

The role of private sector pharmacies in financial hardship in India: a health system analysis in the state of Odisha

India Health Systems Project

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Outline

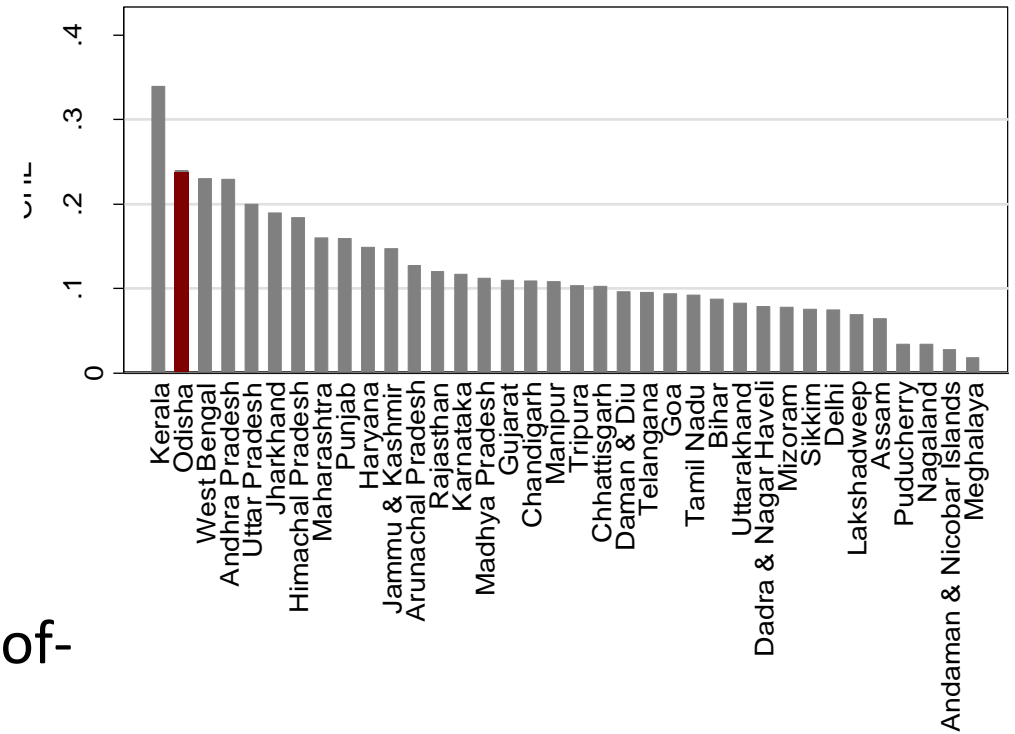
- Financial hardship in Odisha due to healthcare costs
- Use of private pharmacies: Household analysis
- Low value care: Clinical vignettes analysis
- Summary

Outline

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Catastrophic health expenditure (CHE) in India, Odisha & other LMICs

CHE rates by Indian state
(75 NSS)



- 24% incur CHE in Odisha
- 16% incur CHE in India
- 9% in other lower-middle income countries
- Pharmaceuticals make up two-thirds of out-of-pocket (OOP) health spending in Odisha
- Free healthcare (including drugs) at government-run facilities
 - Government invests less than peer countries in health: 0.9% of GDP vs. 2.4% in peer countries
- Substantial domestic manufacturing and distribution of pharmaceuticals

Government insurance programs

- In Odisha, 80% of households are reportedly eligible for the state-run insurance program, BSKY
 - Covers costs of hospitalization at public hospitals and 200 empaneled private hospitals
 - Does not cover outpatient care, anything purchased outside the facility empaneled, e.g. drugs, diagnostics, etc.
- Existing studies find that government insurance programs in other states reduce OOP but no statistically significant impact on CHE
- No existing studies on CHE (86 identified in 2019 review) examine the role of the private market for pharmaceuticals in depth
 - Large state and national surveys do not collect information on the private market for drugs

Research questions

- Why is financial risk protection poor in the state of Odisha?
- Which characteristics of healthcare explain poor financial risk protection?
- Why is OOP drug spending so high when pharmaceuticals are provided for free in the public sector?

Odisha Health Systems Project

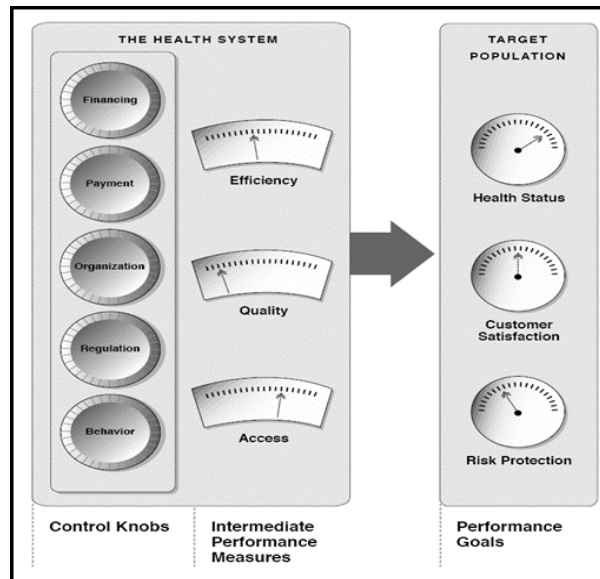
Project Goals

1. Improve Odisha's health system to provide affordable and equitable access to quality care for its population, while avoiding major financial risk and improving citizen satisfaction
2. Draw lessons for other states

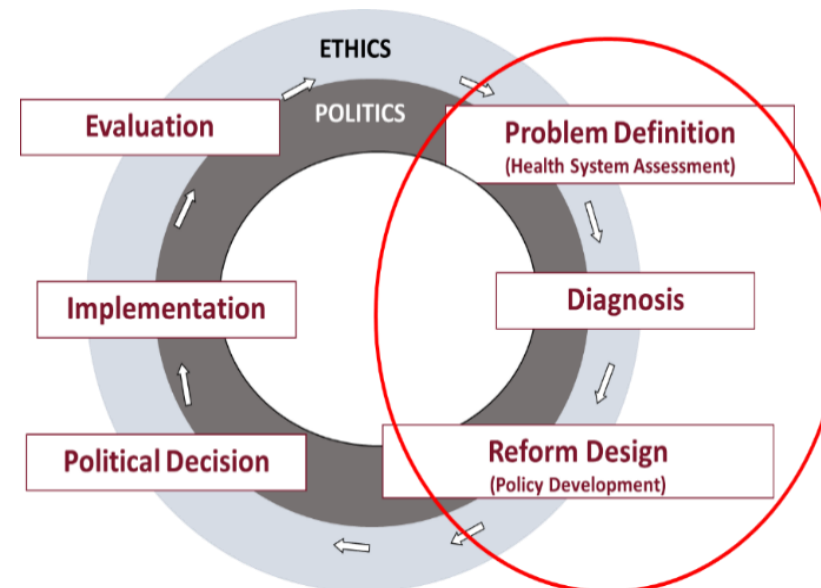
Project Approach

1. Adopt systemic approach
2. Conduct diagnosis of underlying causes to inform reform options
3. Base decisions on evidence and consultation with key stakeholders

The Control Knob Framework



The Policy Reform Cycle



10 novel surveys for our health system assessment

Existing data and state/national surveys only provide a subset of information needed for systemic analysis. Our surveys address this & set a gold standard for health system assessment.

SURVEY	SAMPLE SIZES	OBJECTIVES
1. Household survey	<ul style="list-style-type: none"> Households in sampled districts - 7567 (includes data about each member of the household) - 30645 individuals 	<ul style="list-style-type: none"> Assess financial risk protection, access to care, perception of quality, and satisfaction of households Understand health seeking behaviors, referrals, provider choice
2. Hospital and Community Health Center (CHC) facility survey	<ul style="list-style-type: none"> Census of Medical College Hospitals & Tertiary Hospitals, District Hospitals, Sub-Divisional Hospitals & other public hospitals - 44 All Community Health Centers (CHC) from sampled blocks - 83 Census of private hospitals in the state - 36 	<ul style="list-style-type: none"> Understand the functions and efficiency of different types of healthcare providers Analyze how financing, provider payments and incentives, governance, organization and management affect service delivery of different types of healthcare providers Understand referral linkages among providers (including among public facilities, private facilities, solo-providers, and chemists)
3. Primary care facility survey	<ul style="list-style-type: none"> All Primary Health Centers (PHC), Sub-Centers (SC) Health & Wellness Centers (HWC) from the sampled blocks - 396 	
4. Providers in facilities	<ul style="list-style-type: none"> Providers across Medical College Hospitals & Tertiary Hospitals, District Hospitals, Sub-Divisional Hospitals, other public hospitals, private hospitals, CHC, PHC - 794 	<ul style="list-style-type: none"> Understand provider motivations and their interactions with the facility in which they work Understand dual-practice (public providers in private practice) Understand referrals and motivations/incentives behind referral decisions Undertake market analysis of different types of providers
5. Solo providers survey	<ul style="list-style-type: none"> Providers practicing from their homes/private offices/pharmacies across sampled districts - 685 	
6. Private Pharmacies	<ul style="list-style-type: none"> Chemist shops (medicine shops) across sampled districts - 1036 	
7. In-Patient exit survey	<ul style="list-style-type: none"> In-patients from Medical College Hospitals & Tertiary Hospitals and District Hospitals - 507 Out-patients from hospital OPDs, CHC, PHC, solo providers – 978 	<ul style="list-style-type: none"> Assess patient experience of seeking care, focused on perception of quality Understand referral patterns Assess healthcare expenses incurred by patients
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9. Patient safety culture survey	<ul style="list-style-type: none"> Providers across Medical College Hospitals & Tertiary Hospitals, District Hospitals, Sub-Divisional Hospitals - 2687 	<ul style="list-style-type: none"> Assess patient safety culture in hospitals
10. Clinical Vignette survey	<ul style="list-style-type: none"> Providers at the primary level (includes Medical Officers in PHCs and solo providers) – 550 interactions with 110 unique providers 	<ul style="list-style-type: none"> Assess clinical effectiveness of providers, understand prescribing behavior of providers (focused on unnecessary/irrational and harmful drugs)

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Household data collection, 2019-2020

- 7,550 households, 30,654 individuals surveyed
 - Oversampling of households that had healthcare use and chronic illness
 - Representative of state with weights based on PPS sampling and iterative proportional fitting based on census
 - Socio-demographics validated with the National Sample Survey
- Ask about where care sought in the last 15 days, including use of private pharmacies
 - Consider a visit if “advice received”
 - Picking up drugs without advice was not considered a visit
- Ask where drugs obtained and OOP health spending per visit

Health facility data collection, 2019-2020

- 554 hospitals and health clinics, 1,035 private pharmacies surveyed
 - 75 essential medicine list drugs in stock on the day of the survey
- Link 920 outpatient visits (household survey) in the 15 days prior to the survey to the facility used and facility survey data
- Geographic proximity of health facilities to private pharmacies (< 1 kilometer based on GPS coordinates)

Shapley decomposition method

- Approach to attributing explained variation (R-squared) in dependent variable to covariates
- Association could be large but if variation in factors small, do not explain much of the outcome
 1. Run a linear regression for every combination of covariates
 2. Compute the R-squared for each combination
 3. Calculate the contribution of each covariate to the R-squared by computing the average difference in the R squared for regressions with and without each covariate
 4. Uncertainty from 1000 bootstrap draws

Shapley decomposition model

Financial Hardship due to Healthcare Costs
OOP
OOP/CE
CHE
Distress Financing

Level
(Primary, Hospital, Other)

Sector
(Public, Private)

Insurance Use
(for hospitalizations)

Intensity of Utilization
(number of outpatient visits, inpatient stays or drugs obtained)

Healthcare Determinants

Cause of Illness
(Fever, Child Birth, Diarrhea, Acute Respiratory, Injury or Other)

Severity of Illness
(Days of work or school missed, Poor self-reported health share)

Diagnosis of Chronic Condition

Health Determinants

Wealth Quintile

Age or Share Older than 60

Share with Primary Education

Social Group
(Scheduled Caste or Tribe)

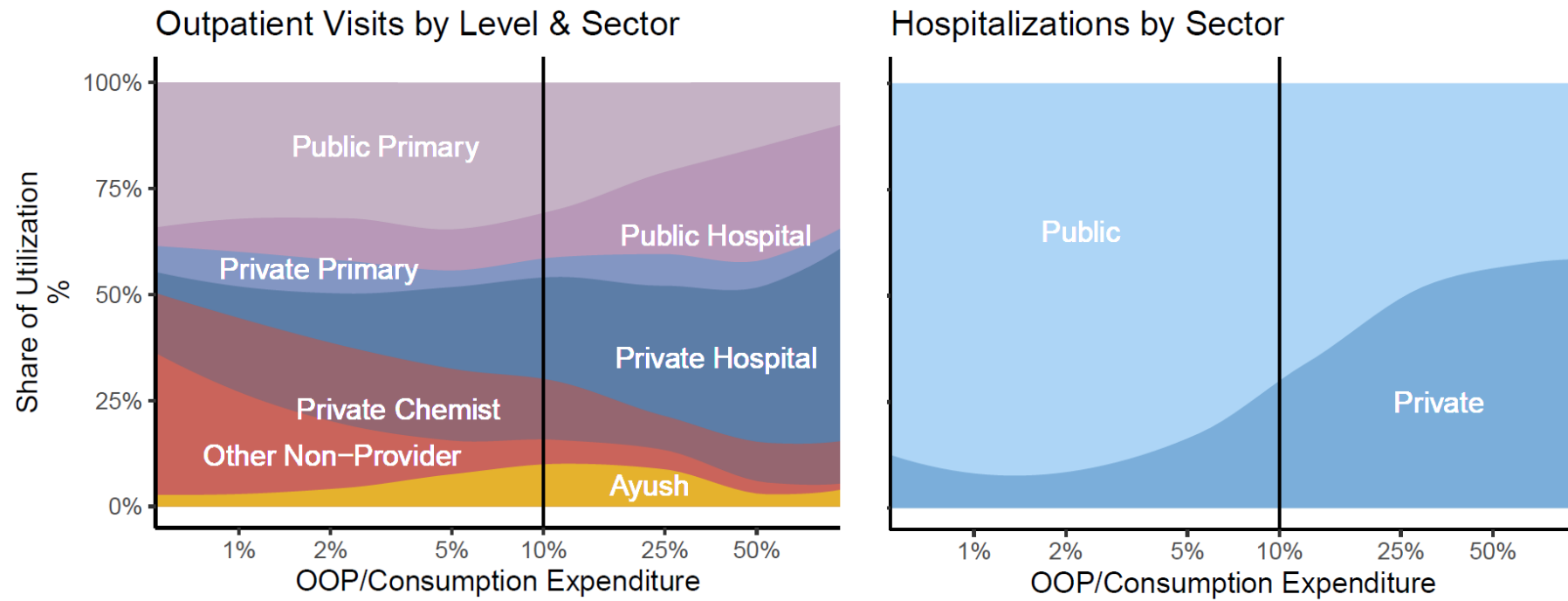
Social Determinants

Access to healthcare and private sector use high

- ~90% seek care when ill
- 54% outpatient visits in private sector
 - **16% go to private pharmacies as first contact**, nearly the same as public primary facilities (15%)
 - **47% people seek outpatient care at hospitals** – 27% at public and 20% at private

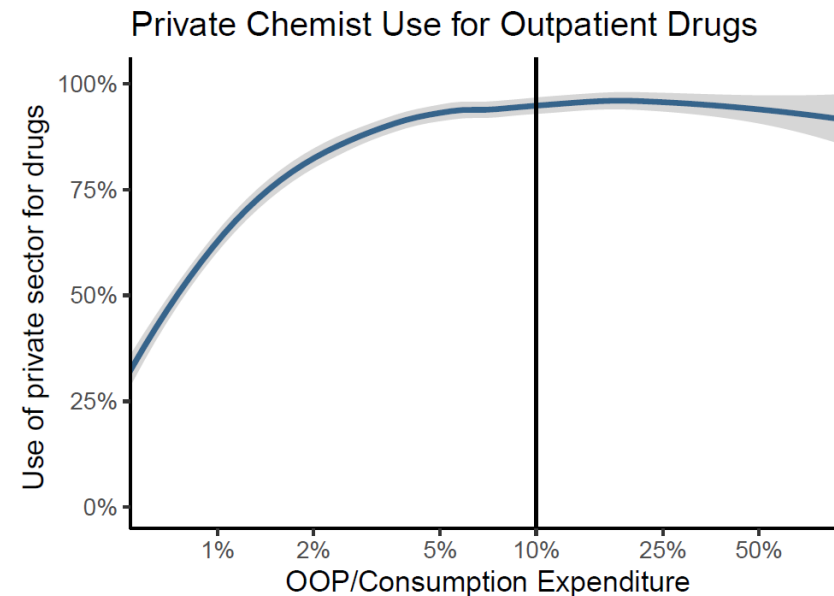
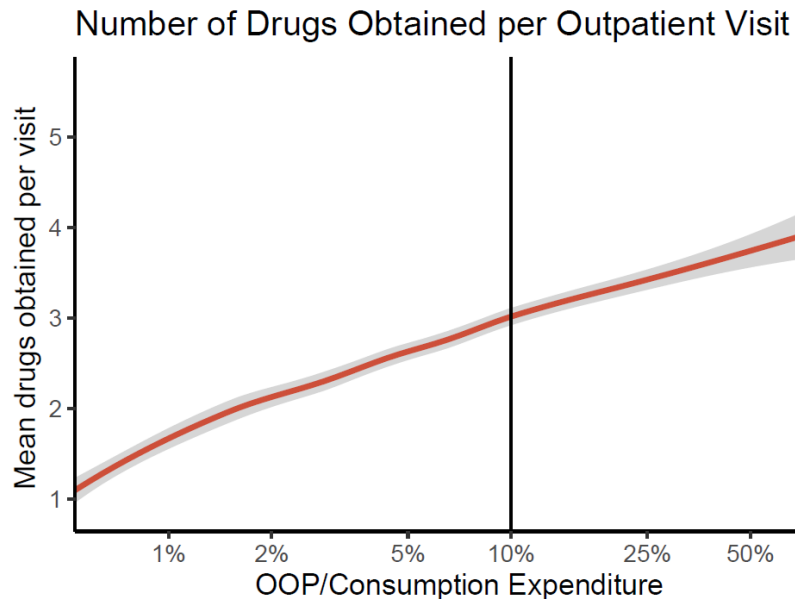
Utilization by sector & OOP/CE

- As OOP/CE increases, care more likely to be in the private sector



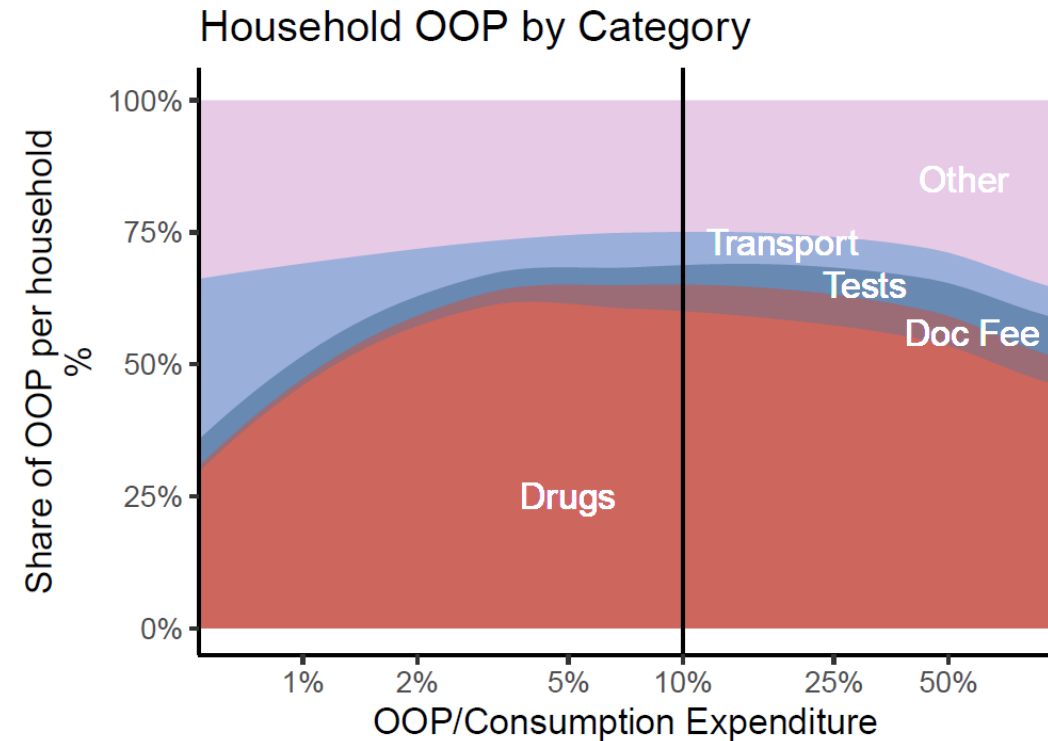
Drugs obtained & private drug use high

- 2.5 drugs obtained per outpatient visit
- 86% of outpatient visits use private sector for drugs, including >70% when care in public sector
- 15% patients reported that the provider referred them to a specific chemist shop



Drugs a major share of OOP, even for CHE cases

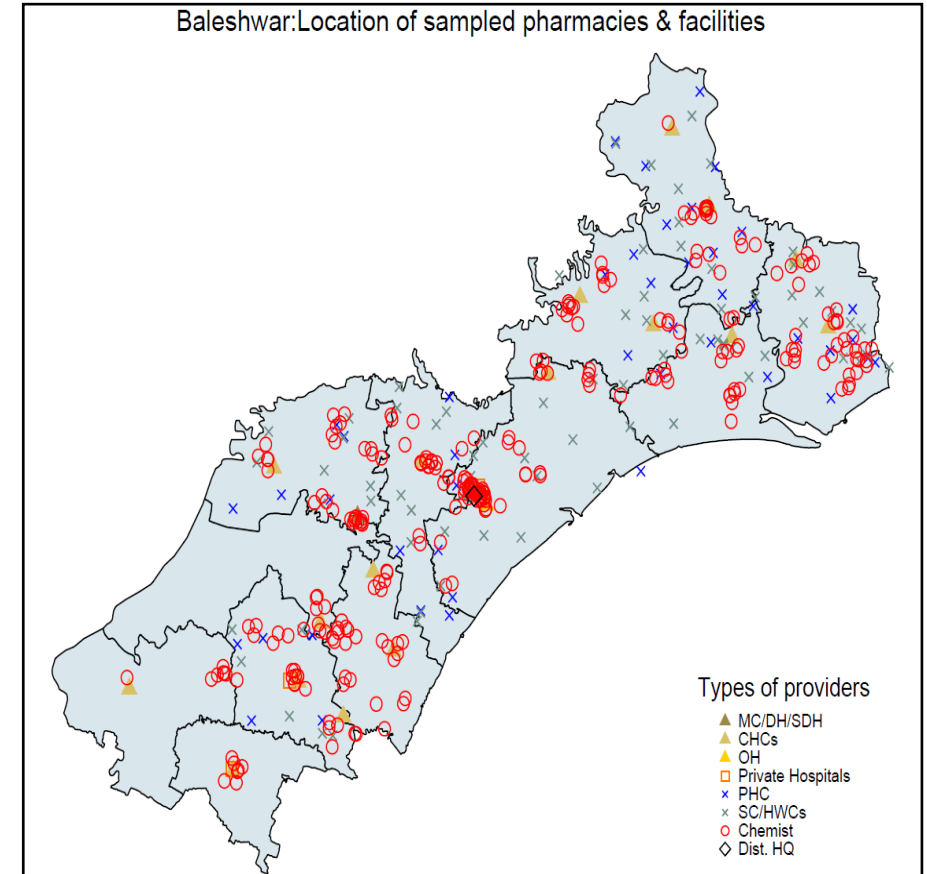
- 78% of CHE cases due to outpatient care, not hospitalizations
- Eliminating use of private drugs would reduce CHE by 56%



Private pharmacies vs. other facilities

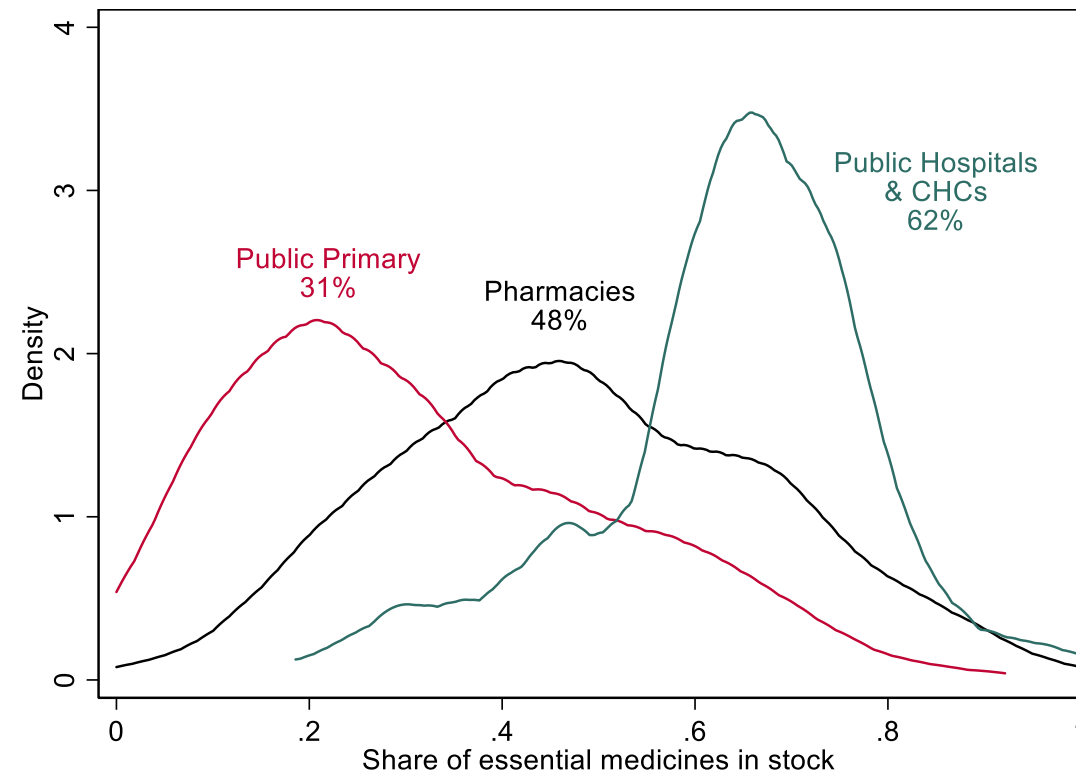
- 93% public hospitals have ~8 chemist shops & 58% public primary facilities have ~2 shops within 3 km radius.
- 20% private pharmacies registered as shops not pharmacies
- >50% pharmacy staff unqualified
- Users of private chemists for outpatient care more satisfied overall

Geographical co-location of private chemist shops around public facilities

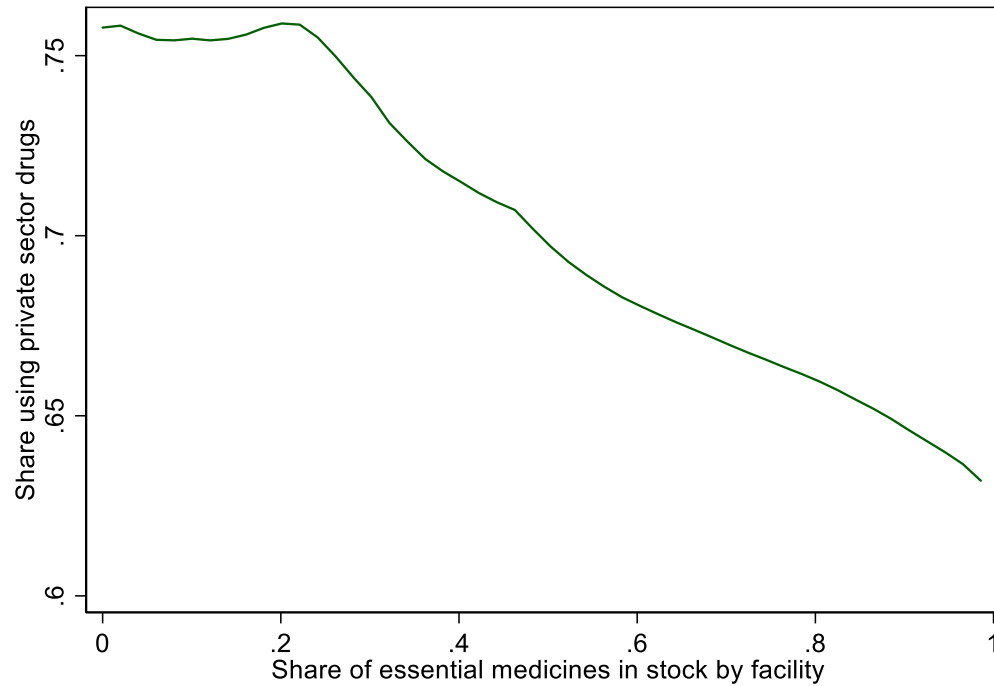


Chemists have better stocks than public primary facilities but worse than hospitals

- Not perfect substitutes: public facilities stock generics, 84% of private sector stocks branded & branded generics



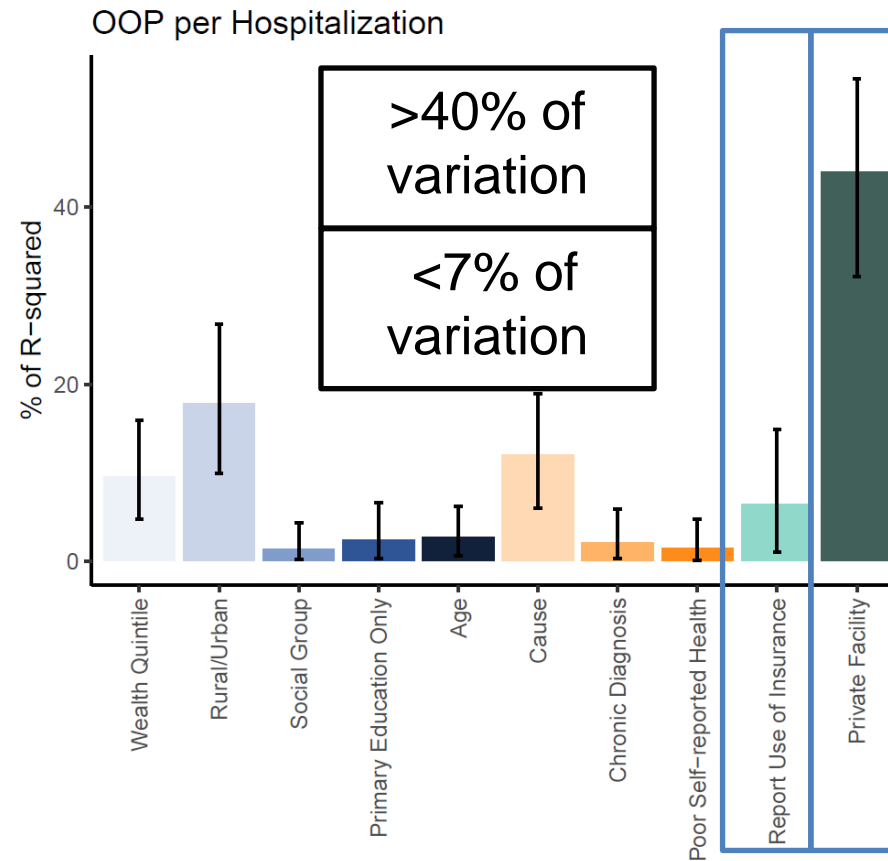
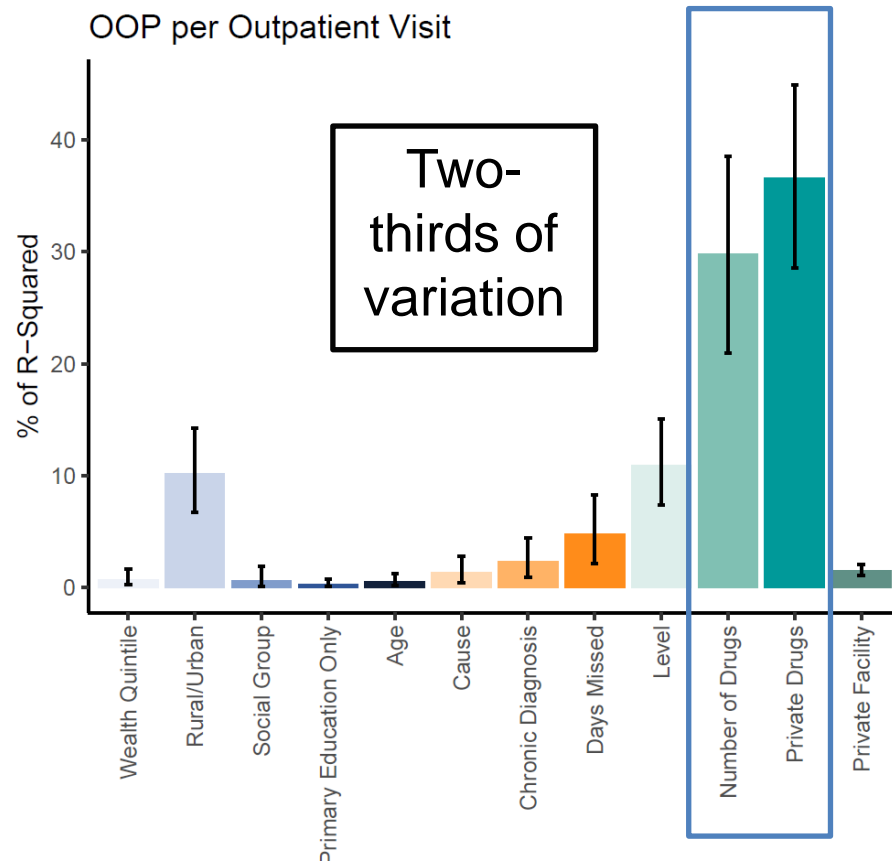
Use of private sector declines with higher stocks but 60%+ use private sector even when all drugs in stock



Note: Local Polynomial.

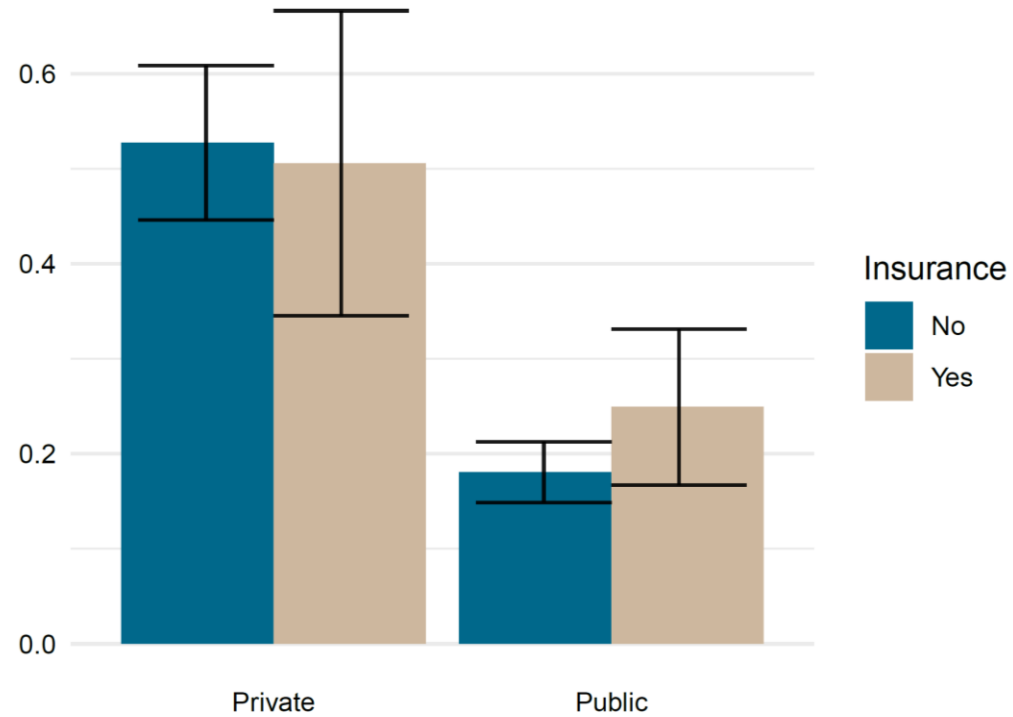
OOP per outpatient visit & hospitalization explained by private sector & no. drugs

- 15% of household report having insurance
- 6% of hospitalizations use insurance



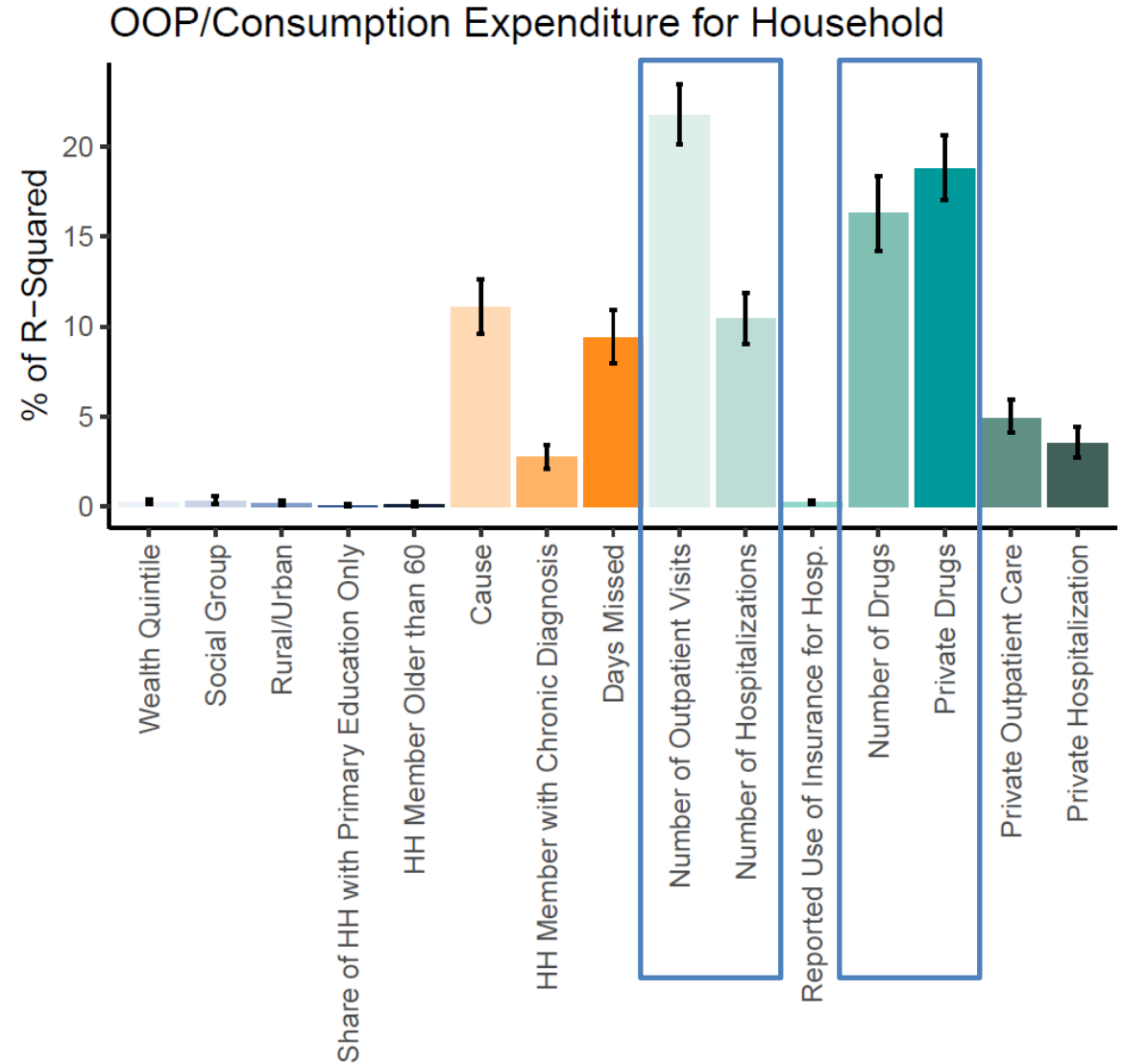
CHE incurred even among insured, despite BSKY

**CHE rates for hospitalization
public vs. public hospital with vs. without insurance**



OOP/CE explained by utilization & drugs

- >30% explained by no. visits, but utilization rates similar to other states
- >35% explained by number of drugs & private drug use



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We assessed clinical quality to detect low-value care

Clinical quality/effectiveness: competence of healthcare providers to make timely & correct diagnoses & advise correct treatment that is evidence-based (neither underuse or overuse)

Research questions

- Assess the knowledge of primary care providers to diagnose and treat common illness conditions
- Examine correlates of provider competence and clinical effectiveness

Data

550 clinical interactions with 110 randomly sampled public & private sector primary care providers, irrespective of medical qualifications

685 solo provider surveys
320 PHC provider surveys
1036 private pharmacies

Clinical Vignettes

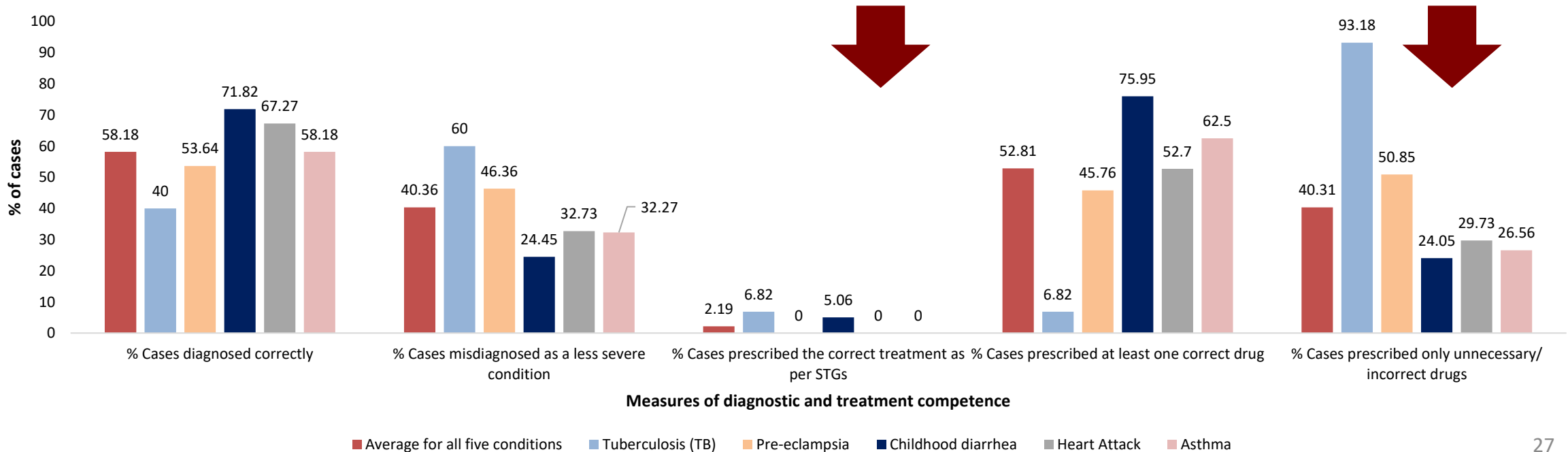
Clinical vignettes for 5 common conditions:
TB (infectious disease)
Pre-eclampsia & childhood diarrhea (MCH)
Heart attack & asthma (NCDs)

Clinical interactions compared against standard treatment guidelines (STGs) for each condition

Poor competence of providers to diagnose & treat conditions

- **Incorrect diagnoses** - 58% cases diagnosed correctly
 - Providers wrongly diagnosed as a less serious illness (E.g., cold, fever for TB, headache for preeclampsia, acidity & body ache for heart attack)
- **Incorrect treatment** - Only 2.2% providers advised correct treatment. Although 53% prescribed at least one correct drug. 40.3% prescribed **only** unnecessary (sometimes harmful) drugs/antibiotics – raising concerns of low-value care, anti-microbial resistance

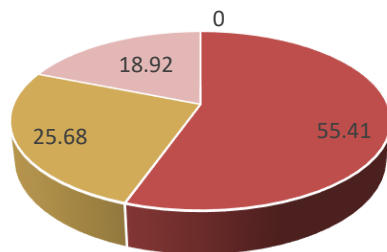
Diagnostic & treatment competence among providers at the primary-care level



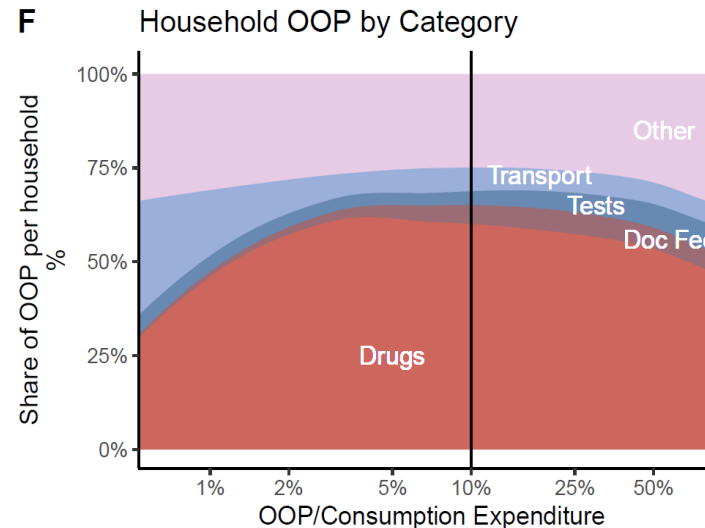
Implications of poor care quality for financial risk protection

- Delayed diagnosis & wrong treatment → patients might have to “try” multiple providers or multiple treatments/drugs for a cure → higher OOP spending (often wasteful), especially when OP care is not covered by insurance
 - 78% CHE is for outpatient care. 68% OOP expense on drugs (mean number of drugs per visit = 2.8, most drugs prescribed are branded)
- Increase in preventable complications of illness → patients have to go to hospitals → scarcer & more expensive resources are used (wastage) → implications for India’s tax-financed hospital insurance programs
 - 40% cases receive ONLY unnecessary drugs
 - 26% heart attack cases & 39% pre-eclampsia cases received antacids, antibiotics, or NSAIDs; 5% pre-eclampsia cases received potentially teratogenic drugs

Correct drugs prescribed for cases diagnosed as heart attack

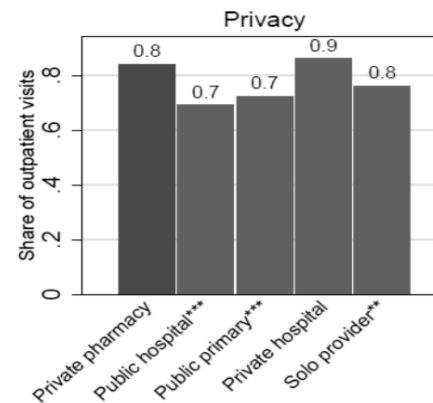
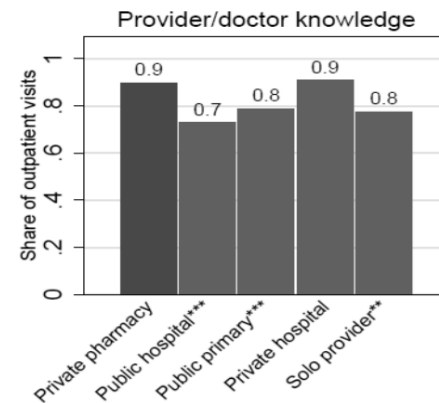
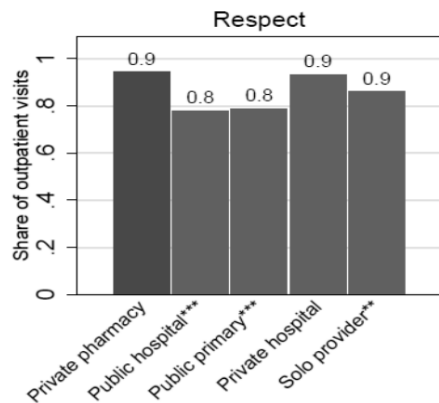


- Correct treatment (Correct Drugs+referral)
- At least one correct drug + unnecessary drugs (E.g. Aspirin, anticoagulant, other angina drugs + antacid, antibiotic)
- Only unnecessary/ incorrect drugs (E.g. antacid, antibiotic, NSAID)
- No drugs (Only referral)



Patient perceptions about care quality

- Households reported preferring private pharmacies over public-sector primary care providers. Majority (54%) seek OP care in the private sector & private pharmacies
 - 90% pvt pharmacies reported providing medical advice, and 26% reported substituting prescriptions
- Common reasons stated by households for preferring private pharmacies:
 - Availability of drugs
 - Convenience of timings & location
 - Other studies show patients perceive private pharmacy/branded drugs to be better quality
- Our assessment of patient experience & satisfaction showed better ratings for private sector providers

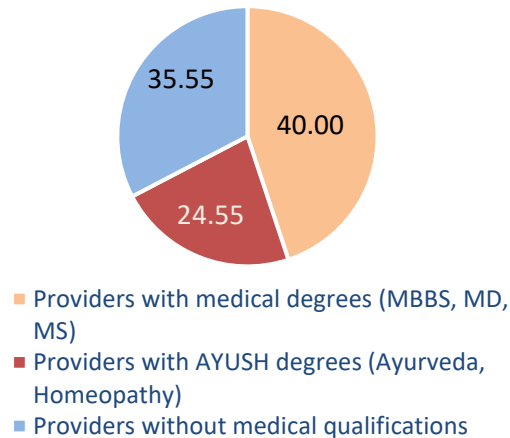


Patients preferred to go to pvt providers & perceived pvt pharmacies & pvt hospitals as better on respect, provider knowledge, privacy than public providers

Why is clinical quality so poor? Some possible reasons

- **Medical qualification** - Most primary-level care was provided by non-physicians. Only 10% public providers had medical degrees & >50% were unqualified. >90% pvt providers reported medical qualifications
- **Educational institution** – 58.18% of providers were trained in govt colleges, 41.82% in pvt colleges. 57.63% of public sector were trained in govt versus 87.8% of private sector providers

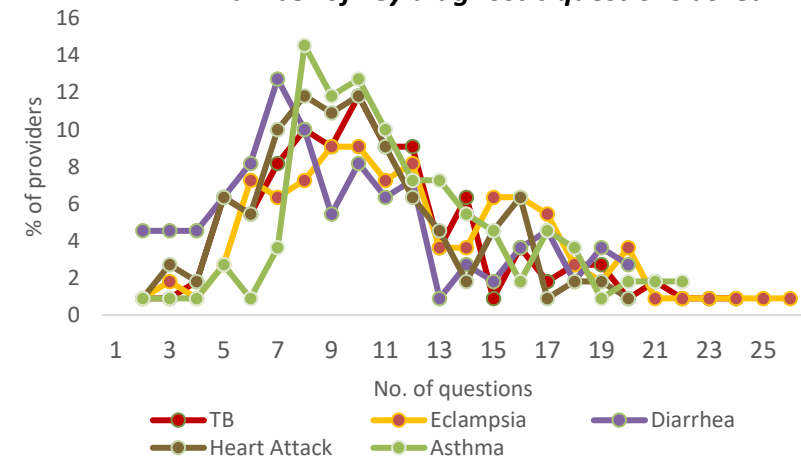
Qualifications among providers at the primary-care level



- **Work experience** – 20.14 years (mean)
- **Poor training** - 19% providers had undergone any in-service training

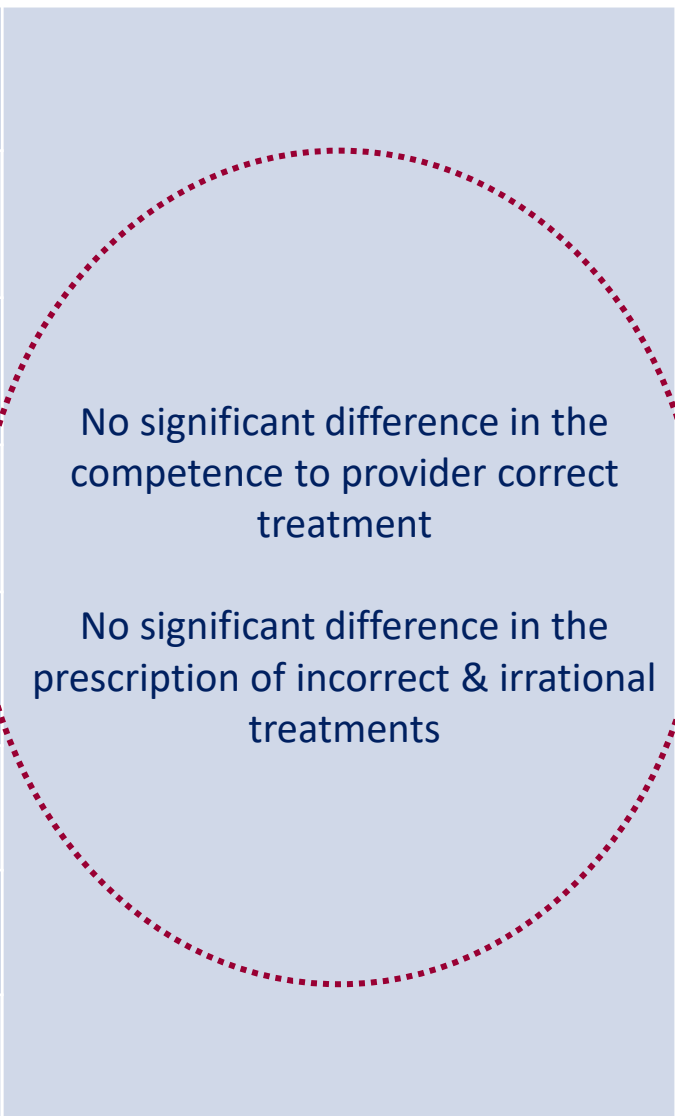
- **Poor supervision** - 41% public providers had supervisory visits within the last 6 months, 5% never had any supervision
- **Work load** – Mean 185 patients/wk; private providers saw fewer patients (102 vs 230/wk)
- **Time spent** – Mean 10 mins/pt; private providers spent more time per patient than public providers (13.4 vs 7.2 mins/pt); no significant differences in number of work hours (6.24 vs 5.56 hrs/day)

Number of key diagnostic questions asked



- **Provider payment** - Private providers earned fee-for-service & almost double the salaries of public providers
- **Dual practice** – 20% public providers self-reported pvt practice

Do provider characteristics matter for clinical quality?

Independent variables	Differences in diagnostic competence	Differences in treatment competence
Medical qualification of providers	No significant difference between MBBS doctors, AYUSH & unqualified providers	 <p data-bbox="1844 644 2390 779">No significant difference in the competence to provider correct treatment</p> <p data-bbox="1806 848 2428 983">No significant difference in the prescription of incorrect & irrational treatments</p>
Work experience	No significant difference between providers with more or less years of work experience	
In-service training	No significant difference between providers who received in-service training versus those who did not	
Time spent per patient	Weak association between correct diagnosis and the amount of time spent per patient	
Education institution where provider was trained	Providers trained at government colleges were slightly more competent than those at private institutes	
Rural v urban providers	Providers in urban areas were more competent than those in rural areas	
Public v private providers	Private sector providers were more competent than public sector providers at PHCs	
Dual practice	Providers with dual practice showed lower competence than those with only one practice/job	

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Summary

- **Private sector for pharmaceuticals fulfills an essential health system function**, supplying drugs to majority of patients
 - Also connected to high rates of CHE
- **Poor supply of drugs, frequent stock-outs at public facilities**
- **Insurance coverage poor:** Lack of outpatient care and drug coverage in public insurance programs
 - Lack of awareness & use of insurance for hospitalizations
- **Poor quality & low-value care:** Majority of prescribed drugs are incorrect/unnecessary or even harmful
 - Providers may prescribe drugs not stocked in the public facility but available at private pharmacies: branded drugs or fixed-dose combinations
 - Patients had higher ratings for private providers on key areas
 - Other studies show patients strongly prefer branded drugs
- **Financial interests and incentives for public providers to refer patients to private pharmacies?**
 - Dual practice & ownership of the private pharmacies or commissions for sales of drugs/referrals
 - Geographic co-location?

Implications for policy

- **To reduce CHE & impoverishment:**
 - How to pool the 76% OOPE into pre-payment mechanisms to cover OP services?
 - How to reduce unnecessary spending on drugs in the private sector?
- **To improve quality & deliver high-value care,** how to assure that money will translate to effective services?
 - Through better incentives?
 - Through better organization, governance and accountability of the healthcare delivery system?
 - Policies need to go beyond physical access or symbolic/hospital focused quality improvement
 - Include the private sector & informal providers when designing reforms for delivering primary care
 - Quality improvement must involve private sector & outpatient care, not just hospitals

Thank You!

Team

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Collaborators & Donors

Health Systems Transformation Platform (HSTP)

Oxford Policy Management (OPM)

Indian Institute of Public Health-Bhubaneswar (IIPH-B)

Government of Odisha

Bill & Melinda Gates Foundation (BMGF)

Tata Trusts

Appendix

Key Findings – Summary

FINAL OUTCOMES	Health Status	<ul style="list-style-type: none">• Notable progress in health status, especially MCH indicators, [government priorities & donor support for MCH programs]. Poor outcomes persist + double burden of disease
	Financial Risk Protection	<ul style="list-style-type: none">• 76% THE is OOPE, one of the highest in India; catastrophic for 24% & impoverishing for 10% households• 68% OOPE on drugs. Spending on medicines from pvt major contributor, even for people who seek care at public• Insurance coverage is very low - ~15%, provides limited FRP due to low uptake & service coverage on hospitalization
	Citizen Satisfaction	<ul style="list-style-type: none">• Widespread dissatisfaction the health system. >90% want improvements. Confidence in health system lower among rural, ST/SC groups, low income, low education & those without insurance coverage
INTERMEDIATE OUTCOMES	Access	<ul style="list-style-type: none">• ~90% seek care when ill• Majority (54%) seek care from the private sector, including from chemist shops as first point of care• Imp role of hospitals as 1st point of care (OP/primary care) ~33% go to hospital OPDs• Inequities for access among low income
	Quality	<ul style="list-style-type: none">• Extremely low clinical effectiveness - competence of providers to correctly diagnose (58%) & treat common conditions, including conditions of national priority (E.g., correct treatment for TB 7%, preeclampsia & heart attack 0%). Irrational/unnecessary drugs + antibiotics• Poor patient safety culture - hospital safety incidents are hugely under-reported. Patient satisfaction is low, especially for SC/ST groups
	Efficiency	<ul style="list-style-type: none">• Inefficiencies in allocation of resources• Lower than recommended occupancy rates in public facilities, sub-optimal staff mix (mean nurse: doctor ratio 1:1.43 (reco. 2). Idle capacity of physicians (10 hrs/wk). No backward referrals from hospitals to primary level for simple illnesses

Access to healthcare and private sector use high

- ~90% seek care when ill
- 54% outpatient visits in private sector
 - **16% go to private pharmacies as first contact**, nearly the same as public primary facilities (15%)
 - **47% people seek outpatient care at hospitals** – 27% at public and 20% at private
- Drugs obtained from private pharmacies in 86% of outpatient visits

	Share of visits
Outpatient	
Public	46%
Private hospital outpatient departments and solo providers	24%
Private pharmacies and other providers	30%
Inpatient	
Public	75%
Private	25%

Categorizing healthcare

	<p>After you fell ill, what did [NAME] do?</p> <p><i>[Self-treatment is defined as – treatment without seeing a medical provider (qualified or unqualified), such as buying over the counter medicine, taking left-over medicine from previous consultations/episodes of illness, taking medicine advised by friends/relatives If drugs were bought based on advice from the pharmacist/chemist, it is considered to have sought treatment from a provider – pharmacist and code under 2]</i></p>	<p>1=Self-treated</p> <p>2= Sought treatment/medical advice from a provider only</p> <p>3= Both self-treated and sought treatment</p> <p>4= Did not do anything</p> <p>5= A friend or family member went and bought medicines for me</p> <p>6= A friend or family member consulted the provider (chemist, doctor, ANM/ASHA) on my behalf and got medicines for me</p>	<p>If 1, 3 , 4 or 5, then go to D.5 If =2 or 6, ask D.12 For response =3 ALL questions from D5 onwards will be asked for both types of treatment – self and provider</p>
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Implications of poor quality for health system goals contd.

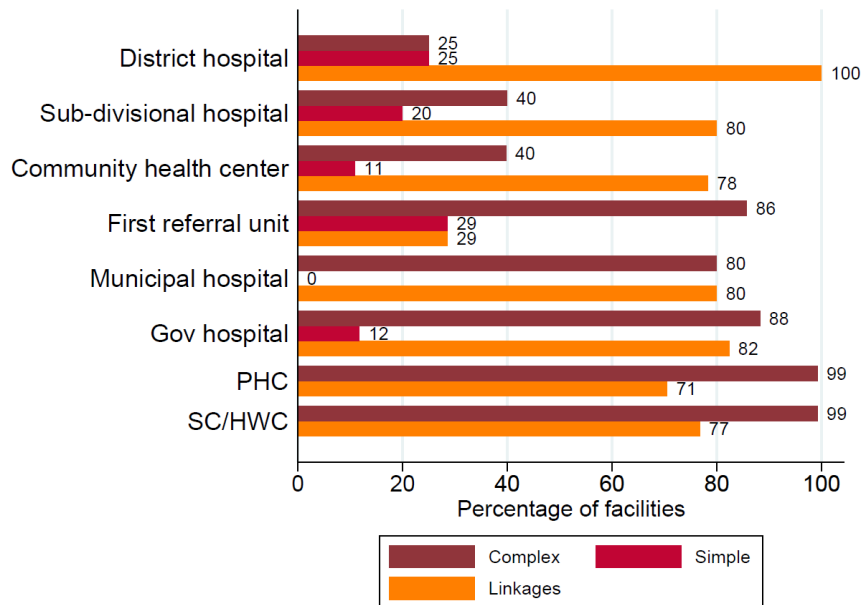
- **Implications for efficiency**

- Patients bypass primary care to go to hospitals – scarcer & more expensive resources are used for conditions that could be managed by lower-level providers.
- Patients bypass public sector providers to go to private sector, while most tax resources go into the public sector.
 - Our preliminary analysis shows ~90% people bypass their nearest public health facility
 - Also shown by other studies (Rao 2021)

Inefficiencies and latent capacities in the public sector

- **No shortage of certain categories of healthcare workers** - nurses, paramedics, mid-level providers in public health facilities. 81-89% of sanctioned positions are filled for these healthcare workers on average.
- **Shortages seen for doctors** - 65% of sanctioned posts for doctors were filled, 56% filled for specialists.
- **Absenteeism does not seem to be a major problem** – 89-92% doctors, nurses, paramedics were present.
- **Sub-optimal mix of nurses & doctors in public facilities** - mean nurse to doctor ratio of 1:1.43, less than the recommended ratio of 2.
- **Significant idle capacity** - Physicians have ~10 hrs/week of idle capacity.

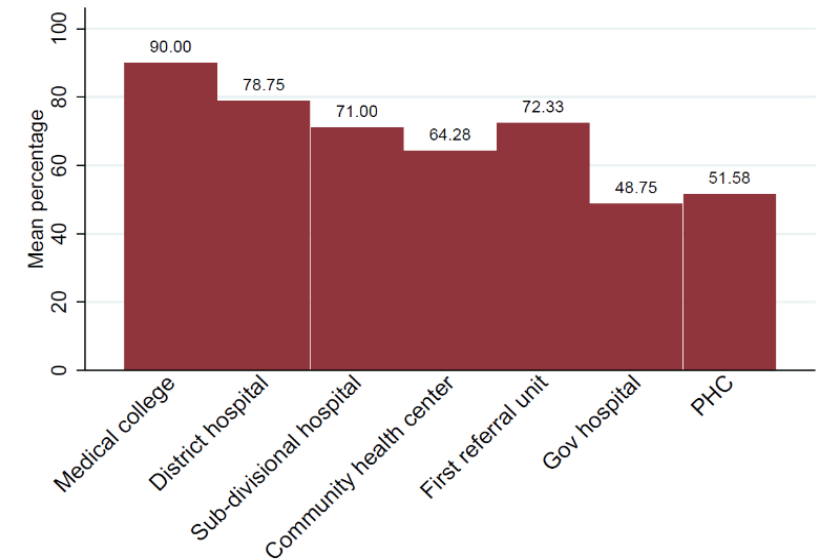
Percentage of public facilities referring complex cases, simple cases, with institutional linkages



Mean occupancy rate below the recommended 80%

Very little backward referral for simple illness

Bed occupancy rates in public health facilities



Novel & unique characteristics of the Odisha Assessment

Existing data and state/national surveys only provide a subset of information needed for systemic analysis. We designed 10 innovative surveys to address this & set a gold standard for health system assessment.

Existing surveys

- Most large-scale datasets focus only on household data (NFHS, NSSO)

- Huge gaps in understanding India's pvt sector
- Some studies on large pvt hospitals, few on smaller providers, most small samples

- Few studies on market analysis

- Focus on "quantity" of services, physical availability – these don't translate to better health outcomes/ patient satisfaction

- Links demand with supply-side perspectives – collecting data from households, patients, public & private providers
- Assesses how both demand and supply influence people's utilization of services and the costs associated with care

- Surveys large and small pvt hospitals + solo-providers & pvt chemist shops (medicine shops) – for a more comprehensive understanding of the private health sector

- Geospatial data to analyze market behavior - where users & providers are located, whether providers are clustered in certain locations, are users bypassing the nearest providers

- Goes beyond quantity to assess quality and effectiveness
- Assesses citizen satisfaction (first large scale study in India) + all 3 fundamental aspects of quality of care (patient safety, patient centeredness, clinical effectiveness)

Harvard's Odisha assessment

Key Findings – Health Status*

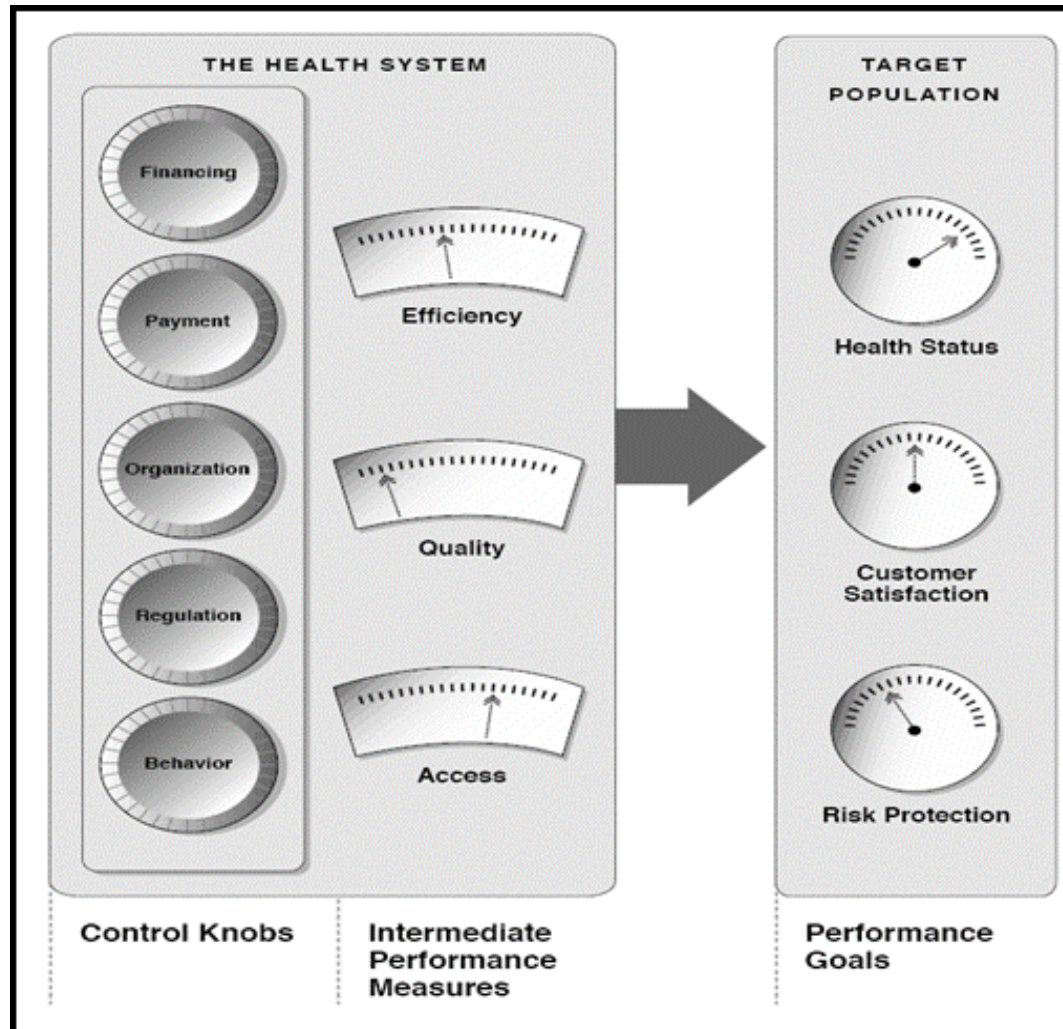
- **Notable progress in health status, especially MCH indicators, probably due to government priorities & donor support for MCH programs. But still quite poor outcomes.**
 - IMR reduced from 112 (1992-93) to 40 (2014-15). But still higher than national avg (32), and other similar states Bihar (32), Rajasthan (37)
 - One of the fastest declines in MMR compared to other EAG states - 235 (2010-12) to 168 (2015-17). But still higher than national avg and comparable states
- **Progress in reducing malaria cases, but facing a double burden of disease**
 - Highest incidence of both communicable, maternal, neonatal, and nutritional diseases (375,369 new cases per 100,000) and non-communicable diseases (181,283 new cases per 100,000) among the EAG states
 - More than half the deaths caused by NCDs, especially cardiovascular and respiratory diseases
 - ~80% decline in malaria cases (2017 to 2019). But deaths due to infectious diseases, diarrhea, TB & malaria still the highest among EAG states

*Findings for Health Status are based on analysis of secondary data – SRS, NFHS, GBD, and other datasets

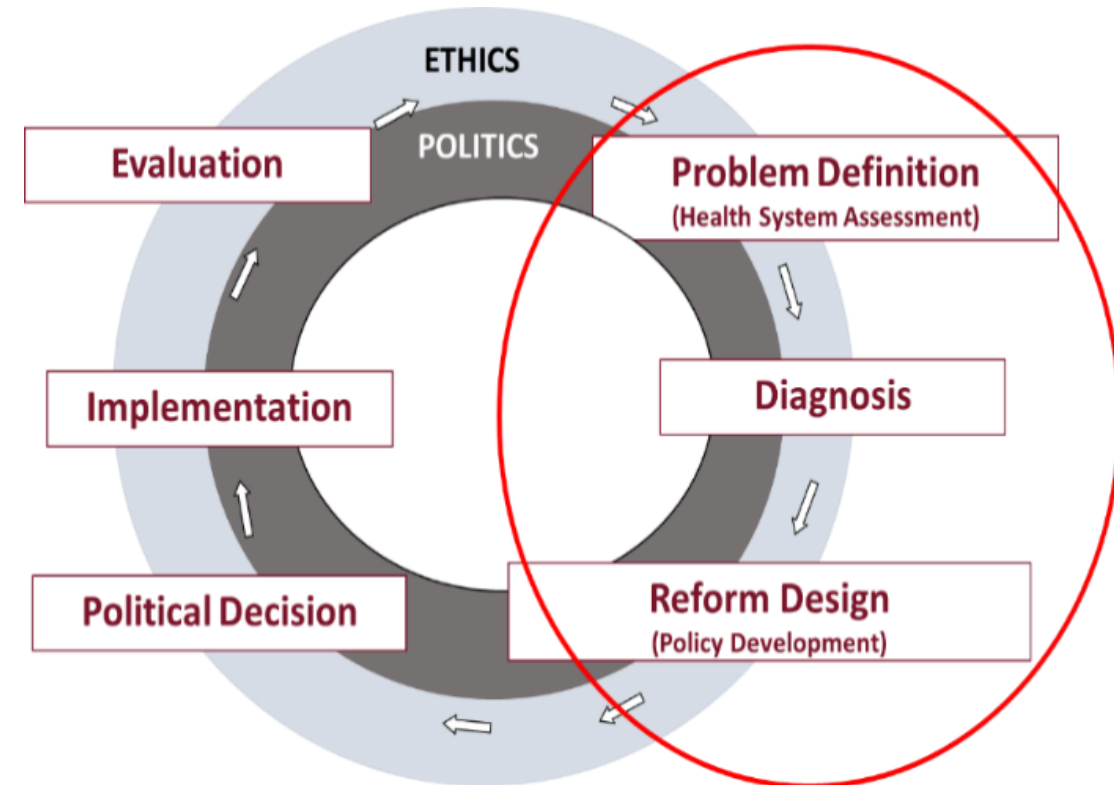
The Control Knob Framework

A health system is a means to an end

The Control Knob Framework



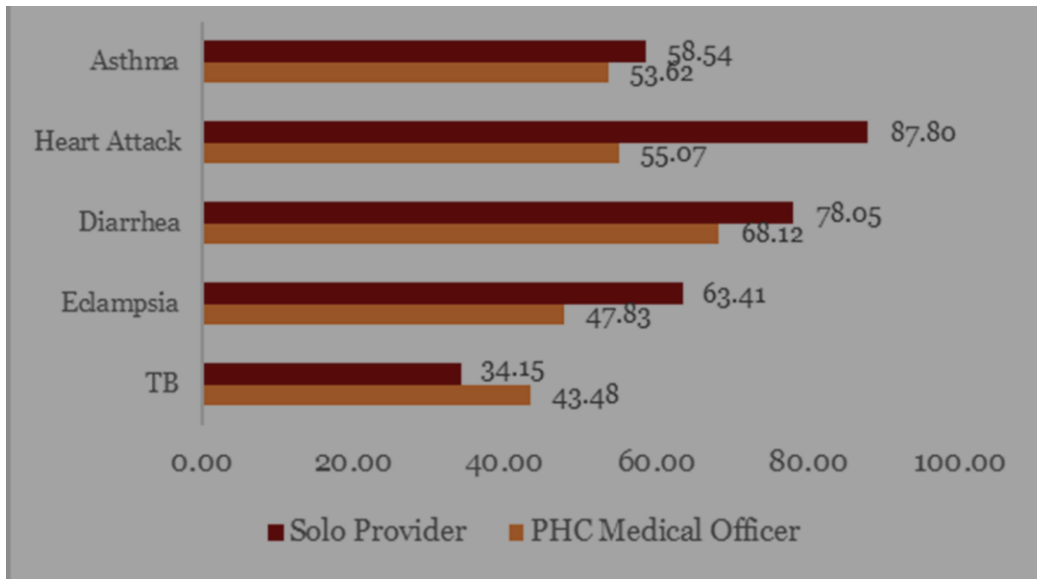
The Policy Reform Cycle



Poor quality of care across the board

- **Incorrect diagnoses** - 58% diagnosed all 5 conditions correctly. Most cases wrongly diagnosed as a less serious illness (E.g., cold, fever for TB, headache for preeclampsia, acidity for heart attack)
- **Incorrect treatment** - Only 2.3% providers advised correct treatment. 42% prescribed only unnecessary (sometimes harmful) drugs/antibiotics – raising concerns of anti-microbial resistance (avg: >3 drugs)

Diagnostic competence of public v/s private providers



Diagnose & treatment

Condition	Providers who diagnosed correctly (%)	Providers who gave the right treatment as per standard treatment guidelines (%)	Providers who gave at least one correct drug (%)	Providers who gave only unnecessary/incorrect drugs (%)
Tuberculosis	40	6.82	N/A	91.90
Pre-eclampsia	53.64	0	52.54	39.98
Diarrhea	71.82	5.06	72.15	22.78
Heart Attack	67.27	0	55.41	25.68
Asthma	55.45	0	60.66	29.51

Key message

- Incorrect/irrational prescriptions were equally prevalent among providers, irrespective of medical qualifications & public/private sectors
- Potential causes:
 - poor incentives, poor governance, poor regulation
 - Training: Only 10% of providers at PHCs were MBBS/MD, 51% had pharmacy/others degrees (unqualified to practice medicine), 35.6% AYUSH. Only 18.4% of all providers had any in-service training
 - 41% of PHC providers had last supervision ~6 months ago, 5% never had any supervisory visit

Poor patient safety culture in public hospitals & low levels of patient centeredness

- **Poor patient safety culture in public hospitals**
 - Survey of medical college hospitals (AIIMS), district hospitals and sub-divisional hospitals (N=2687 hospital staff), using Hospital Survey of Patient Safety Culture (HSOPS)
 - Adverse events and medical errors cause millions of deaths every year globally.
 - Almost no patient safety events (reports of a mistake that could harm a patient) reported in any of the hospitals surveyed.
 - <10% of hospital staff reported ever submitting a safety event report, compared to 45% among higher income countries.
- **Patient satisfaction for inpatient care**
 - Exit interviews of patients who had been hospitalized in medical college hospitals, district hospitals and sub-divisional hospitals (N=507 patients)
 - Very low satisfaction ratings were for:
 - “*Understandings of care*” and “*post discharge planning*” (e.g., patient preferences being taken seriously, or doctors/nurses explaining the purpose of medications, how to take medicines, possible side-effects, guidance for at-home care). “*Hospital environment*” (cleanliness, privacy).
 - Large inequities in patient satisfaction:
 - Patients with no formal education those from SC or ST groups received the lowest quality interpersonal treatment, dignity and respect (even within the same hospital, patients were treated unequally).

Poor Financial Risk Protection. OOP for Outpatient Care is a Major Driver.

Catastrophic Health Expenditures	Value
Share of households with CHE at 10%	24%
Share of households with CHE at 25%	10%
Share of CHE at 10% due to drugs	65%
Share of CHE at 10% due to hospital spending	22%
CHE at 10% if drug spending eliminated	9%
CHE at 10% if hospital spending eliminated	19%

24% households face catastrophic health expenses, 10% households are impoverished
 Spending on drugs is a major driver

Spending on drugs

Type of care and provider	Share of patients with CHE (using monthly consumption expenditure)	Mean spend per visit (Rupees)	Drug share of OOP	Mean drug OOP (Rupees)	Share purchasing drugs from private sector chemist
Outpatient					
Public (46%)	25%	790	59%	428	72%
Private hospital outpatient departments and solo providers (24%)	38%	1404	67%	754	100%
Private Chemists and other providers (30%)	25%	735	73%	512	98%
Inpatient					
Public (75%)	19%	10,407	41%	3,287	n/a
Private (25%)	52%	33,886	37%	10,380	n/a

54% of outpatient visits are in the private sector. Spending on drugs from the private sector major contributor to CHE, even for people who seek care at public facilities.

Low citizen satisfaction with the health system & significant inequity

- 56% - the health system needs major changes
- 33% the health system needs to be completely rebuilt
- 91% - the health system needs to be improved
- People reported higher satisfaction with physical access related aspects (E.g., provider location, hours of operation, availability). Lowest satisfaction reported for treatment expenses, especially at hospitals
- People with low income, low education, SC/STs, and those without insurance have lower satisfaction with the health system