

Private provision of health services in Vietnam – an assessment of technical quality



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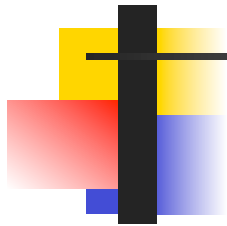
Background and objective



- Background:
 - Increasing magnitude of private health service provision in developing countries.
 - High perceived quality measured by attitude, flexibility in accepting deferred payment, and convenience.
 - Scarce evidence on technical quality.

- Objective:
 - Assess the technical quality of care of private provision of health services in Vietnam.

Application of Donabedian's QOC framework*



Structure

(Environment of care)

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- Human resources
 - Infrastructure
 - Supply
 - Equipment
 - Drugs
 - Budget

Process

(Method of care)

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- Service scope
 - Training
 - Knowledge
 - Drug prescription
 - Monitoring and supervision
 - Interpersonal communication

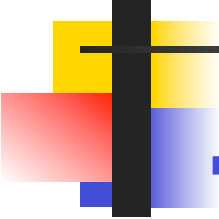
Outcome

(Consequence of care)

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- Iatrogenic infection
 - Recovery rate
 - Revisit rate
 - Patient satisfaction
 - Patient health

* Donabedian (1980)

The Vietnam National Health Survey 2001/02

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- Provider survey:
 - Select one provider with highest qualification in commune (total 1200 communes) from each of 3 categories: private western, private traditional, and public.
 - Survey of qualification, drugs & supplies, training, etc.
 - Use vignettes to test knowledge on ARI, diarrhea, malnutrition, pregnancy related, and hypertension.

 - Survey of public clinics (commune health center):
 - Used for comparison (only in communes where at least one private provider existed)

 - Household survey:
 - Two-stage clustered sampling, 36000 households.
 - Detailed information on service utilization with different providers, possible link with illness for a subset of data => prescribing pattern.

Methods



■ Descriptive analysis

- Univariate and bivariate of quality indicators
- Assign score for correct answer and use 75% cut-off.

■ Multivariate analysis of drug prescribing patterns in outpatient care

- Number of items per contact.
- Likelihood of prescribing injection.
- Not controlling for illness severity and types (respiratory, diarrhea, other acute, injury, and chronic): all reported health service contacts.
- Controlling for illness severity and types: only contacts by those who had one illness episode and sought care.

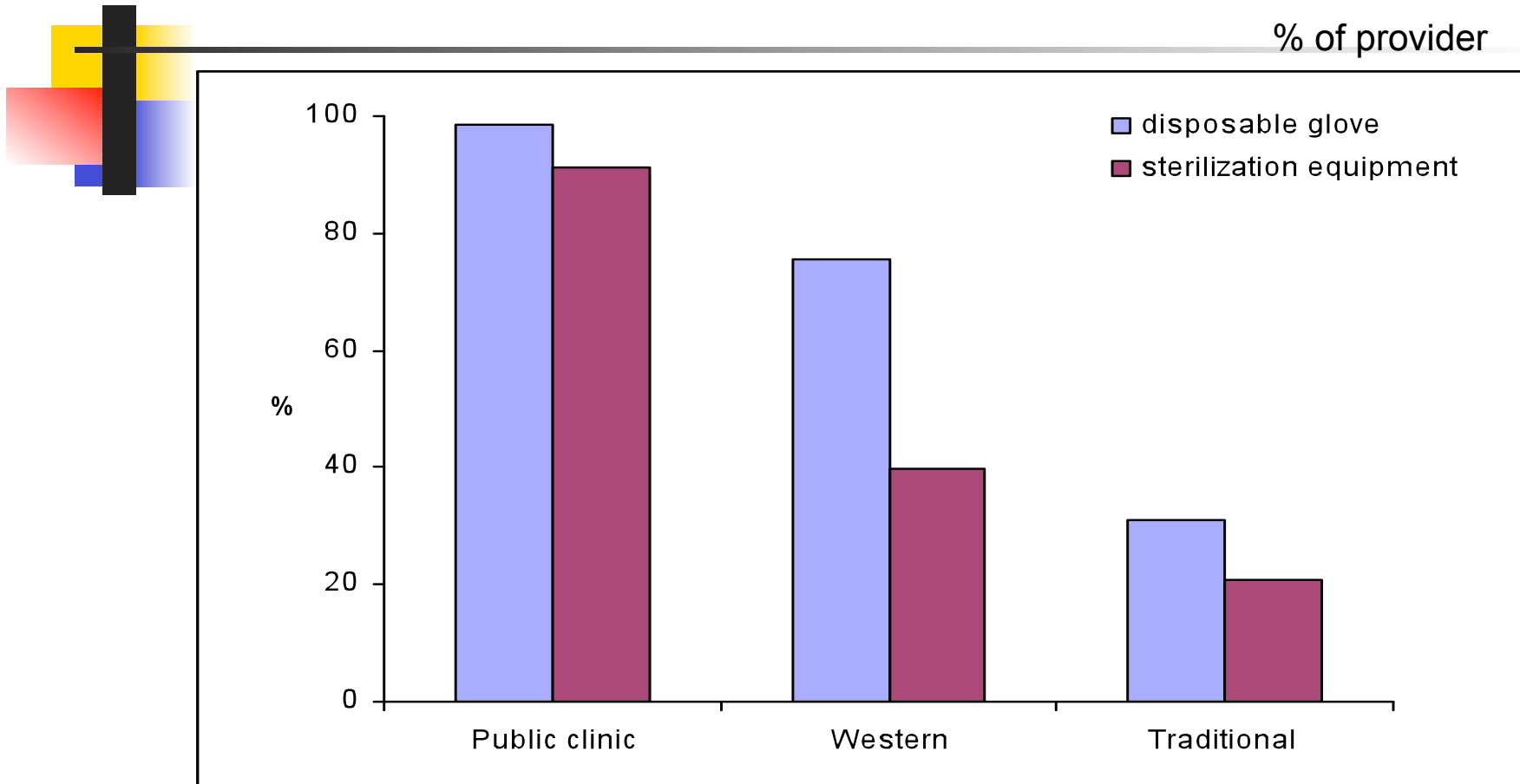
Qualification, licensing, and operation of private providers who had highest qualifications in the commune

Indicators	Western (N=836)	Traditional (N=615)	Public clinic (N=835)
Qualifications*			
Medical doctor (%)	70.77	8.19	31.83
Physician assistant (%)	25.09	9.64	59.55
Others (%)	4.14	82.17	8.62
Year of experience	21.77	22.26	16.44
Operation			
Provide home visit (%)	48.44	52.70	88.75
Hours of service/week	31.60	44.31	46.73
Number of patients seen last week	173.96	125.85	400.30
Referral rate last week (%)	5.66	3.12	4.22
Licensing and supervision			
Licensed (%)	68.36	57.39	
Inspected last 12 months (%)	63.86	61.77	

Source: Surveys of providers and public clinics.

Note: *For public clinics, information is obtained on the interviewee, usually the director

Adequacy of sterilization equipment and supply

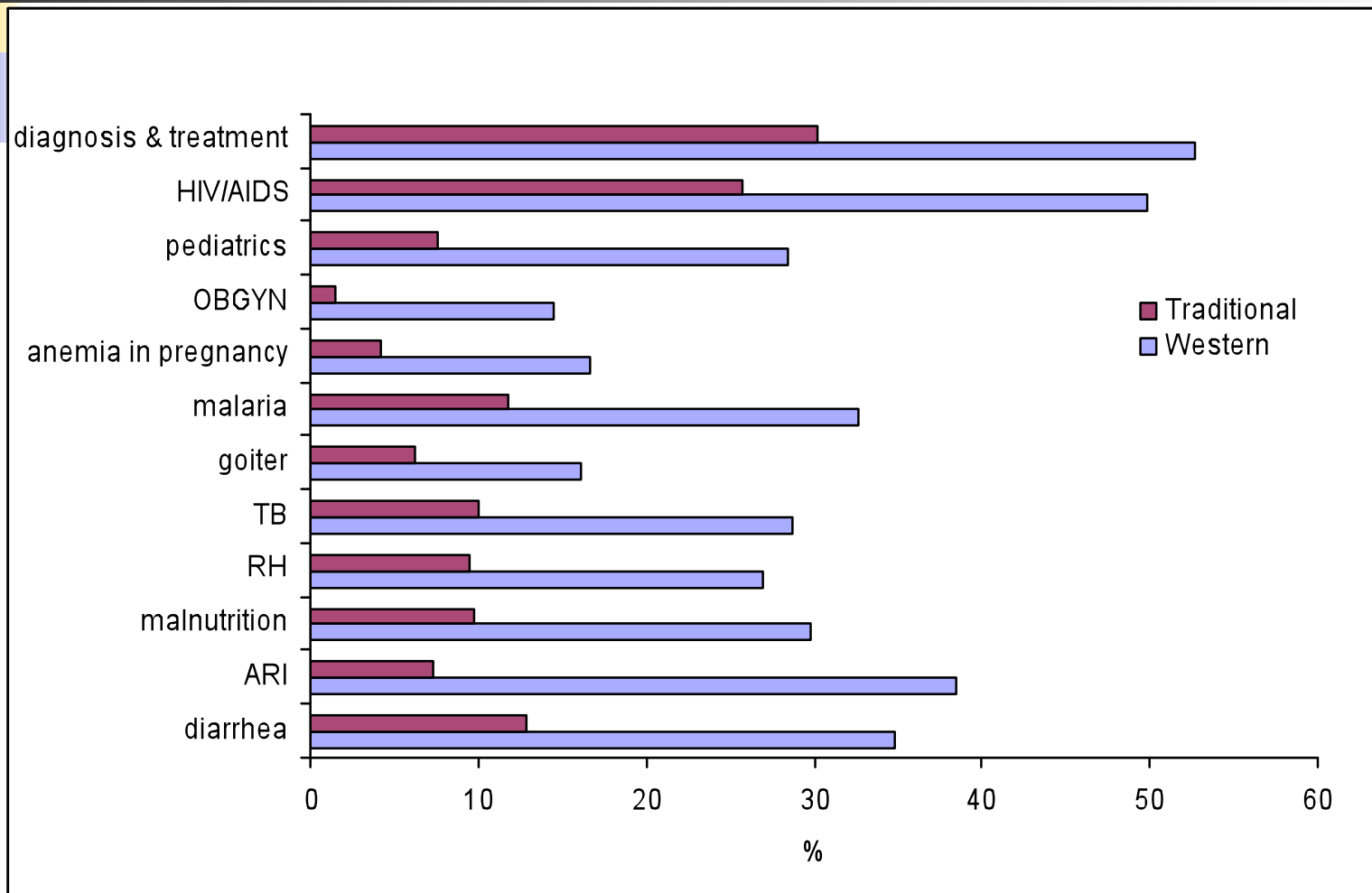


Source: Provider survey

Note: Public clinic denotes commune health center or inter-communal policlinic (n=1195);
“Western” denotes private practitioner of Western medicine (n=836);
“Traditional” denotes private practitioner of traditional medicine (n=615).

Training in public health programs and disease management

(% of providers)



Source: Provider survey

Note: Information on training is obtained for 3 years preceding survey.

Training in public health program and disease management by licensing status

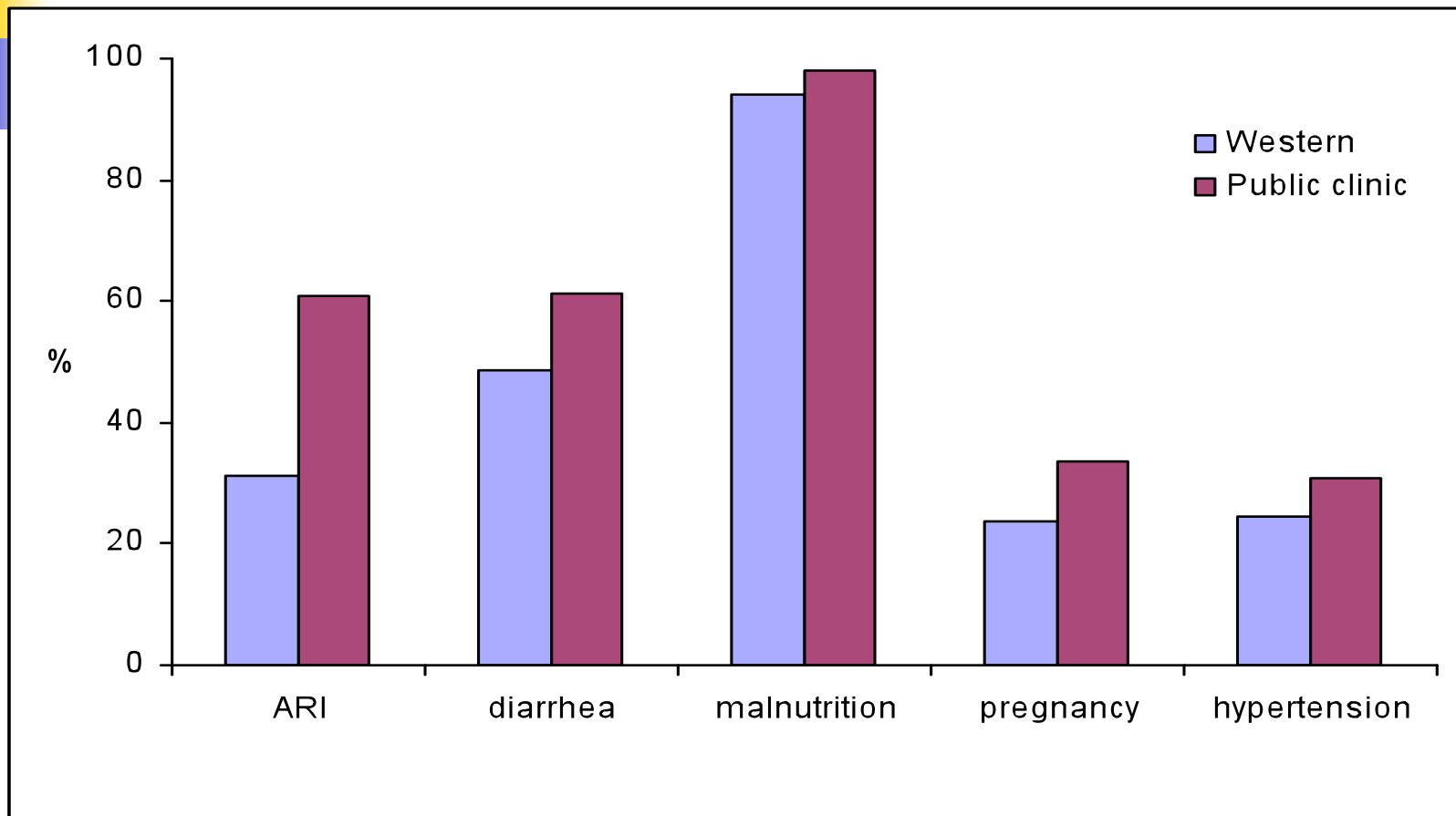
(% of providers)

Training	Western (N=836)			Traditional (N=615)		
	Not licensed	Licensed	p-value	Not licensed	Licensed	p-value
Diarrhea	22.8	40.5	<0.001	5.8	18.1	<0.001
ARI	22.5	46.0	<0.001	2.9	10.7	0.002
Malnutrition	20.3	34.2	0.002	5.3	13.0	0.006
Reproductive health	21.4	29.6	0.064	4.7	13.1	0.003
Tuberculosis	18.3	33.5	0.001	7.3	12.0	0.308
Goiter	14.8	16.8	0.562	3.4	8.3	0.039
Malaria	21.5	37.8	0.001	8.5	14.3	0.107
Anemia in pregnancy	13.7	18.1	0.222	2.8	5.2	0.231
OB/GYN	13.0	15.3	0.499	1.2	1.8	0.508
Pediatrics	17.0	33.8	<0.001	6.2	8.7	0.419
HIV/AIDS	24.4	61.6	<0.001	9.8	37.7	<0.001
Diagnosis and treatment	18.5	68.5	<0.001	13.8	42.4	<0.001

Source: Provider survey

Proportion of providers who were at least 75% correct in questions regarding five common illnesses

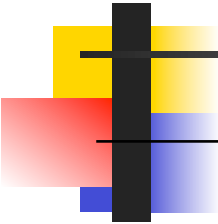
(% of providers)



Source: Provider survey

Note: Pregnancy related questions only asked to those who practiced OB/GYN services.
The respondents in the public clinic were staff in charge of the respective areas.

General prescription patterns of private and public providers

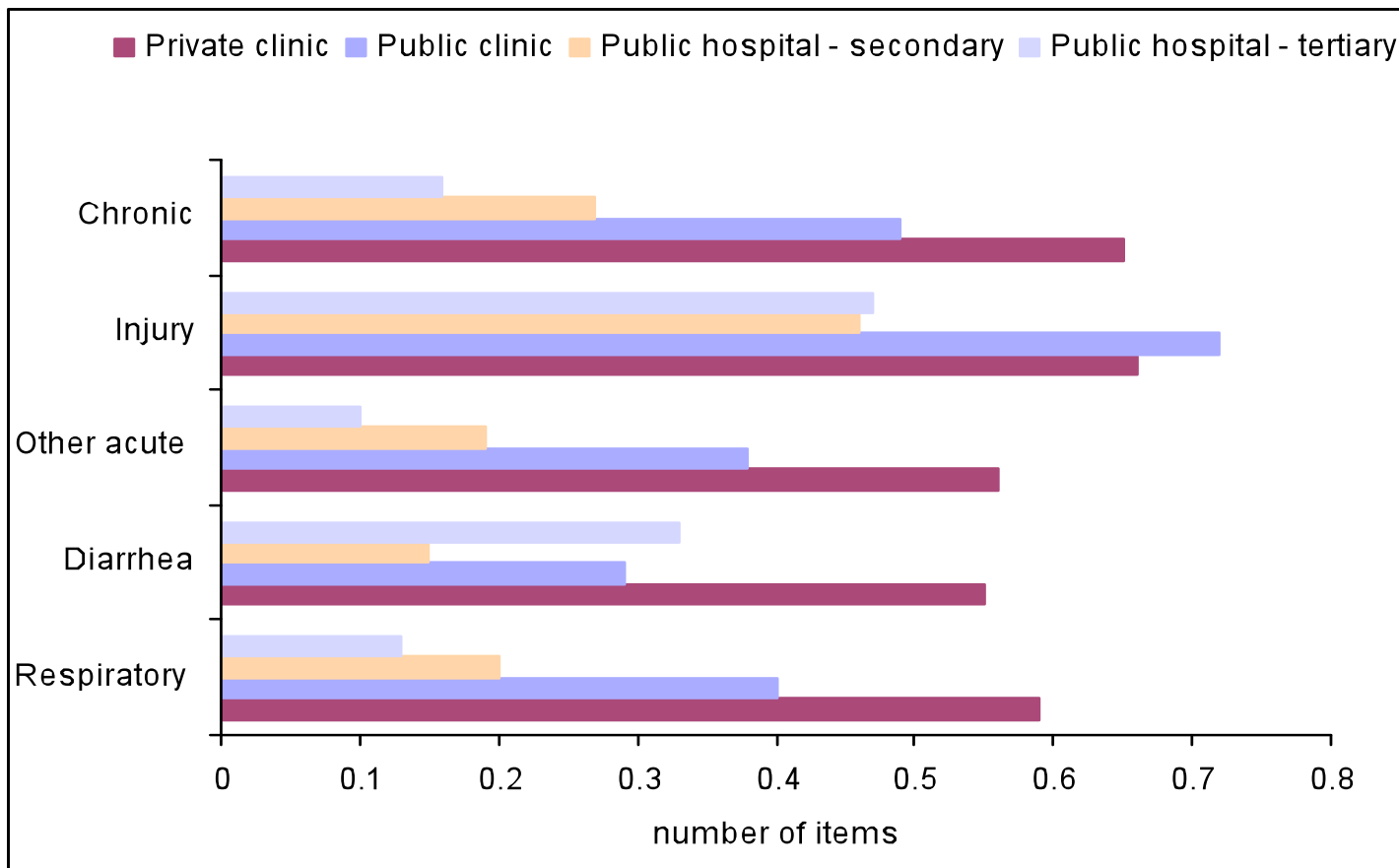


	(% of contacts)				
Indicators	Private clinic	Public clinic	Public hospital-secondary	Public hospital-tertiary	p-value
N	9,667	4,344	2,284	2,393	
Prescribe any drug (%)	96.43	94.65	92.47	93.09	<0.001
Prescribe only western medicine (%)	98.82	99.27	98.18	97.23	<0.001
Sell drugs on the spot (%)	95.20	95.52	82.96	79.09	<0.001
Provide utilization instruction (%)	97.67	97.76	97.74	97.82	0.120
Prescribe injection (%)	44.65	29.38	17.07	10.61	<0.001
Number of drug items	4.11	3.54	3.69	3.73	<0.001
Number of injection drug items	0.60	0.42	0.23	0.14	<0.001

Source: Household survey

Note: Unit of observations is outpatient contact for curative care, 4 week recall information. Figures are based in utilization and not linked to illness characteristics. One individual can have multiple contacts to different providers.

Average number of injection drug items per outpatient contact



Source: Household survey

Notes: Sample includes contacts among people who reported having only one illness episode 4 weeks preceding survey and sought care for it.

Likelihood of prescribing injection drugs

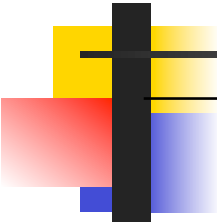
	(% of contacts)			
Illness type	Private clinic	Public clinic	Public hospital - secondary	Public hospital - tertiary
N	6,659	2,933	1,437	1,470
Respiratory	44.19	31.44	16.66	12.28
Diarrhea	40.44	23.93	14.99	32.79
Other acute	43.17	27.32	15.24	7.18
Injury	51.35	52.28	39.88	30.68
Chronic	47.32	31.59	15.74	11.78
P-value	0.105	<0.001	<0.001	<0.001

Source: Household survey

Note: contact is outpatient and for curative care, 4 week recall information. Sample includes only contacts from individuals who reported having one illness episode and sought care.

Multiple contacts (to multiple providers) per individual are possible.

Multivariate analysis of number of drug items prescribed



Number of drug items	Utilization not linked to illness	Utilization linked to illness
	(1)	(2)
Private clinic (reference)		
Public clinic	-0.385 (0.033)***	-0.315 (0.037)***
Public secondary hospital	-0.250 (0.044)***	-0.233 (0.049)***
Public tertiary hospital	-0.285 (0.044)***	-0.248 (0.050)***
Severe illness	---	0.301 (0.040)***
Mild illness	---	-0.320 (0.032)***
Diarrhea	---	-0.452 (0.091)***
Other acute	---	-0.249 (0.039)***
Injury	---	-0.334 (0.083)***
Chronic	---	-0.376 (0.053)***

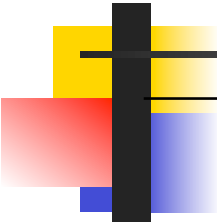
Source: Household survey.

Note: Unit of analysis is outpatient contact for curative care, based on 4-week recall.

Reference groups for illness are moderate and respiratory infection. Other covariates include age, sex, education, marital status, if insured or eligible for insurance for children under 6, if officially designated as poor, consumption quintile, urbanity, and region.

Clustered robust standard errors in parenthesis. *** significant at $p < 0.01$

Multivariate analysis of probability of prescribing injection



Number of drug items	Utilization not linked to illness	Utilization linked to illness
	(1)	(2)
Private clinic (reference)		
Public clinic	-0.140 (0.009)***	-0.130 (0.011)***
Public secondary hospital	-0.228 (0.009)***	-0.234 (0.011)***
Public tertiary hospital	-0.278 (0.008)***	-0.282 (0.010)***
Severe illness	---	0.106 (0.014)***
Mild illness	---	-0.102 (0.011)***
Diarrhea	---	-0.060 (0.034)*
Other acute	---	-0.057 (0.015)***
Injury	---	0.129 (0.031)***
Chronic	---	-0.082 (0.017)***

Source: Household survey.

Note: Unit of analysis is outpatient contact for curative care, based on 4-week recall.

Reference groups for illness are moderate and respiratory infection. Other covariates include age, sex, education, marital status, if insured or eligible for insurance for children under 6, if officially designated as poor, consumption quintile, urbanity, and region.

Clustered robust standard errors in parenthesis. *** significant at $p < 0.01$, * $p < 0.1$

Other important findings of multivariate analyses



- Patient education has no discernible effects on number of drugs, but consistent, significant, and negative effects on probability of being prescribed injection drugs.
- Patient income has consistent, significant, and positive effects on number of drugs, but no effects on probability of being prescribed injection drugs (except richest quintile – negative effect).
- Rural people were both prescribed more drugs and more likely to be given injection drugs.
- There is a large variation in prescribing practice across regions.

Conclusion



- Private sector constitutes a reasonably good basis to contribute to service provision (qualifications, experience, and accessibility).
- Their technical quality leaves much room for improvement.
- Training programs run by public sector often neglects the private providers, especially the unlicensed.
- Changing provider behaviors requires not only to work with the providers, but also to educate and empower patients.