrobial agents for system use-imidazole derivatives	#N/A		U
Isoniazid	Isoniazid	Western	J04AC01	Systemic anti-infectives-antimycobacterial-abrupt tuberculosis treatment-hydrazides	Antimicrobials - antifungals		U
Antiviral agents	Antiviral agents	Western	J05	Systemic anti-infectives - systemic antivirals	#N/A		U
Ribavirin	Ribavirin	Western	J05AP01	Systemic anti-infectives - systemic antivirals - direct-acting antivirals	Antimicrobials - antivirals		U
Ribavirin sodium chloride injection	Ribavirin sodium chloride injection	Western	J05AP01	Systemic anti-infectives - systemic antivirals - direct-acting antivirals	#N/A		U
Aminopyrine caffeine	Aminopyrine caffeine	Western	N02BB53	Nervous system - analgesics - pyrazolones	#N/A		U
Compound aminobarbital	Compound aminobarbital	Western	N02BB73	Nervous system - analgesics - pyrazolones	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		U
Painkillers	Painkillers	Western	N02BB73	Nervous system - analgesics - pyrazolones	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		U
paracetamol	paracetamol	Western	N02BE01	Nervous system - analgesics - acylaniline	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		U
Paediatric aminophen xanthamine	Paediatric aminophen xanthamine	Western	N02BE01	Nervous system - analgesics - acylaniline	#N/A		U
Ammonia yellow min	Ammonia yellow min	Western	N02BE51	Nervous system - analgesics - acylaniline	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		U
Phenocamine	Phenocamine	Western	N02BE71	Nervous system - analgesics - acylaniline/pyrazolone (combination).	#N/A		U
Compound aminophenamine	Compound aminophenamine	Western	N02BE71	Nervous system - analgesics - acylaniline	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs -		U

					antipyretic analgesic, anti-inflammatory, antirheumatic drugs		
Long-acting β agonist	Long-acting β agonist	Western	R03AA	Respiratory-obstructive tracheal disease medications-adrenergics-α and β-adrenergic agonists	#N/A		C
Albuterol sulfate	Albuterol sulfate	Western	R03AC02	Respiratory-obstructive tracheal disease medication - adrenergics - selective beta-2 adrenergic agonists	Respiratory system medication - antiasthmatics		C
Albuterol	Albuterol	Western	R03AC02	Respiratory-obstructive trachea disease medication-adrenergics-selective beta-2-adrenergic agonists	Respiratory system medication - antiasthmatics		C
Salbutamin	Albuterol	Western	R03AC02	Respiratory-obstructive trachea disease medication-adrenergics-selective beta-2-adrenergic agonists	Respiratory system medication - antiasthmatics		C
Terbutaline sulfate	Terbutaline sulfate	Western	R03AC03	Respiratory-obstructive tracheal disease medication - adrenergics - selective beta-2 adrenergic agonists	Respiratory system medication - antiasthmatics		C
Tebutaline	Tebutaline	Western	R03AC03	Respiratory-obstructive tracheal disease medication - adrenergics - selective beta-2 adrenergic agonists	Respiratory system medication - antiasthmatics		C
Wheezing	Dihydroxypropylphylline injection	Western	R03DA01	Respiratory-obstructive tracheal disease medication-xanthines	Respiratory system medication - antiasthmatics		C
Dihydroxypropylphylline	Dihydroxypropylphylline	Western	R03DA01	Respiratory-obstructive tracheal disease medication-xanthines	Respiratory system medication - antiasthmatics		C
theophylline	theophylline	Western	R03DA04	Respiratory-obstructive tracheal disease medication-xanthines	Respiratory system medication - antiasthmatics		C
aminophylline	aminophylline	Western	R03DA05	Respiratory-obstructive tracheal disease medication-xanthines	Respiratory system medication - antiasthmatics		C
Doxofylline	Doxofylline	Western	R03DA11	Respiratory-obstructive tracheal disease medication-xanthines	#N/A		C
Bromhexine glucose hydrochloride injection	Bromhexine glucose hydrochloride injection	Western	R05CB02	Respiratory system - expectorants - mucolytic drugs	#N/A		C
Ambroxol	Ambroxol	Western	R05CB06	Respiratory system - expectorants - mucolytic drugs	Respiratory system medication - expectorant		C
Ambroxol hydrochloride	Ambroxol hydrochloride	Western	R05CB06	Respiratory system - expectorants - mucolytic drugs	Respiratory system medication - expectorant		C
Ambroxol hydrochloride glucose injection	Ambroxol hydrochloride glucose injection	Western	R05CB06	Respiratory system - expectorants - mucolytic drugs	#N/A		C
Compound codeine phosphate	Compound codeine phosphate	Western	R05DA04	Respiratory system - Cough and cold medicine - Expectorant - Opioid alkaloids and their derivatives	#N/A		U
codeine	codeine	Western	R05DA04	Respiratory system - Cough and cold medicine - Expectorant - Opioid alkaloids and their derivatives	Respiratory medications - antitussives		U

Compound forcodine	Compound forcodine	Western	R05DA08	Respiratory system - Cough and cold medicine - Expectorant - Opioid alkaloids and their derivatives	#N/A		U
Pentovirine citrate	Pentovirine citrate	Western	R05DB05	Respiratory system - Cough and cold medicines - Cough medicines - Other cough medicines	#N/A		U
Cough will be clear	Pentovirine citrate tablets	Western	R05DB05	Respiratory system - Cough and cold medicines - Cough medicines - Other cough medicines	#N/A		U
Diphenhydramine hydrochloride	Diphenhydramine hydrochloride	Western	R06AA02	Respiratory-systemic antihistamines - aminoalkyl ethers	Anti-allergic drugs		U
Chlorpheniramine maleate	Chlorpheniramine maleate	Western	R06AB04	Respiratory system - the system with antihistamines - substitution of alkylamines	#N/A		U
Promethazine hydrochloride	Promethazine hydrochloride	Western	R06AD02	Respiratory-systemic antihistamines - phenothiazine derivatives	Anti-allergic drugs		U
Ululene spray promethazine granules	Ululene spray promethazine granules	Western	R06AD52	Respiratory-systemic antihistamines - phenothiazine derivatives	#N/A		U
Cetirizine hydrochloride	Cetirizine hydrochloride	Western	R06AE07	Respiratory-systemic antihistamines - piperazine derivatives	Respiratory system medication - antiasthmatics		U
Loratadine	Loratadine	Western	R06AX13	Respiratory-systemic antihistamines - other antihistamines	Anti-allergic drugs		U
Oxygen	Oxygen	Western	V03AN01	Miscellaneous - various other therapeutic drugs - medical gases	#N/A		U
Acaphenol	Acaphenol	Western			#N/A		U
Coenzyme A	Coenzyme A	Western			#N/A		U
Compound cabbage	Compound cabbage	Western			#N/A		U
Cheese	Cheese	Western			Respiratory system medication - antiasthmatics		C
Fine-hearted	Fine-hearted	Western			#N/A		U
Yan Huning	Yan Huning	Western			#N/A		U
Houttuynia cordata	Houttuynia cordata	Western			#N/A		U
Houttuynin sodium	Houttuynin sodium	Western			#N/A		U

Note: C denotes correct; U denotes unnecessary.

For Unstable Angina (see English version below)

Medicine	Common name	Category	ATC code	ATC classification	Essential drug	
黄素	不详					
复方氢氧化铝	西药	A02AB01	消化道及代谢-治疗与胃酸分泌相关的药物-治酸药	消化系统用药-抗酸药及抗溃疡病		U
铝镁加	西药	A02AD03	消化道及代谢-治疗与胃酸分泌相关的药物-治酸药	消化系统用药-抗酸药及抗溃疡病		U
铋镁碳酸氢钠	西药	A02AH	消化道及代谢-治疗与胃酸分泌相关的药物-治酸药	#N/A		U
西咪替丁	西药	A02BA01	消化道与代谢-治疗与胃酸分泌相关的药物-H2 受体拮抗药	消化系统用药-抗酸药及抗溃疡病		U
雷尼替丁	西药	A02BA02	消化道与代谢-治疗与胃酸分泌相关的药物-H2 受体拮抗药	消化系统用药-抗酸药及抗溃疡病		U
盐酸雷尼替丁	西药	A02BA02	消化道及代谢-治疗与胃酸分泌相关疾病的药物-H2 受体拮抗药类	消化系统用药-抗酸药及抗溃疡病		U
奥美拉唑	西药	A02BC01	消化道与代谢-治疗与胃酸分泌相关的药物-质子泵抑制药	消化系统用药-抗酸药及抗溃疡病		U
奥美拉唑钠	西药	A02BC01	消化道与代谢-治疗与胃酸分泌相关的药物-质子泵抑制药	#N/A		U
硫糖铝	西药	A02BX02	消化道及代谢-治疗与胃酸分泌相关的药物-消化道溃疡和胃食管返流病	消化系统用药-抗酸药及抗溃疡病		U
阿托品	西药	A03BA01	消化道及代谢-治疗功能性胃肠疾病的药物-颠茄生物碱，叔胺类	消化系统用药-胃肠解痉药及胃动力药		U
硫酸阿托品	西药	A03BA01	消化道及代谢-治疗功能性胃肠疾病的药物-颠茄生物碱，叔胺类	消化系统用药-胃肠解痉药及胃动力药		U
莨菪浸膏	西药	A03BA03	消化道与代谢-治疗功能性胃肠疾病的药物-颠茄生物碱，叔胺类	#N/A		U
盐酸消旋山莨菪碱	西药	A03BA03	消化道与代谢-治疗功能性胃肠疾病的药物-颠茄生物碱，叔胺类	#N/A		U
多潘立酮	西药	A03FA03	消化道及代谢-胃肠动力药	消化系统用药-胃肠解痉药及胃动力药		U
马来酸多潘立酮	西药	A03FA03	消化道及代谢-治疗功能性胃肠疾病的药物-胃肠动力药	#N/A		U
盐酸小檗碱	西药	A07A	消化道及代谢-止泻药，肠道抗炎/抗感染药-肠道抗感染药	抗微生物药-其他抗真菌药		U
果胶铋	西药	A07BB	消化道及代谢-止泻药，肠道抗炎/抗感染药-肠道吸附药	#N/A		U
口服补液盐	西药	A07CA	消化道及代谢-止泻药，肠道抗炎/抗感染药-配有碳水化合物的电解质	调节水、电解质及酸碱平衡药-水、电解质平衡调节药		U
盐酸二甲双胍	西药	A10BA02	消化道及代谢-糖尿病用药-非胰岛素类降血糖药-双胍类	激素及影响内分泌药-胰岛素及口服降血糖药		H

格列齐特	西药	A10BB09	消化道及代谢-糖尿病用药-非胰岛素类降血糖药-磺胺类，脲衍生物	激素及影响内分泌药-胰岛素及口服降血糖药		H
阿卡波糖	西药	A10BF01	消化道及代谢-糖尿病用药-非胰岛素类降血糖药-α 葡萄糖苷酶抑制药	激素及影响内分泌药-胰岛素及口服降血糖药		H
水溶性维生素	西药	A11	消化道及代谢-维生素类-多种维生素和矿物质	#N/A		U
复合维生素 B	西药	A11AA	消化道及代谢-维生素类-多种维生素和矿物质	维生素、矿物质类药-维生素		U
维生素 B1	西药	A11DA	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
维生素 C	西药	A11GA01	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
维生素 B6	西药	A11HA02	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
维生素 B2	西药	A11HA04	消化道及代谢-维生素类	维生素、矿物质类药-维生素		U
葡萄糖酸钙	西药	A12AA03	消化道及代谢-矿物质补充剂	维生素、矿物质类药-矿物质		U
氯化钙	西药	A12AA07	消化道及代谢-矿物质补充剂/电解质溶液	#N/A		U
法莫替丁	西药	A12BA03	消化道与代谢-治疗与胃酸分泌相关的药物-H2 受体拮抗药	消化系统用药-抗酸药及抗溃疡病		U
法莫替丁氯化钠	西药	A12BA03	消化道与代谢-治疗与胃酸分泌相关的药物-H2 受体拮抗药	#N/A		U
氨基酸	西药	A16AA	消化道及代谢-氨基酸及其衍生物	#N/A		U
阿司匹林	西药	B01AC06	神经系统-镇痛药-水杨酸及其衍生物/血液和造血器官-抗血栓形成药-非肝素类的血小板聚集抑制剂	抗血小板		C
维生素 B12	西药	B03BA	血液及造血系统-抗贫血药	维生素、矿物质类药-维生素		U
甲钴胺	西药	B03BA05	血液及造血系统-抗贫血药	血液系统用药-抗贫血药		U
葡萄糖氯化钠注射液(5%)	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖注射液(10%)	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
葡萄糖注射液(5%)	西药	B05XA	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
氯化钠注射液(0.9%)	西药	B05XA03	血液和造血器官-静脉注射液添加药物-电解质溶液	#N/A		U
硝酸甘油	西药	C01DA02	心血管系统-心脏病治疗药-有机硝酸酯类	心血管系统用药-抗心绞痛药		C
布洛芬	西药	C01EB16	非甾体抗炎和抗风湿药-丙酸衍生类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		H

肌苷	西药	G01AX02	抗感染药和灭菌药	消化系统用药-肝病辅助治疗药		U
醋酸地塞米松	西药	H02AB02	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	激素及影响内分泌药-肾上腺皮质激素类药		H
地塞米松磷酸钠	西药	H02AB02	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	#N/A		H
甲泼尼龙琥珀酸钠	西药	H02AB04	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	#N/A		H
泼尼松	西药	H02AB07	非性激素和胰岛素类的激素类系统用药-皮质甾体激素类-糖肾上腺皮质激素类	激素及影响内分泌药-肾上腺皮质激素类药		H
青霉素钠	西药	J01C	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类	#N/A		H
氨苄西林	西药	J01CA01	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类-广谱青霉素类	抗微生物药-青霉素类		H
氨苄西林钠	西药	J01CA01	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类-广谱青霉素类	#N/A		H
阿莫西林	西药	J01CA04	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类-广谱青霉素类	抗微生物药-青霉素类		H
阿莫西林克拉维酸钾	西药	J01CA04	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类-广谱青霉素类	抗微生物药-青霉素类		H
阿莫西林钠克拉维酸钾	西药	J01CA04	系统用抗感染药-系统用抗菌药-β 内酰胺，青霉素类-广谱青霉素类	#N/A		H
青霉素 V 钾	西药	J01CE02	系统用抗感染药-系统用抗菌药-β 内酰胺敏感的青霉素类	#N/A		H
头孢菌素	西药	J01D	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药	#N/A		H
头孢哌酮钠舒巴坦钠	西药	J01D	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药	#N/A		H
头孢氨苄	西药	J01DB01	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第一代头孢菌素	抗微生物药-头孢菌素类		H
头孢拉定	西药	J01DB09	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第一代头孢菌素	抗微生物药-头孢菌素类		H
头孢呋辛钠	西药	J01DC02	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第二代头孢菌素	#N/A		H
头孢噻肟钠	西药	J01DD01	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		H
头孢曲松钠	西药	J01DD04	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		H
头孢克肟	西药	J01DD08	系统用抗感染药-系统用抗菌药-其它 β-内酰胺类抗菌药-第三代头孢菌素	#N/A		H
颠茄磺苄啶	西药	J01EE01	系统用抗感染药-系统抗菌药-磺胺类和甲氧苄啶	#N/A		H
吉霉素	西药	J01FA	系统用抗感染药-系统用抗菌药-大环内酯类	#N/A		H

罗红霉素	西药	J01FA06	系统用抗感染药-系统用抗菌药-大环内酯类	抗微生物药-大环内酯类		H
克林霉素磷酸酯	西药	J01FF01	系统用抗感染药-系统用抗菌药-林可酰胺类	#N/A		H
盐酸克林霉素	西药	J01FF01	系统用抗感染药-系统用抗菌药-林可酰胺类	抗微生物药-其他抗生素		H
硫酸庆大霉素	西药	J01GB03	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		H
庆大霉素	西药	J01GB03	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		H
阿米卡星	西药	J01GB06	系统用抗感染药-系统用抗菌药-氨基糖苷类	抗微生物药-氨基糖苷类		H
诺氟沙星	西药	J01MA06	系统用抗感染药-系统用抗菌药-氟喹诺酮类	抗微生物药-喹诺酮类		H
盐酸左氧氟沙星	西药	J01MA12	系统用抗感染药-系统用抗菌药-氟喹诺酮类	抗微生物药-喹诺酮类		H
盐酸左氧氟沙星氯化钠注射液	西药	J01MA12	系统用抗感染药-系统用抗菌药-氟喹诺酮类	#N/A		H
螺旋霉素	西药	J01RA02	系统用抗感染药-系统用抗菌药-大环内酯类	#N/A		H
甲硝唑	西药	J01XD01	系统用抗感染药-系统用抗菌药-咪唑衍生物	抗微生物药-喹诺酮类		H
甲硝唑氯化钠注射液	西药	J01XD01	系统用抗感染药-系统用抗菌药-咪唑衍生物	#N/A		H
替硝唑	西药	J01XD02	系统用抗感染药-系统用抗菌药-咪唑衍生物	抗微生物药-喹诺酮类		H
抗病毒制剂	西药	J05	系统用抗感染药-系统用药的抗病毒药	#N/A		H
利巴韦林	西药	J05AP01	系统用抗感染药-系统用药的抗病毒药-直接作用的抗病毒药	抗微生物药-抗病毒药		H
盐酸吗啉胍	西药	J05AX01	系统用抗感染药-系统用抗病毒药-其他抗病毒药	#N/A		H
双氯芬酸钠	西药	M01AB05	肌肉骨骼系统-抗炎和抗风湿药-非甾体抗炎药和抗风湿药-乙酸衍生物	#N/A		H
复方氨林巴比妥	西药	N02BB73	神经系统-镇痛药-吡唑酮类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		H
对乙酰氨基酚	西药	N02BE01	神经系统-镇痛药-酰苯胺类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		H
复方对乙酰氨基酚	西药	N02BE51	神经系统-镇痛药-酰苯胺类	镇痛、解热、抗炎、抗风湿、抗痛风药-解热镇痛、抗炎、抗风湿药		H
谷维素	西药	N07XX	神经系统-其他神经系统用药	治疗精神障碍药-镇静催眠药		U
氨茶碱	西药	R03DA05	呼吸系统-阻塞性气管疾病用药-黄嘌呤类	呼吸系统用药-平喘药		U

盐酸氨溴索	西药	R05CB06	呼吸系统-祛痰药-粘液溶解药	呼吸系统用药-祛痰药		U
马来酸氯苯那敏	西药	R06AB04	呼吸系统-系统用抗组胺药-取代烷基胺	#N/A		U
三磷酸腺苷二钠	西药	V06DX	杂类-一般营养药	#N/A		U
辅酶 A	西药			#N/A		U
脑蛋白水解物	西药			#N/A		U
三分三浸膏片	西药			#N/A		U
天麻素	西药			治疗精神障碍药-镇静催眠药		U
维 U 颠茄铝	西药		消化道及代谢-治疗功能性胃肠疾病的药物-复方中有镇痛药的其他解痉药	消化系统用药-抗酸药及抗溃疡病		U
炎琥宁	西药			#N/A		H

Note: C denotes correct; U denotes unnecessary; H denotes harmful.

For Unstable Angina (English translation)

Medicine	Common name	Category	ATC code	ATC classification	Essential drug	
flavin	Unknown					
Compound aluminum hydroxide	Western	A02AB01	Digestive tract and metabolism - drugs related to gastric acid secretion - antacids	Digestive system drugs - antacids and anti-ulcers		U
Al-magnesium plus	Western	A02AD03	Digestive tract and metabolism - drugs related to gastric acid secretion - antacids	Digestive system drugs - antacids and anti-ulcers		U
Bismuth magnesium sodium bicarbonate	Western	A02AH	Digestive tract and metabolism - drugs related to gastric acid secretion - antacids	#N/A		U
Cimetidine	Western	A02BA01	Digestive tract and metabolism - drugs associated with gastric acid secretion - H2 receptor antagonists	Digestive system drugs - antacids and anti-ulcers		U
Ranitidine	Western	A02BA02	Digestive tract and metabolism - drugs associated with gastric acid secretion - H2 receptor antagonists	Digestive system drugs - antacids and anti-ulcers		U
Ranitidine hydrochloride	Western	A02BA02	Digestive tract and metabolism - drugs for the treatment of diseases related to gastric acid secretion - H2 receptor antagonists	Digestive system drugs - antacids and anti-ulcers		U
Omeprazole	Western	A02BC01	Digestive tract and metabolic - drugs associated with gastric acid secretion - proton pump inhibitors	Digestive system drugs - antacids and anti-ulcers		U
Omeprazole sodium	Western	A02BC01	Digestive tract and metabolic - drugs associated with gastric acid secretion - proton pump inhibitors	#N/A		U
Sucralfate	Western	A02BX02	Gastrointestinal and metabolic - Drugs associated with gastric acid secretion - Peptic ulcer and gastroesophageal reflux disease	Digestive system drugs - antacids and anti-ulcers		U
atropine	Western	A03BA01	Digestive tract and metabolism - drugs for the treatment of functional gastrointestinal diseases - belladonna alkaloids, tertiary amines	Digestive system drugs - gastrointestinal antispasmodics and gastric motility		U
Atropine sulfate	Western	A03BA01	Digestive tract and metabolism - drugs for the treatment of functional gastrointestinal diseases - belladonna alkaloids, tertiary amines	Digestive system drugs - gastrointestinal antispasmodics and gastric motility		U
Scopole extract	Western	A03BA03	Digestive tract and metabolism - drugs for the treatment of functional gastrointestinal diseases - belladonna alkaloids, tertiary amines	#N/A		U
Racemic hyoscyamine hydrochloride	Western	A03BA03	Digestive tract and metabolism - drugs for the treatment of functional gastrointestinal diseases - belladonna alkaloids, tertiary amines	#N/A		U
Domperidone	Western	A03FA03	Gastrointestinal and metabolic-gastrointestinal motility drugs	Digestive system drugs - gastrointestinal antispasmodics and gastric motility		U
domperidone maleate	Western	A03FA03	Digestive tract and metabolism - drugs for the treatment of functional gastrointestinal diseases - gastrointestinal motility drugs	#N/A		U
Berberine hydrochloride	Western	A07A	Digestive tract and metabolism - antidiarrheal drugs, intestinal anti-inflammatory/anti-infective drugs - intestinal anti-infectives	Antimicrobials - other antifungals		U
Pectin bismuth	Western	A07BB	Gastrointestinal and metabolic - antidiarrheal drugs, intestinal anti-inflammatory/anti-infective drugs-enterosorbent drugs	#N/A		U

Oral rehydration salts	Western	A07CA	Digestive tract and metabolism - antidiarrheal drugs, intestinal anti-inflammatory/anti-infective drugs - electrolytes with carbohydrates	Regulators of water, electrolytes and acid-base balance - regulators of water, electrolyte balance		U
Metformin hydrochloride	Western	A10BA02	Digestive tract and metabolism - diabetes drugs - non-insulin hypoglycemic drugs - biguanides	Hormones and endocrine drugs - insulin and oral hypoglycemic drugs		H
Glazitte	Western	A10BB09	Digestive tract and metabolism - diabetes drugs - non-insulin hypoglycemic drugs - sulfonamides, urea derivatives	Hormones and endocrine drugs - insulin and oral hypoglycemic drugs		H
Acarbose	Western	A10BF01	Digestive tract and metabolism - diabetes drugs - non-insulin hypoglycemic drugs - α glucosidase inhibitors	Hormones and endocrine drugs - insulin and oral hypoglycemic drugs		H
Water-soluble vitamins	Western	A11	Digestive tract and metabolism - vitamins - multivitamins and minerals	#N/A		U
vitamin B complex	Western	A11AA	Digestive tract and metabolism - vitamins - multivitamins and minerals	Vitamins, minerals - vitamins		U
Vitamin B1	Western	A11DA	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U
vitamin C	Western	A11GA01	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U
Vitamin B6	Western	A11HA02	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U
Vitamin B2	Western	A11HA04	Digestive tract and metabolism - vitamins	Vitamins, minerals - vitamins		U
Calcium gluconate	Western	A12AA03	Digestive tract and metabolic-mineral supplements	Vitamins and minerals - minerals		U
calcium chloride	Western	A12AA07	Digestive tract & Metabolism - Mineral Supplements/Electrolyte Solutions	#N/A		U
Famotidine	Western	A12BA03	Digestive tract and metabolism - drugs associated with gastric acid secretion - H2 receptor antagonists	Digestive system drugs - antacids and anti-ulcers		U
Famotidine sodium chloride	Western	A12BA03	Digestive tract and metabolism - drugs associated with gastric acid secretion - H2 receptor antagonists	#N/A		U
amino acid	Western	A16AA	Digestive tract and metabolism - amino acids and their derivatives	#N/A		U
aspirin	Western	B01AC06	Nervous system - analgesics - salicylic acid and its derivatives / blood and hematopoietic organs - antithrombotic drugs - non-heparin platelet aggregation inhibitors	Antiplatelet		C
Vitamin B12	Western	B03BA	Blood and hematopoietic system - anti-anemia drugs	Vitamins, minerals - vitamins		U
Methylcobalamin	Western	B03BA05	Blood and hematopoietic system - anti-anemia drugs	Hematologic drugs - anti-anemia drugs		U
Glucose sodium chloride injection (5%)	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Dextrose injection (10%)	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
Dextrose injection (5%)	Western	B05XA	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U

Sodium chloride injection (0.9%)	Western	B05XA03	Blood and hematopoietic organs - intravenous fluids are added with drug-electrolyte solutions	#N/A		U
nitroglycerin	Western	C01DA02	Cardiovascular system - heart disease treatment drugs - organic nitrates	Drugs for the cardiovascular system - antianginal drugs		C
ibuprofen	Western	C01EB16	Non-steroidal anti-inflammatory and antirheumatic drugs - propionic acid derivatives	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		H
inosine	Western	G01AX02	Anti-infectives and sterilizers	Digestive system drugs - adjuvant treatment drugs for liver disease		U
Dexamethasone acetate	Western	H02AB02	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	Hormones and endocrine drugs - adrenocorticosteroids		H
Dexamethasone sodium phosphate	Western	H02AB02	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	#N/A		H
Methylprednisolone sodium succinate	Western	H02AB04	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	#N/A		H
Prednisone	Western	H02AB07	Non-sex hormones and insulin hormonal system drugs - corticosteroid hormones - Gluc adrenocorticosteroids	Hormones and endocrine drugs - adrenocorticosteroids		H
Penicillin sodium	Western	J01C	Anti-infectives for the system - antimicrobials for the system - β lactams, penicillins	#N/A		H
Ampicillin	Western	J01CA01	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	Antimicrobials - penicillins		H
Ampicillin sodium	Western	J01CA01	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	#N/A		H
Amoxicillin	Western	J01CA04	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	Antimicrobials - penicillins		H
Amoxicillin clavulanate potassium	Western	J01CA04	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	Antimicrobials - penicillins		H
Amoxicillin sodium clavulanate potassium	Western	J01CA04	Systemic anti-infectives - systemic antimicrobials - β lactams, penicillins - broad-spectrum penicillins	#N/A		H
Penicillin V potassium	Western	J01CE02	Systemic anti-infectives - systemic antimicrobials - β-lactam-sensitive penicillins	#N/A		H
Cephalosporins	Western	J01D	Systemic anti-infectives - systemic antimicrobials - other β-lactam antimicrobials	#N/A		H
Cefoperazone sodium, sulbactam sodium	Western	J01D	Systemic anti-infectives - systemic antimicrobials - other β-lactam antimicrobials	#N/A		H
Cephalexin	Western	J01DB01	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - first-generation cephalosporins	Antimicrobials - cephalosporins		H
Cefradine	Western	J01DB09	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - first-generation cephalosporins	Antimicrobials - cephalosporins		H
Cefuroxime sodium	Western	J01DC02	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - second-generation cephalosporins	#N/A		H
Cefotaxime sodium	Western	J01DD01	Systemic anti-infectives - systemic antimicrobials - other β - lactam	#N/A		H

			antimicrobials - third-generation cephalosporins			
Ceftriaxone sodium	Western	J01DD04	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		H
Cefixime	Western	J01DD08	Systemic anti-infectives - systemic antimicrobials - other β - lactam antimicrobials - third-generation cephalosporins	#N/A		H
Belladonnasulfazimid	Western	J01EE01	Systemic anti-infectives - systemic antimicrobials - sulfonamides and trimethoprim	#N/A		H
Gitimycin	Western	J01FA	Systemic anti-infectives - systemic antimicrobials - macrolides	#N/A		H
Roxithromycin	Western	J01FA06	Systemic anti-infectives - systemic antimicrobials - macrolides	Antimicrobials - macrolides		H
Clindamycin phosphate	Western	J01FF01	Systemic anti-infectives - systemic antimicrobials - lincoamides	#N/A		H
Clindamycin hydrochloride	Western	J01FF01	Systemic anti-infectives - systemic antimicrobials - lincoamides	Antimicrobials - other antibiotics		H
Gentamicin sulfate	Western	J01GB03	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		H
gentamicin	Western	J01GB03	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		H
Amika star	Western	J01GB06	Anti-infectives for the system - antimicrobials for the system - aminoglycosides	Antimicrobial-aminoglycosides		H
Norfloxacin	Western	J01MA06	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	Antimicrobials - quinolones		H
Levofloxacin hydrochloride	Western	J01MA12	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	Antimicrobials - quinolones		H
Levofloxacin hydrochloride sodium chloride injection	Western	J01MA12	Systemic anti-infectives - systemic antimicrobials - fluoroquinolones	#N/A		H
Spiramycin	Western	J01RA02	Systemic anti-infectives - systemic antimicrobials - macrolides	#N/A		H
Metronidazole	Western	J01XD01	Anti-infective drugs for system use-Antimicrobial agents for system use-imidazole derivatives	Antimicrobials - quinolones		H
Metronidazole sodium chloride injection	Western	J01XD01	Anti-infective drugs for system use-Antimicrobial agents for system use-imidazole derivatives	#N/A		H
Tinidazole	Western	J01XD02	Anti-infective drugs for system use-Antimicrobial agents for system use-imidazole derivatives	Antimicrobials - quinolones		H
Antiviral agents	Western	J05	Systemic anti-infectives - systemic antivirals	#N/A		H
Ribavirin	Western	J05AP01	Systemic anti-infectives - systemic antivirals - direct-acting antivirals	Antimicrobials - antivirals		H
Morpholinoguanidine hydrochloride	Western	J05AX01	Systemic anti-infectives - Systemic antivirals - Other antivirals	#N/A		H
Diclofenac sodium	Western	M01AB05	Musculoskeletal system - anti-inflammatory and antirheumatic drugs - non-steroidal anti-inflammatory drugs and	#N/A		H

			antirheumatic drugs - acetic acid derivatives			
Compound aminobarbital	Western	N02BB73	Nervous system - analgesics - pyrazolones	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		H
paracetamol	Western	N02BE01	Nervous system - analgesics - acylaniline	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		H
Compound acetaminophen	Western	N02BE51	Nervous system - analgesics - acylaniline	Analgesic, antipyretic, anti-inflammatory, anti-rheumatic, anti-gout drugs - antipyretic analgesic, anti-inflammatory, antirheumatic drugs		H
Gamma oryzanol	Western	N07XX	Nervous system - other nervous system medications	Drugs for the treatment of psychiatric disorders - sedative-hypnotics		U
aminophylline	Western	R03DA05	Respiratory-obstructive tracheal disease medication-xanthines	Respiratory system medication - antiasthmatics		U
Ambroxol hydrochloride	Western	R05CB06	Respiratory system - expectorants - mucolytic drugs	Respiratory system medication - expectorant		U
Chlorpheniramine maleate	Western	R06AB04	Respiratory system - the system with antihistamines - substitution of alkylamines	#N/A		U
Adenosine triphosphate disodium sodium	Western	V06DX	Miscellaneous - general nutritional medicines	#N/A		U
Coenzyme A	Western			#N/A		U
Brain protein hydrolysate	Western			#N/A		U
Three extracts of three tablets	Western			#N/A		U
Gastrodin	Western			Drugs for the treatment of psychiatric disorders - sedative-hypnotics		U
Vitamin U belladonna aluminum	Western		Digestive tract and metabolism - drugs for the treatment of functional gastrointestinal disorders - other antispasmodics with analgesics in combinations	Digestive system drugs - antacids and anti-ulcers		U
Yan Huning	Western			#N/A		H

Note: C denotes correct; U denotes unnecessary; H denotes harmful.

Table S1 Balance check

	Physician gender distribution						SP gender distribution				
	Female		Male		P-value		Female		Male		P-value
Private CHCs	Freq.	Percent	Freq.	Percent		Private CHCs	Freq.	Percent	Freq.	Percent	
No	222	82.84	192	85.71	0.384	No	343	83.45	71	87.65	0.344
Yes	46	17.16	32	14.29		Yes	68	16.55	10	12.35	
Health alliance						Health alliance					
Yes	236	88.06	200	89.29	0.670	Yes	366	89.05	70	86.42	0.496
No	32	11.94	24	10.71		No	45	10.95	11	13.58	
Age group						Age group					
Age < 30	19	7.09	9	4.02	<0.001	Age < 30	23	5.6	5	6.17	0.915
30 <= Age <40	84	31.34	38	16.96		30 <= Age <40	102	24.82	20	24.69	
40 <= Age <50	114	42.54	67	29.91		40 <= Age <50	149	36.25	32	39.51	
Age >= 50	51	19.03	110	49.11		Age >= 50	137	33.33	24	29.63	
SP gender						Physician gender					
Female	227	84.7	184	82.14	0.446	Female	227	55.23	41	50.62	0.446
Male	41	15.3	40	17.86		Male	184	44.77	40	49.38	
Total	268		224			Total	411		81		

	Physician-patient gender match								P-value	Total	
	F_p & F_{sp}		M_p & F_{sp}		F_p & M_{sp}		M_p & M_{sp}				
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent		Freq.	Percent
Private CHCs											
No	188	82.82	155	84.24	34	82.93	37	92.5	0.486	414	84.15
Yes	39	17.18	29	15.76	7	17.07	3	7.5		78	15.85
Health alliance											
Yes	199	87.67	167	90.76	37	90.24	33	82.5	0.452	436	88.62
No	28	12.33	17	9.24	4	9.76	7	17.5		56	11.38
Age group											
Age < 30	16	7.05	7	3.8	3	7.32	2	5	<0.001	28	5.69
30 <= Age <40	73	32.16	31	16.85	12	29.27	8	20		124	25.2
40 <= Age <50	97	42.73	52	28.26	16	39.02	15	37.5		180	36.59
Age >= 50	41	18.06	94	51.09	10	24.39	15	37.5		160	32.52

Note: The pair of F_p & F_{sp} denotes female physicians treating female patients (SPs) and others likewise. Chi-square test was used for dummy variable.

Tabel S2 Quality metrics over physician–patient gender match

	F_p & F_{sp}		M_p & F_{sp}		F_p & M_{sp}		M_p & M_{sp}		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	P-value
Main outcomes									
Consultation length (Minutes)	6.31	4.71	6.28	4.33	6.68	4.44	4.79	4.28	0.206
Medical costs (CNY)	33.0	41.1	35.8	39.7	51.8	53.6	25.3	29.7	0.022
Correct diagnosis	0.427	0.496	0.418	0.495	0.585	0.499	0.475	0.506	0.240
Correct drug	0.093	0.29	0.098	0.298	0.293	0.461	0.125	0.335	0.002
Information-based metrics									
Essential questions	1.48	1.04	1.49	0.93	1.56	0.81	1.30	0.76	0.639
Essential tests	0.67	0.56	0.72	0.59	0.54	0.55	0.48	0.64	0.049
Essential items (questions + tests)	2.23	1.23	2.27	1.23	2.49	1.14	2.38	1.25	0.624
Recommended questions	4.93	2.79	4.68	2.58	6.00	2.73	4.68	2.23	0.037
Recommended tests	1.59	0.98	1.58	1.02	1.46	0.95	1.40	1.01	0.620
Recommended items (questions + tests)	7.07	3.21	6.84	3.27	8.39	3.41	7.38	3.45	0.050
Communication-based metrics									
Total score	22.99	6.53	23.26	6.08	25.20	5.72	22.30	5.50	0.151
Component 1	12.31	4.25	12.17	4.05	13.22	3.46	11.15	3.13	0.143
Component 2	0.77	0.61	0.82	0.66	0.85	0.65	0.70	0.65	0.636
Component 3	9.91	3.56	10.28	3.60	11.12	3.57	10.45	3.83	0.217
Unnecessary items									
Unnecessary tests	0.87	0.98	0.81	1.05	1.54	1.25	0.95	1.06	<0.001
Unnecessary drugs	0.46	0.82	0.52	0.83	0.17	0.59	0.33	0.94	0.075

Note: The pair of F_p & F_{sp} denotes female physicians treating female patients (SPs) and others likewise. CNY denotes Chinese yuan (exchange rate, 6.37 CNY ≈ 1 US dollar). Component1, Component 2 and Component 3 represent the three components of patient-centered communication, namely exploring both the disease and illness experience, understanding the whole person, and finding common ground. F&M denotes female physicians treating male patients. The statistical differences were analyzed using the chi-square test for binary variables and analysis of variance for continuous variables. S.D. means standard deviation.

Table S3 The impact of physician gender, patient gender, and gender match with disease coefficients and subsample analysis

Panel A: Physician gender and patient gender separately	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	-0.411	-3.458	-0.0135	0.0127
	(0.565)	(4.844)	(0.0643)	(0.0400)
Patient male	-0.316	3.693	0.130**	0.109**
	(0.478)	(4.400)	(0.0583)	(0.0499)
Hospital fixed effects	Yes	Yes	Yes	Yes
Asthma	0.906*	6.279	-0.362***	0.00259
	(0.457)	(4.199)	(0.0443)	(0.0341)
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.263	0.365	0.333	0.174

Panel B: Physician gender and patient gender interaction	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	-0.133	0.119	0.0263	0.0437
	(0.597)	(5.362)	(0.0676)	(0.0405)
Patient male	0.412	13.06	0.234***	0.190**
	(0.668)	(7.855)	(0.0824)	(0.0852)
Physician male * Patient male	-1.529	-19.68**	-0.219*	-0.170
	(0.978)	(9.763)	(0.122)	(0.110)
Hospital fixed effects	Yes	Yes	Yes	Yes
Asthma	0.887*	6.046	-0.364***	0.000574
	(0.453)	(4.157)	(0.0445)	(0.0346)
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.267	0.372	0.339	0.183

Panel C: Physician-patient gender match	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
$F_p \rightarrow F_{sp}$	.	.	.	.
	.	.	.	.
$M_p \rightarrow F_{sp}$	-0.133	0.119	0.0263	0.0437
	(0.597)	(5.362)	(0.0676)	(0.0405)
$F_p \rightarrow M_{sp}$	0.412	13.06	0.234***	0.190**
	(0.668)	(7.855)	(0.0824)	(0.0852)
$M_p \rightarrow M_{sp}$	-1.250	-6.498	0.0413	0.0631
	(0.807)	(5.904)	(0.0787)	(0.0658)
Hospital fixed effects	Yes	Yes	Yes	Yes
Asthma	0.887*	6.046	-0.364***	0.000574
	(0.453)	(4.157)	(0.0445)	(0.0346)
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.267	0.372	0.339	0.183

Note: The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. The table was obtained by running our econometric specification. Physician age was controlled for in the regressions. Robust standard errors, clustered at the CHC level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

By disease: Unstable angina

Panel A: Physician gender and patient gender separately	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	-0.574	2.125	0.0832	0.102
	(0.861)	(6.668)	(0.0998)	(0.0653)
Patient male	-0.434	-0.490	-0.0112	0.162
	(0.855)	(7.650)	(0.121)	(0.122)
Hospital fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	245	245	245	245
R^2	0.438	0.483	0.343	0.361

Panel B: Physician gender and patient gender interaction	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	-0.679	3.928	0.0962	0.141**
	(0.964)	(7.275)	(0.105)	(0.0642)
Patient male	-1.043	9.920	0.0635	0.383*
	(1.537)	(15.29)	(0.215)	(0.215)
Physician male * Patient male	1.007	-17.22	-0.124	-0.367
	(1.875)	(19.55)	(0.261)	(0.254)
Hospital fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	245	245	245	245
R^2	0.438	0.486	0.344	0.383

Panel C: Physician-patient gender match	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
$F_p \rightarrow F_{sp}$	.	.	.	.
	.	.	.	.
$M_p \rightarrow F_{sp}$	-0.679	3.928	0.0962	0.141**
	(0.964)	(7.275)	(0.105)	(0.0642)
$F_p \rightarrow M_{sp}$	-1.043	9.920	0.0635	0.383*
	(1.537)	(15.29)	(0.215)	(0.215)
$M_p \rightarrow M_{sp}$	-0.715	-3.377	0.0360	0.157
	(0.994)	(8.147)	(0.148)	(0.142)
Hospital fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	245	245	245	245
R^2	0.438	0.486	0.344	0.383

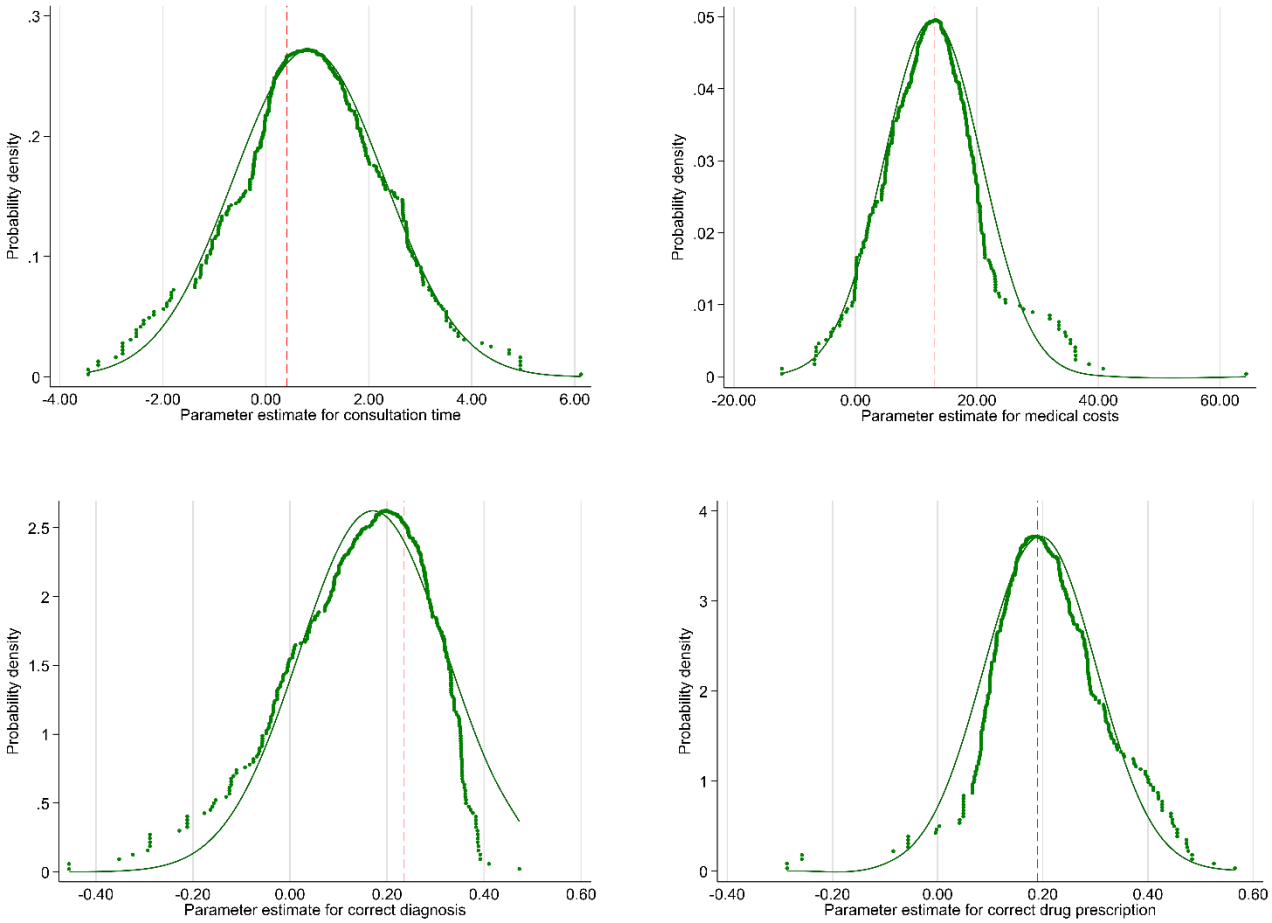
By disease: Asthma

Panel A: Physician gender and patient gender separately	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	0.0821	-15.79*	-0.101	-0.0531
	(1.001)	(9.155)	(0.0837)	(0.0594)
Patient male	-0.314	3.260	0.169**	0.0745
	(0.669)	(6.138)	(0.0841)	(0.0519)
Hospital fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	247	247	247	247
R^2	0.406	0.589	0.444	0.449

Panel B: Physician gender and patient gender interaction	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	0.413	-9.283	-0.0718	-0.0302
	(1.121)	(10.26)	(0.0868)	(0.0697)
Patient male	0.298	15.29	0.223*	0.117
	(0.932)	(10.48)	(0.118)	(0.0879)
Physician male * Patient male	-1.423	-27.96*	-0.126	-0.0987
	(1.436)	(15.54)	(0.181)	(0.125)
Hospital fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	247	247	247	247
R^2	0.409	0.601	0.446	0.451

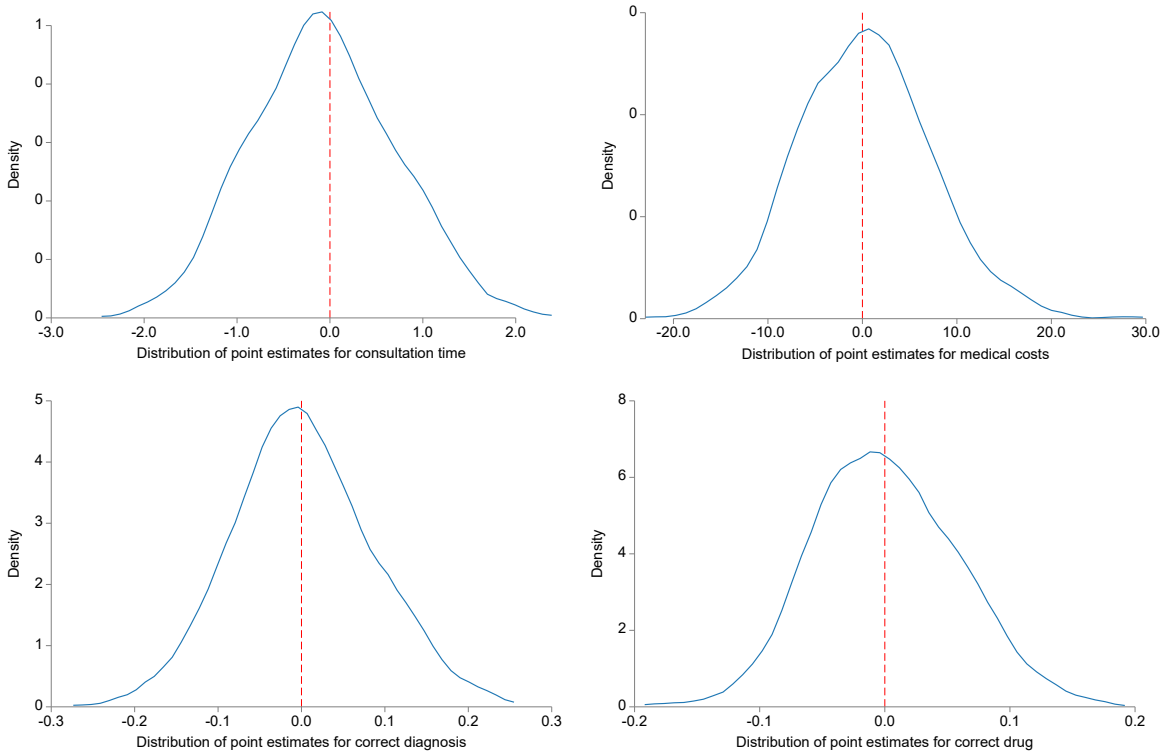
Panel C: Physician-patient gender match	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
$F_p \rightarrow F_{sp}$	.	.	.	.
	.	.	.	.
$M_p \rightarrow F_{sp}$	0.413	-9.283	-0.0718	-0.0302
	(1.121)	(10.26)	(0.0868)	(0.0697)
$F_p \rightarrow M_{sp}$	0.298	15.29	0.223*	0.117
	(0.932)	(10.48)	(0.118)	(0.0879)
$M_p \rightarrow M_{sp}$	-0.712	-21.95**	0.0249	-0.0119
	(1.324)	(10.06)	(0.123)	(0.0760)
Hospital fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	247	247	247	247
R^2	0.409	0.601	0.446	0.451

Figure S1 The distribution of point estimates in 500 repeated regressions



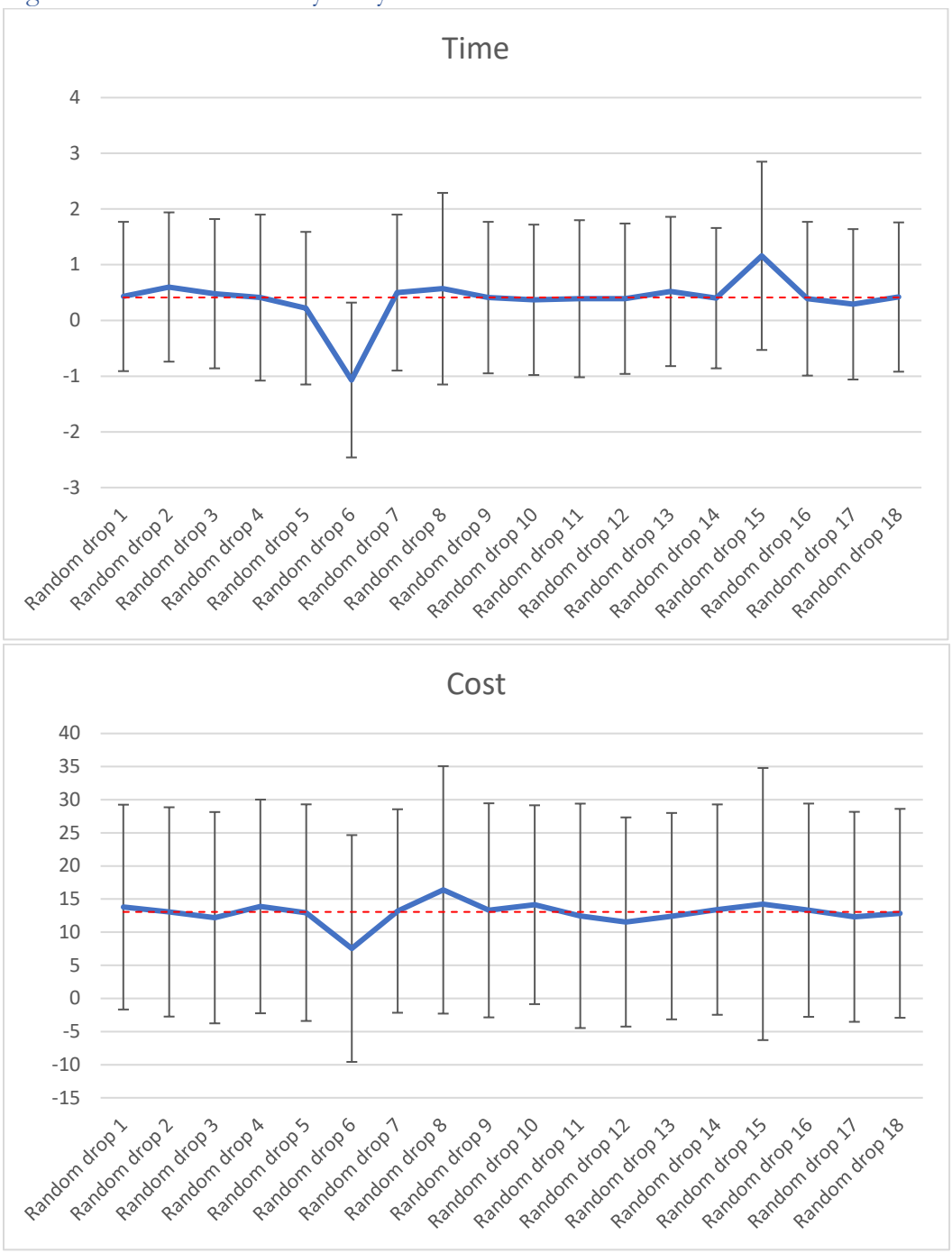
Note: In the analysis, 500 repeated regressions were estimated and here we plot the distribution of coefficients for female physicians treating male SPs. The coefficients were obtained by randomly selecting three female patients to compare their interactions with those of three male patients. Physician age, CHC fixed effects, disease fixed effects, month, day of the week, and year fixed effects were controlled for in the regressions. Robust standard errors were clustered at the CHC level.

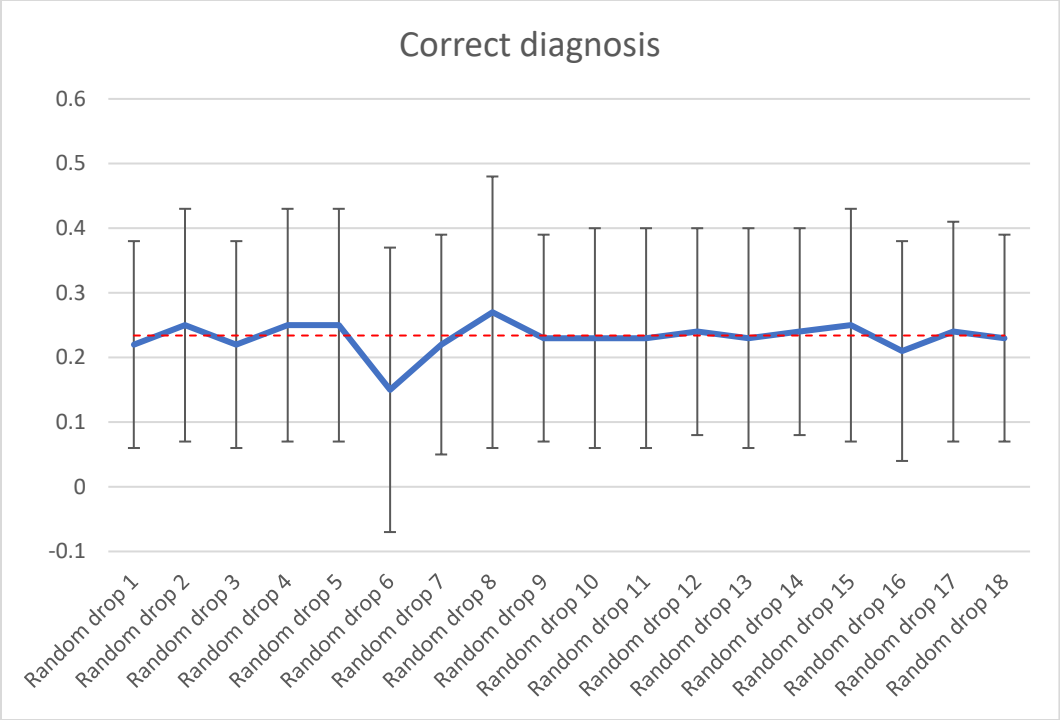
Figure S2 Falsification test

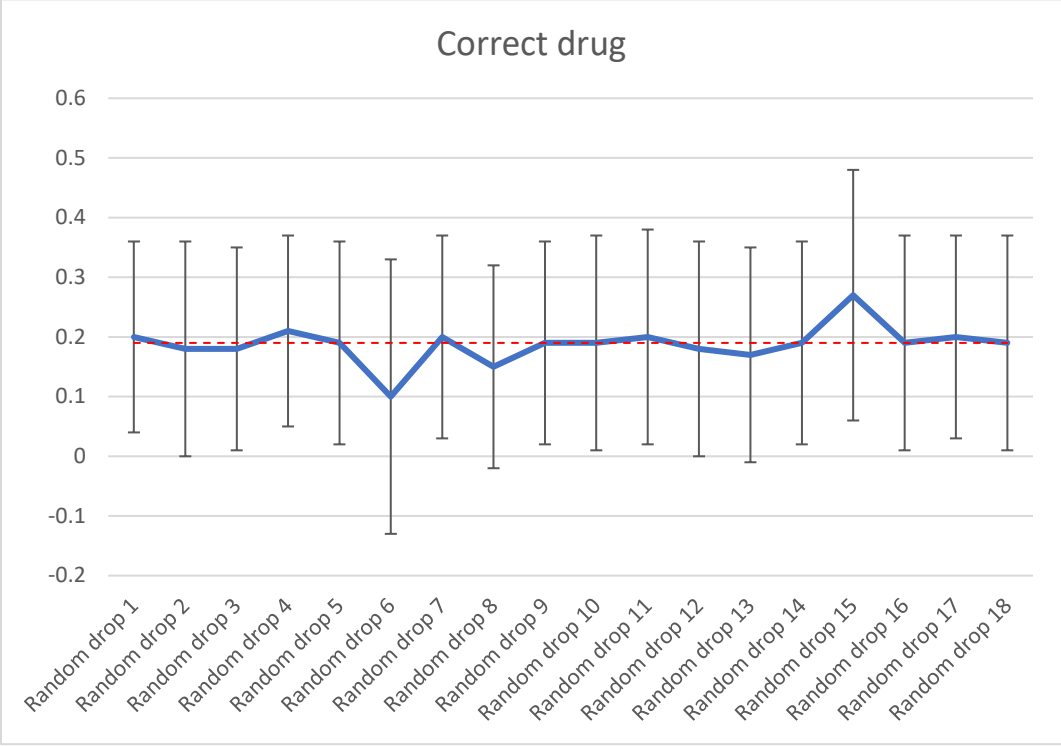


Note: In the analysis, 500 repeated regressions were estimated and here we plot the distribution of coefficients for female physicians treating male SPs. The coefficients were obtained by randomly permuting observations in the pair of female physicians treating male patient. Physician age, CHC fixed effects, disease fixed effects, month, day of the week, and year fixed effects were controlled for in the regressions. Robust standard errors were clustered at the CHC level.

Figure S3 SP-level sensitivity analyses







Note: In the analysis, we randomly drop one SP at a time. We repeat the regressions 18 times. The coefficients for the pair of female physicians treating male patients and their 95% confidence intervals are displayed. The red dashed line denotes the point estimate of our results including all SPs.

Table S4 Using male physicians treating male patients as reference group

	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician-patient gender match				
$F_p \rightarrow F_{sp}$	1.250	6.498	-0.0413	-0.0631
	(0.807)	(5.904)	(0.0787)	(0.0658)
$M_p \rightarrow F_{sp}$	1.118	6.618	-0.0150	-0.0194
	(0.703)	(4.944)	(0.0837)	(0.0610)
$F_p \rightarrow M_{sp}$	1.662*	19.56**	0.193	0.127
	(0.971)	(8.750)	(0.117)	(0.104)
$M_p \rightarrow M_{sp}$	.	.	.	.
	.	.	.	.
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.267	0.372	0.339	0.183

Note: The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. The table was obtained by running our econometric specification. Physician age was controlled for in the regressions. Robust standard errors, clustered at the CHC level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

Table S5 Subsample estimates by physician gender

Panel A Female physician	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
SP male	0.490	12.44	0.165*	0.159
	(0.788)	(8.821)	(0.0886)	(0.0971)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	268	268	268	268
R^2	0.359	0.472	0.447	0.285

Panel B Male physician	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
SP male	-0.966	-8.112	0.0440	0.0550
	(0.857)	(6.943)	(0.104)	(0.0650)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	224	224	224	224
R^2	0.525	0.458	0.557	0.330

Note: OLS estimates of Specification 1 with controls for physician age. Robust standard errors, clustered at the community health center level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

Table S6 Standard error clustered at the physician level

	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Gender matches				
$F_p \rightarrow F_{sp}$	.	.	.	.
	.	.	.	.
$M_p \rightarrow F_{sp}$	-0.133	0.119	0.0263	0.0437
	(0.545)	(4.427)	(0.0560)	(0.0374)
$F_p \rightarrow M_{sp}$	0.412	13.06*	0.234***	0.190**
	(0.664)	(7.607)	(0.0803)	(0.0794)
$M_p \rightarrow M_{sp}$	-1.250	-6.498	0.0413	0.0631
	(0.759)	(5.486)	(0.0787)	(0.0673)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.267	0.372	0.339	0.183

Note: The pair of $F_p -> F_{sp}$ denotes female physicians treating female patients (SPs) and others likewise. The table was obtained by running our econometric specification. Physician age was controlled for in the regressions. Robust standard errors, clustered at the physician level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

Table S7 Physician performance with patient fixed effects and subsample analysis

Panel A: Overall	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	-0.466	-4.279	-0.0286	0.00859
	(0.572)	(4.659)	(0.0633)	(0.0400)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.419	0.405	0.360	0.209

Panel B: Subsample of female SP	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	-0.210	0.0470	-0.00406	0.0336
	(0.611)	(5.729)	(0.0712)	(0.0417)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	411	411	411	411
R^2	0.417	0.424	0.369	0.231

Panel C: Subsample of male SP	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Physician male	0.0698	-30.89	-0.0412	-0.155
	(1.959)	(24.80)	(0.338)	(0.273)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	81	81	81	81
R^2	0.890	0.895	0.812	0.803

Note: OLS estimates of Specification 1 with controls for physician age. Robust standard errors, clustered at the community health center level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

Table S8 Physician-patient gender concordance and subsample analysis

Panel A	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Gender concordance	-0.289	-5.002	-0.0724	-0.0685*
	(0.453)	(4.505)	(0.0530)	(0.0393)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.262	0.366	0.329	0.169

Panel B: Subsample of female SP	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Gender concordance	0.0759	-1.099	-0.0190	-0.0363
	(0.601)	(5.816)	(0.0730)	(0.0427)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	411	411	411	411
R^2	0.253	0.380	0.342	0.197

Panel C: Subsample of male SP	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Gender concordance	0.0698	-30.89	-0.0412	-0.155
	(1.959)	(24.80)	(0.338)	(0.273)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	81	81	81	81
R^2	0.890	0.895	0.812	0.803

Note: OLS estimates of Specification 1 with controls for physician age. Robust standard errors, clustered at the community health center level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

Table S9 Physician-patient age concordance

	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Age concordance	0.743	-1.139	-0.0266	-0.0217
	(0.513)	(4.694)	(0.0483)	(0.0321)
Hospital fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.270	0.358	0.332	0.170

Note: OLS estimates of Specification 1 with controls for physician gender and patient gender. Robust standard errors, clustered at the community health center level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.

Table S10 Patient gender by including physician fixed effects and subsample analysis

Panel A: Overall	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Patient male	-0.143	0.0258	0.0777	0.103**
	(0.660)	(5.539)	(0.0674)	(0.0513)
Physician fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	492	492	492	492
R^2	0.596	0.658	0.651	0.506

Panel B: Subsample female physician	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Patient male	0.382	11.14	0.204**	0.191**
	(0.984)	(8.516)	(0.0992)	(0.0741)
Physician fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	268	268	268	268
R^2	0.591	0.651	0.637	0.536

Panel C: Subsample male physician	(1) Time	(2) Costs	(3) Correct diagnosis	(4) Correct drug
Patient male	-0.831	-11.14	-0.0348	0.0423
	(0.844)	(7.136)	(0.0920)	(0.0712)
Physician fixed effects	Yes	Yes	Yes	Yes
Disease fixed effects	Yes	Yes	Yes	Yes
Month, day of the week, and year fixed effects	Yes	Yes	Yes	Yes
N	224	224	224	224
R^2	0.686	0.710	0.713	0.543

Note: OLS estimates of Specification 1 with controls for patient gender. Robust standard errors, clustered at the community health center level, are presented in parentheses. *10% significance level. **5% significance level. ***1% significance level.