Can we improve quality of care in private health sectors?
Evidence from a randomized field experiment in Kenya

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PhD Dissertation

Supplemental Appendices
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Appendix 5.A1. Chapter 5 Supplement for Structures: Tables and Figures

Table 5.A1.1. Two-Parameter Logistic Models by Structural Quality Dimension

a. IMCI Clinical Consultation and Technical Support

Item	Discrimination	Difficulty
Does the provider diagnose the illness correctly?	-1.749	2.306
	(1.36)	(1.072)
	[0.199]	[0.031]
Provider weighs the patient (checks weight on a growth chart)	-0.727	1.518
	(0.556)	(1.104)
	[0.191]	[0.169]
Provider asks if there is vomiting	-0.727	2.213
	(0.575)	(1.575)
	[0.206]	[0.16]
Provider checks whether the child is awake. If not awake, checks for consciousness/lethargy (tries to wake the child)	-0.612	3.682
	(0.705)	(3.837)
	[0.385]	[0.337]
Provider asks about diarrhea	-0.471	4.659
	(0.669)	(6.217)
	[0.481]	[0.454]
Provider asks if the patient can drink or breastfeed	-0.119	5.153
	(0.432)	(18.738)
	[0.782]	[0.783]
Provider asks whether there is lethargy, convulsions/convulsing now	0.161	1.703
	(0.418)	(4.847)
	[0.701]	[0.725]
Provider checks immunization status	0.284	-0.584
	(0.402)	(1.425)
	[0.48]	[0.682]
Provider advises referral if condition worsens	0.305	-2.885
	(0.466)	(4.399)
	[0.513]	[0.512]
Provider counsels caregiver on proper dosage (no. of doses/days, side effects)	0.393	-3.383
	(0.545)	(4.516)
	[0.471]	[0.454]
Provider gives first dose of oral medicine on site	0.608	1.530
	(0.473)	(1.209)
	[0.199]	[0.206]
Provider asks whether the stool contains blood or mucus	0.680	-0.266
	(0.478)	(0.557)
	[0.155]	[0.632]
Presence of job aids	0.729	-0.757

	(0.507)	(0.703)
	[0.151]	[0.282]
IMCI job aid/chart booklet	0.736	-1.338
	(0.608)	(1.083)
	[0.226]	[0.217]
Provider ask for HIV positivity in mother or child	0.778	1.439
	(0.538)	(0.957)
	[0.149]	[0.133]
Provider checks for signs of malnutrition? (visible emaciation (marasmus or kwashiorkor), pallor (anemia), edema; measures MUAC)	0.811	0.861
	(0.533)	(0.655)
	[0.128]	[0.189]
Does the provider give the correct treatment or refers in case of danger signs or severe illness?	0.940	-4.234
	(1.382)	(5.18)
	[0.496]	[0.414]
Provider asks if the child is coughing (asks about frequency and duration of cough if the child is reported to be coughing)	1.356	-1.595
	(0.833)	(0.715)
	[0.104]	[0.026]
Provider checks for dehydration (looks for sunken eyes, pinches the skin, offers the patient water if awake)	1.357	-0.857
	(0.711)	(0.437)
	[0.056]	[0.05]
Provider asks about fever. Is there a pattern, duration, associated chills and/or rigors?	1.485	-1.205
	(0.842)	(0.514)
	[0.078]	[0.019]
Provider asks if there is difficulty in breathing, fast breathing, wheezing	1.568	-0.681
	(0.882)	(0.373)
	[0.075]	[0.068]
Provider asks whether the mother or other family members are coughing	1.677	1.125
	(0.948)	(0.464)
	[0.077]	[0.015]
Fever case management algorithm	2.850	-0.157
	(2.059)	(0.252)
	[0.166]	[0.533]
Provider assesses the respiratory system (counts breaths, checks for chest indrawing, stridor, wheezing, listens to breath sounds)	2.932	-0.411
	(1.624)	(0.258)
	[0.071]	[0.111]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from PSK. The model is estimated from 37 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. IMCI refers to the Integrated Management of Childhood Illness. MUAC refers to mid-upper arm circumference. HIV refers to human immunodeficiency viruses.

b. PSK: Work Environment

Item	Discrimination	Difficulty
Adequate lighting	-0.608	5.106
	(0.806)	(6.186)
	[0.451]	[0.409]
Adequate storage for drugs, consumables, and commodities	-0.025	76.700
	(0.574)	(1735.755)
	[0.965]	[0.965]
Availability of designated room for services	0.156	-14.185
	(0.612)	(55.487)
	[0.799]	[0.798]
Functional internal and/or external toilets	0.224	-11.285
	(0.735)	(36.476)
	[0.76]	[0.757]
Intravenous fluids	0.340	-6.584
	(0.683)	(12.83)
	[0.619]	[0.608]
Registers	0.424	-7.123
	(0.883)	(14.245)
	[0.631]	[0.617]
Are the commodities properly secured and stored according to guidelines	0.489	-4.148
	(0.645)	(5.15)
	[0.448]	[0.421]
Infection prevention equipment	0.560	-2.631
	(0.513)	(2.25)
	[0.275]	[0.242]
Clean and hygienic surfaces (walls, floors, etc.)	0.748	-2.287
	(0.578)	(1.574)
	[0.196]	[0.146]
Availability of SOPs and Protocols/National guidelines	0.800	-0.888
	(0.471)	(0.598)
	[0.089]	[0.138]
Availability of IEC materials	0.866	-1.460
	(0.528)	(0.807)
	[0.101]	[0.07]
Running water and soap in critical points (toilet, examination room, lab, patient waiting area)	0.910	-1.095
	(0.511)	(0.615)
	[0.075]	[0.075]
Availability of referral network and identified referral site	1.641	-0.488
	(0.664)	(0.291)
	[0.013]	[0.093]

An established inventory management system in use	1.804	0.586
	(0.748)	(0.34)
	[0.016]	[0.085]
Evidence of demand generation activities	1.856	0.220
	(0.763)	(0.298)
	[0.015]	[0.461]
Are services offered in a confidential space?	1.957	-1.671
	(1.205)	(0.582)
	[0.104]	[0.004]
Infection Prevention Protocol	1.959	-0.376
	(0.747)	(0.265)
	[0.009]	[0.156]
Approved waste collection and disposal method	2.276	-0.284
	(0.895)	(0.25)
	[0.011]	[0.257]
Professional license (doctors, nurses/midwives, CHEWs, etc.)	3.103	-1.285
	(2.15)	(0.318)
	[0.149]	[0]
Data quality assurance checks	14.903	0.190
	(20.024)	(0.23)
	[0.457]	[0.408]
Clinic registration	21.463	-1.651
Patient record cards and forms	21.463	-1.651
	(41.152)	(0.197)
	[0.602]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from PSK. The model is estimated from 40 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. IEC refers to information, education, and communication. SOPs refers to standard operating procedures. CHEWs refers to community health extension workers.

c. MSK: General Client-Focused Care

Item	Discrimination	Difficulty
The centre has signs clearly visible at the entrance, that are in good repair; co-branding of MSI and Bluestar is clearly visible if applicable	0.334 (0.365) [0.361]	-3.013 (3.281) [0.358]
Prices, contact numbers and opening days and hours are clearly displayed	0.473 (0.355) [0.182]	-0.900 (0.867) [0.3]
It is easy for clients to see where to go as interior doors are clearly marked	0.705 (0.403) [0.08]	-1.259 (0.752) [0.094]
Hand washing facilities (clear running water, soap, and/or alcohol hand rub) are available for providers and clients	0.744 (0.398) [0.061]	-0.608 (0.492) [0.216]
Medical equipment is kept out of client's view	0.893 (0.443) [0.044]	-0.883 (0.497) [0.075]
The building is in good repair	0.964 (0.533) [0.071]	-2.141 (0.993) [0.031]
There is privacy for registration and payments	1.021 (0.659) [0.122]	-2.902 (1.502) [0.053]
Procedure rooms have sufficient natural or electrical light, with back up for outages	1.233 (0.571) [0.031]	-1.522 (0.577) [0.008]
Drinks (water is sufficient) are available in recovery and in waiting areas	1.313 (0.556) [0.018]	-0.558 (0.317) [0.078]
There are no safety hazards present (e.g. trailing leads, broken chairs, etc.)	1.371 (0.675) [0.042]	-1.984 (0.719) [0.006]
There are means to ensure the safety of client's personal belongings during procedures (this may be a basket into which the client puts belongings & takes into the procedure room or a client locker)	1.465 (0.623) [0.019]	0.388 (0.276) [0.16]
There are appropriate furniture and fixtures (chair, table, stool) that promotes good client/provider interaction	1.929 (0.92) [0.036]	-1.655 (0.491) [0.001]
Recovery area is available with beds in good repair (chairs/recliners/mats acceptable in OR)	2.163 (0.934) [0.021]	-0.940 (0.295) [0.001]
Procedure rooms are clean	2.548 (1.099) [0.02]	-0.925 (0.268) [0.001]

Consultation rooms are clean, spacious, and allow for privacy	3.024 (1.395) [0.03]	-0.879 (0.246) [0]
Exterior and interior of building are clean with no litter, dust, or bad odors	3.675 (1.893) [0.052]	-0.984 (0.247) [0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from MSK. The model is estimated from 55 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. OR refers to the operating room. MSI refers to Marie Stopes International.

d. MSK: Clinical Governance

Item	Discrimination	Difficulty
A visitor register is available and shows that a member of the support office staff (SMT, ET, or clinical quality team) has been to the site within the past 6 months.	0.404 (0.49) [0.41]	-4.225 (4.895) [0.388]
Client feedback: Evidence is available showing that client feedback is reviewed by senior staff at the point of service. Action plans are in place to address any issues identified.	0.424 (0.419) [0.312]	3.448 (3.281) [0.293]
Service provision areas are adequately staffed according to service setup guidelines or minimum standards.	0.589 (0.574) [0.305]	-3.481 (3.083) [0.259]
Current incident management policy and templates are available on site (for OR, at team base site).	0.614 (0.387) [0.113]	0.766 (0.637) [0.229]
Clinical orientation for all staff in regards to their clinical duties and responsibilities follows a written agenda or ToR.	0.712 (0.432) [0.099]	-0.637 (0.532) [0.231]
Training plans for clinical staff are informed by needs identified through continuous supportive supervisions.	1.130 (0.579) [0.051]	-0.392 (0.326) [0.229]
A register of clinical trainings and staff completion, including levels of competency achieved, is maintained on site.	1.155 (0.561) [0.039]	1.395 (0.571) [0.014]
Action plans developed from the last Clinical Quality Internal Audit are available and have been/are being acted upon, as evidenced by review of status of each action point.	1.171 (0.523) [0.025]	0.801 (0.386) [0.038]
Site manager is able to explain the RAG rating and initial notification requirements for each type of incident, including product-related incidents.	1.613 (0.74) [0.029]	0.712 (0.307) [0.02]
A master list of all clinical staff is maintained on site, indicating dates of the last, and next, individual clinical supportive supervision for each staff member (note that supervisions should occur at a minimum of once per year).	1.716 (0.763) [0.025]	1.023 (0.352) [0.004]
Site manager maintains a record of incidents that have been reported. Action plans and investigation for each amber and red incident are included.	2.372 (1.226) [0.053]	1.274 (0.349) [0]
Site manager is able to explain the incident investigation process, including review of case notes, root cause analysis, and development of action plans.	3.629 (2.148) [0.091]	0.991 (0.254) [0]
Dissemination of investigation outcomes, follow-up of action plans, and learning points from incidents is documented in minutes from the monthly staff meetings.	4.212 (2.905) [0.147]	0.885 (0.257) [0.001]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from MSK. The model is estimated from 56 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. SMT refers to the senior management team. ET refers to executive team. OR refers to the operating room. RAG refers to red-amber-green. ToR refers to terms of reference.

e. MSK: Supplies Management and Product Quality

Item	Discrimination	Difficulty
There is a functioning refrigerator which is being used to store products that require refrigeration (may include oxytocin, ergometrine, vaccines), and a functioning thermometer inside to monitor temperature.	0.207 (0.442) [0.64]	-6.484 (13.757) [0.637]
There is a process in place for the management and disposal of damaged or expired drugs.	0.381 (0.429) [0.374]	-2.624 (2.901) [0.366]
All key SRH products are stored off the ground, kept in a cool, unexposed area, securely away from access by the public. The area is clean and there are no signs of infestation.	0.548 (0.547) [0.317]	-3.555 (3.263) [0.276]
There is a designated staff who is responsible for stock management for the facility/team.	0.837 (0.546) [0.126]	-1.821 (1.039) [0.08]
For the given product above, the actual stock level is within the target minimum and maximum quantities.	1.670 (0.79) [0.034]	0.861 (0.328) [0.009]
For key SRH products, stock cards (or other appropriate records) are kept and used for every item, batches are stocked of each item according to First Expire/First Out, and no expired stock is on the shelf or in mobile stock.	1.708 (0.849) [0.044]	0.645 (0.295) [0.029]
Responsible stock officer has the "standard product sub-list" for their facility appropriate to their channel, and knows and can state: target minimum and maximum levels of stock to be kept (in weeks or months of stock); normal frequency orders should be placed; date next order is to be sent.	1.778 (1.022) [0.082]	0.568 (0.287) [0.047]
For one of these products, responsible stock officer can accurately calculate average monthly consumption and then the current target min and max actual quantities (in units) of that product.	5.603 (9.187) [0.542]	0.651 (0.195) [0.001]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from MSK. The model is estimated from 53 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. SRH refers to sexual and reproductive health.

f. SafeCare: Human Resources Management

Item	Discrimination	Difficulty
There is a process for evaluating and verifying the credentials (license, education, training, and experience) of physicians.	0.140 (0.319) [0.662]	7.322 (17.014) [0.667]
The health facility has a policy on resuscitation, which includes the level at which resuscitation is provided, by whom, and training and equipment requirements.	0.867 (0.401) [0.031]	-0.082 (0.297) [0.783]
Each employee has a written job description/performance agreement, which defines their responsibilities.	1.884 (0.668) [0.005]	0.312 (0.181) [0.085]
A designated member of personnel is responsible for the storage and retrieval of personnel records.	2.016 (0.766) [0.009]	0.486 (0.191) [0.011]
Protective clothing (gloves, masks, aprons, etc.) is available and used correctly.	2.139 (0.932) [0.022]	-0.261 (0.174) [0.134]
The staff members registration, education, training, and experience are used to authorize the individual to provide clinical services consistent with his/her qualifications.	2.487 (0.979) [0.011]	0.670 (0.178) [0]
There are documented processes for staffing the health facility.	3.358 (1.52) [0.027]	0.992 (0.207) [0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

g. SafeCare: Governance and Management

Item	Discrimination	Difficulty
There are written policies and procedures for accounting functions.	0.535	-0.640
	(0.273)	(0.527)
	[0.05]	[0.224]
A senior management team is responsible for operating the facility.	1.128	-1.601
	(0.467)	(0.533)
	[0.016]	[0.003]
The health facilities manager ensures that policies and procedures guide and support the activities and management of the health facility.	1.278	0.052
	(0.393)	(0.218)
	[0.001]	[0.811]
Each patient has access to a nurse call system at all times.	1.410	-3.808
	(1.66)	(3.079)
	[0.396]	[0.216]
The health facility manager promotes networking with the leaders of other relevant organizations in the community.	1.553	0.233
	(0.437)	(0.2)
	[0]	[0.246]
The system includes safe handling, storing, and disposing of different types of waste.	1.845	0.685
	(0.617)	(0.241)
	[0.003]	[0.004]
A suitably qualified individual is designated to control the ordering, storage, distribution, and control of equipment and supplies used in the organization.	2.093	1.136
	(0.694)	(0.252)
	[0.003]	[0]
The facility manager position has been filled for the past year.	2.478	-1.760
	(1.682)	(0.475)
	[0.141]	[0]
All procedures and diagnostic tests requested are noted in the patient's record.	2.958	1.038
	(1.171)	(0.256)
	[0.012]	[0]
First aid kits/materials for health care workers are available.	4.369	1.877
	(4.331)	(0.505)
	[0.313]	[0]
Documents describe governance accountability and responsibilities.	14.426	0.497
	(12.812)	(0.131)
	[0.26]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 114 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

h. SafeCare: Medication Management

Item	Discrimination	Difficulty
Medications are stored in a locked storage device or cabinet, which is accessible only to authorized personnel.	-0.140	-8.605
	(0.319)	(19.511)
	[0.661]	[0.659]
There is a system, which includes patient identification, for initiating screening at the point of first contact.	0.605	-0.758
	(0.357)	(0.632)
	[0.09]	[0.23]
The design and layout of the pharmacy must permit a logical safe flow of work, adequate storage space, effective communication and supervision and ensure effective cleaning and maintenance.	0.635	-3.456
	(0.445)	(2.242)
	[0.154]	[0.123]
OPD facilities and waiting rooms are clean, well ventilated, well maintained, and ensure privacy.	0.703	3.314
	(0.577)	(2.27)
	[0.223]	[0.144]
Patients who require early attention are identified (e.g. the very frail or ill, or women in an advanced stage of pregnancy).	0.939	-1.229
	(0.445)	(0.593)
	[0.035]	[0.038]
A designated individual, who is suitably qualified, has clearly defined responsibilities and accountability for all aspects of the pharmaceutical service.	0.965	-1.665
	(0.421)	(0.606)
	[0.022]	[0.006]
There is a list of the medications, stocked in the organization, or readily available from outside sources.	1.913	-0.123
	(0.739)	(0.162)
	[0.01]	[0.447]
Policies and procedures are developed and implemented for identified processes, which include at least those from a) to l) in the intent above.	2.580	-0.792
	(1.099)	(0.216)
	[0.019]	[0]
The consultation rooms are clean, well ventilated, well maintained, and adequately equipped.	2.753	-0.619
	(1.332)	(0.213)
	[0.039]	[0.004]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 108 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. OPD refers to outpatient department.

i. SafeCare: Non-Clinical Patient Care

Item	Discrimination	Difficulty
The patients need for privacy is protected during all examinations, procedures, and treatments.	0.787	-0.300
	(0.304)	(0.29)
	[0.01]	[0.301]
A designated, competent individual is responsible for supervising the maintenance of buildings, plant, and installations.	1.022	1.313
	(0.372)	(0.445)
	[0.006]	[0.003]
Where applicable, relevant charters, laws, and regulations are included in organizational policies regarding patient and family rights.	1.371	1.315
	(0.526)	(0.446)
	[0.009]	[0.003]
Patients have access to ablution facilities.	1.389	-0.256
	(0.502)	(0.214)
	[0.006]	[0.232]
Only authorized persons have access to personnel records.	1.457	-1.241
	(0.553)	(0.351)
	[0.008]	[0]
The patient's need for privacy is protected during all examinations, procedures, and treatments.	2.560	0.127
	(0.896)	(0.166)
	[0.004]	[0.445]
The patient's need for privacy is protected when providing personal information.	3.221	-0.715
	(1.424)	(0.179)
	[0.024]	[0]
Organizational policy regarding patient and family rights is implemented.	5.188	0.149
	(4.03)	(0.131)
	[0.198]	[0.254]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

j. SafeCare: Clinical Management

Item	Discrimination	Difficulty
Laws, regulations, and other requirements applicable to the organizations' facilities are available in writing to the personnel.	0.134 (0.399) [0.737]	-14.433 (42.545) [0.734]
There are documented risk management processes for identifying all risks (physical, environmental, medico-legal, operational, etc.) relating to organizational processes and systems, personnel, patients, visitors, and physical facilities.	0.487 (0.291) [0.095]	0.309 (0.49) [0.529]
An on-call roster is available for after-hour, weekend, and holidays emergency coverage (e.g. for infectious diseases).	0.889 (0.472) [0.06]	-0.793 (0.423) [0.061]
Data is aggregated, analyzed, and transformed into useful information.	0.905 (0.43) [0.035]	-1.653 (0.653) [0.011]
Regular and/or emergency water supplies, including drinkable water, are available 24 hours a day, seven days a week, in all essential areas.	1.291 (0.528) [0.015]	-0.576 (0.289) [0.046]
Electrical power is available 24 hours a day, seven days a week, from regular or emergency sources.	1.480 (0.549) [0.007]	0.038 (0.202) [0.851]
The health facility uses a health information system that facilitates the collection and utilization of data.	1.727 (0.776) [0.026]	-1.518 (0.406) [0]
Security systems, including guards, provide for internal security.	2.005 (0.716) [0.005]	-0.490 (0.175) [0.005]
The organization provides its personnel with occupational health services.	2.293 (0.903) [0.011]	-0.208 (0.159) [0.191]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

k. SafeCare: Clinical Processes and Infrastructure

Item	Discrimination	Difficulty
Policies and procedures for assessing patients on arrival and during ongoing care are implemented.	0.064 (0.349) [0.853]	21.294 (115.162) [0.853]
Policies and procedures guide the care of high-risk patients and the provision of high-risk services.	0.213 (0.676) [0.753]	-13.804 (43.382) [0.75]
Patient assessments are conducted by staff members who have been identified as competent to do so.	0.439 (0.392) [0.262]	-3.572 (3.063) [0.244]
Each personnel member signs their job description/performance agreement to show that that they accept it.	0.462 (0.4) [0.248]	3.874 (3.185) [0.224]
There is a process for evaluating and verifying the credentials (license, education, training, and experience) of physicians.	0.466 (0.338) [0.168]	-1.985 (1.439) [0.168]
There is a system for fast tracking patients requiring early attention.	0.732 (0.341) [0.032]	0.038 (0.343) [0.912]
The individuals who provide patient care in the ambulance service, have the required training and experience.	0.816 (0.351) [0.02]	0.459 (0.357) [0.198]
Guidelines for pediatric emergency triage, assessment, and treatment (ETAT) are available and are followed.	0.993 (0.491) [0.043]	-1.737 (0.732) [0.018]
The service is organized in terms of personnel, facilities, equipment, and procedures to evaluate, manage, stabilize, and transfer patients with emergency conditions.	1.025 (0.536) [0.056]	-2.056 (0.889) [0.021]
There are sufficient laboratory benches for the projected activities.	1.090 (0.503) [0.03]	-1.852 (0.689) [0.007]
The personnel member's registration, education, training, and experience are used to authorize the individual to provide clinical services consistent with his/her qualifications.	1.167 (0.521) [0.025]	-1.510 (0.557) [0.007]
Sufficient equipment is available to provide the required laboratory services for the projected activities.	1.244 (0.445) [0.005]	0.525 (0.264) [0.047]
Adequate, convenient, and regular laboratory services are available to meet the organization’s needs.	1.317 (0.508) [0.009]	-1.256 (0.39) [0.001]

The ambulances are fully equipped to deal with obstetric emergencies.	1.485 (0.576) [0.01]	1.346 (0.403) [0.001]
There is an organized process for referring patients.	1.505 (0.727) [0.038]	1.874 (0.602) [0.002]
The availability of resuscitation equipment and medicines with clear instructions for use is specified in the organization's policy on resuscitation.	1.516 (0.693) [0.029]	-1.666 (0.545) [0.002]
Radiology services are available for the level of care provided.	1.849 (0.784) [0.018]	-0.783 (0.27) [0.004]
The laboratory is under the direction of a qualified individual.	2.074 (1.023) [0.043]	-1.118 (0.31) [0]
There is a process for evaluating and verifying the credentials (license, education, training, and experience) of nurses and other health professionals.	2.165 (0.764) [0.005]	-0.052 (0.177) [0.768]
A determination is made about the annual registration of the individual to provide patient care services.	2.202 (1.977) [0.265]	2.541 (1.026) [0.013]
The available supplies, reagents, chemicals, and kits are sufficient for projected activities.	2.349 (1.047) [0.025]	-1.113 (0.322) [0.001]
Personnel files contain copies of diplomas and/or licenses.	15.345 (18.938) [0.418]	-1.245 (0.212) [0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 106 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

l. SafeCare: Primary Health Care (Outpatient) Services

Item	Discrimination	Difficulty
Guidelines for preventing and treating diarrheal infections are available and are followed.	0.881	0.038
	(0.325)	(0.341)
	[0.007]	[0.911]
Policies and procedures guide the personnel in the process of gaining informed consent.	0.954	-2.933
	(0.824)	(2.329)
	[0.247]	[0.208]
Patients and families are informed about their rights to refuse or discontinue treatment.	0.973	-0.023
	(0.429)	(0.287)
	[0.023]	[0.937]
There is a system, which includes patient identification, for initiating screening at the point of first contact.	0.978	-0.807
	(0.3)	(0.307)
	[0.001]	[0.009]
Patient and staff accommodation in the outpatient service are adequate for the personnel to provide patient care.	0.994	-2.169
	(0.369)	(0.675)
	[0.007]	[0.001]
The patient's rights to privacy is protected for all forms of counselling.	1.203	-2.602
	(0.982)	(1.858)
	[0.22]	[0.161]
Information is provided in a way and in a language that is understood by those making the care decisions.	1.227	-0.429
	(0.483)	(0.27)
	[0.011]	[0.112]
The road is accessible throughout the year (e.g. take a situation like the rainy season into account).	1.320	0.641
	(0.478)	(0.269)
	[0.006]	[0.017]
The lines of communication between the health facility, referral hospital, and community services are clearly defined.	1.373	-1.678
	(0.503)	(0.533)
	[0.006]	[0.002]
Patients are informed about their condition and the proposed treatment.	1.382	-0.906
	(0.569)	(0.369)
	[0.015]	[0.014]
Guidelines for routine tests, observations, and examinations to be conducted on pregnant women are available and followed.	1.542	-0.383
	(0.417)	(0.204)
	[0]	[0.06]
Guidelines for post-natal care are available and followed.	1.637	1.107
	(0.522)	(0.291)
	[0.002]	[0]
Arrangements are in place to ensure that adequate referral services are available.	1.680	0.883
	(0.509)	(0.228)
	[0.001]	[0]

Policies and procedures for holding patients for observation are implemented.	1.813	1.276
	(0.606)	(0.303)
	[0.003]	[0]
The organization has a written response and deployment plan including the identification of response areas and the availability of response units.	1.848	-0.174
	(0.588)	(0.178)
	[0.002]	[0.33]
There is an access road to the facility.	1.887	-0.235
	(0.637)	(0.183)
	[0.003]	[0.199]
The health facility has a policy on resuscitation, which includes the level at which resuscitation is provided, by whom, and training and equipment requirements.	1.893	-0.442
	(0.502)	(0.175)
	[0]	[0.012]
Patients are informed about the consequences of such decisions.	2.219	0.052
	(0.711)	(0.162)
	[0.002]	[0.748]
Written guidelines for providing primary emergency services are available and followed.	2.381	1.179
	(0.867)	(0.238)
	[0.006]	[0]
Guidelines for measuring the growth and development of children and referring them appropriately where growth or development are delayed and the IMCI manual are available and are followed.	2.383	-0.949
	(0.65)	(0.202)
	[0]	[0]
The patient and his/her family are taught in a language and format that they can understand.	2.749	-1.276
	(1.348)	(0.38)
	[0.041]	[0.001]
Policies and procedures for assessing patients on arrival and during ongoing care are implemented.	3.022	-0.862
	(0.923)	(0.176)
	[0.001]	[0]
Guidelines providing contraceptive services are available and followed.	3.174	-1.521
	(1.195)	(0.256)
	[0.008]	[0]
The health facility has access to ambulance services (EMS).	3.387	-1.602
	(2.289)	(0.548)
	[0.139]	[0.003]
The health facility has a procedure, which is implemented, when others have to grant informed consent.	5.241	-0.731
	(2.638)	(0.169)
	[0.047]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. IMCI refers to the Integrated Management of Childhood Illness. EMS refers to emergency medical services.

Table 5.A2.2 Two-Parameter Logistic Models without Low Discrimination Items by Structural Quality Dimension

a. PSK: IMCI Clinical Consultation and Technical Support

Item	Discrimination	Difficulty
Provider ask for HIV positivity in mother or child.	0.625	1.723
	(0.504)	(1.349)
	[0.215]	[0.202]
Provider checks for signs of malnutrition—visible emaciation (marasmus or kwashiorkor), pallor (anemia), edema; measures MUAC.	0.718	0.948
	(0.501)	(0.76)
	[0.152]	[0.212]
Does the provider give the correct treatment or refers in case of danger signs or severe illness?	0.958	-4.159
	(1.42)	(5.123)
	[0.5]	[0.417]
Provider checks for dehydration (looks for sunken eyes, pinches the skin, offers the patient water if awake).	1.324	-0.876
	(0.688)	(0.441)
	[0.054]	[0.047]
Provider asks if there is difficulty in breathing, fast breathing, wheezing.	1.550	-0.693
	(0.776)	(0.362)
	[0.046]	[0.056]
Provider asks about fever. Is there a pattern, duration, associated chills, and/or rigors?	1.827	-1.100
	(1.007)	(0.412)
	[0.07]	[0.008]
Provider asks whether the mother or other family members are coughing.	1.864	1.079
	(1.078)	(0.426)
	[0.084]	[0.011]
Fever case management algorithm.	2.108	-0.210
	(1.034)	(0.279)
	[0.042]	[0.451]
Provider asks if the child is coughing. Asks about frequency and duration of cough if the child is reported to be coughing.	2.398	-1.243
	(1.527)	(0.399)
	[0.116]	[0.002]
Provider assesses the respiratory system (counts breaths, checks for chest indrawing, stridor, wheezing, listens to breath sounds).	2.898	-0.438
	(1.629)	(0.258)
	[0.075]	[0.089]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from PSK. The model is estimated from 37 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. IMCI refers to the Integrated Management of Childhood Illness. HIV refers to human immunodeficiency viruses. MUAC refers to mid-upper arm circumference.

b. PSK: Work Environment

Item	Discrimination	Difficulty
Running water and soap in critical points (toilet, examination room, lab, patient waiting area)	0.967	-1.025
	(0.55)	(0.593)
	[0.079]	[0.084]
Availability of IEC materials	0.998	-1.289
	(0.597)	(0.696)
	[0.094]	[0.064]
Availability of referral network and identified referral site	1.635	-0.473
	(0.715)	(0.317)
	[0.022]	[0.136]
Evidence of demand generation activities	1.769	0.245
	(0.699)	(0.322)
	[0.011]	[0.447]
An established inventory management system in use	1.845	0.597
	(0.8)	(0.375)
	[0.021]	[0.112]
Infection Prevention Protocol	1.958	-0.365
	(0.799)	(0.297)
	[0.014]	[0.219]
Are services offered in a confidential space?	1.959	-1.613
	(1.321)	(0.649)
	[0.138]	[0.013]
Approved waste collection and disposal method	2.151	-0.273
	(0.895)	(0.286)
	[0.016]	[0.34]
Professional license (doctors, nurses/midwives, CHEWs, etc.)	3.895	-1.180
	(3.245)	(0.314)
	[0.23]	[0]
Patient record cards and forms	25.882	0.000
	(4.455)	(0)
	[0]	[0]
Facility registration	25.882	-1.497
	(4.455)	(0.258)
	[0]	[0]
Data quality assurance checks	27.604	0.205
	(55.182)	(0.193)
	[0.617]	[0.289]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from PSK. The model is estimated from 40 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. IEC refers to information, education, and communication. CHEWs refers to community health extension workers.

c. MSK: General Client-Focused Care

Item	Discrimination	Difficulty
Medical equipment is kept out of client's view	0.991	-0.830
	(0.47)	(0.442)
	[0.035]	[0.06]
There is privacy for registration and payments.	1.024	-2.891
	(0.684)	(1.54)
	[0.134]	[0.06]
The building is in good repair.	1.053	-2.009
	(0.561)	(0.871)
	[0.06]	[0.021]
There are no safety hazards present (trailing leads, broken chairs, etc.).	1.191	-2.171
	(0.635)	(0.889)
	[0.061]	[0.015]
There are means to ensure the safety of client's personal belongings during procedures (this may be a basket into which the client puts belongings and takes into the procedure room or a client locker).	1.215	0.433
	(0.547)	(0.316)
	[0.026]	[0.17]
Procedure rooms have sufficient natural or electrical light, with back up for outages.	1.294	-1.485
	(0.592)	(0.541)
	[0.029]	[0.006]
Drinks (water is sufficient) are available in recovery and in waiting areas.	1.426	-0.535
	(0.587)	(0.295)
	[0.015]	[0.07]
There are appropriate furniture and fixtures (chair, table, stool) that promotes good client / provider interaction	1.897	-1.673
	(0.916)	(0.496)
	[0.038]	[0.001]
Recovery area is available with beds in good repair (chairs/recliners/mats acceptable in OR).	2.248	-0.940
	(0.965)	(0.283)
	[0.02]	[0.001]
Procedure rooms are clean.	2.479	-0.944
	(1.046)	(0.269)
	[0.018]	[0]
Consultation rooms are clean, spacious, and allow for privacy.	2.943	-0.898
	(1.323)	(0.246)
	[0.026]	[0]
Exterior and interior of building are clean with no litter, dust, or bad odours.	4.213	-0.978
	(2.402)	(0.233)
	[0.079]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from MSK. The model is estimated from 55 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. OR refers to operating room.

d. MSK: Clinical Governance

Item	Discrimination	Difficulty
Training plans for clinical staff are informed by needs identified through continuous supportive supervisions.	0.743	-0.526
	(0.461)	(0.48)
	[0.108]	[0.273]
Action plans developed from the last Clinical Quality Internal Audit are available and have been/are being acted upon, as evidenced by review of status of each action point.	0.999	0.888
	(0.484)	(0.458)
	[0.039]	[0.053]
A register of clinical trainings and staff completion, including levels of competency achieved, is maintained on site.	1.171	1.378
	(0.559)	(0.553)
	[0.036]	[0.013]
Site manager is able to explain the RAG rating and initial notification requirements for each type of incident, including product-related incidents.	1.859	0.661
	(0.851)	(0.271)
	[0.029]	[0.015]
A master list of all clinical staff is maintained on site, indicating dates of the last, and next, individual clinical supportive supervision for each staff member (note that supervisions should occur at a minimum of once per year).	1.916	0.966
	(0.842)	(0.314)
	[0.023]	[0.002]
Site manager maintains a record of incidents that have been reported. Action plans and investigation for each amber and red incident are included.	2.201	1.309
	(1.085)	(0.363)
	[0.042]	[0]
Site manager is able to explain the incident investigation process, including review of case notes, root cause analysis, and development of action plans.	4.119	0.966
	(2.569)	(0.234)
	[0.109]	[0]
Dissemination of investigation outcomes, follow-up of action plans, and learning points from incidents is documented in minutes from the monthly staff meetings.	5.396	0.886
	(4.558)	(0.232)
	[0.236]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from MSK. The model is estimated from 56 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. RAG refers to red-amber-green.

e. MSK: Supplies Management and Product Quality

Item	Discrimination	Difficulty
There is a designated staff who is responsible for stock management for the facility/team.	0.694 (0.519) [0.181]	-2.086 (1.424) [0.143]
Responsible stock officer has the "standard product sub-list" for their facility appropriate to their channel, and knows and can state: target minimum and maximum levels of stock to be kept (in weeks or months of stock); normal frequency orders should be placed; date next order is to be sent.	1.524 (0.644) [0.018]	0.650 (0.3) [0.031]
For key SRH products, stock cards (or other appropriate records) are kept and used for every item, batches are stocked of each item according to First Expire/First Out, and no expired stock is on the shelf or in mobile stock.	1.536 (0.651) [0.018]	0.721 (0.311) [0.02]
For the given product above, the actual stock level is within the target minimum and maximum quantities.	1.660 (0.74) [0.025]	0.911 (0.333) [0.006]
For one of these products, responsible stock officer can accurately calculate average monthly consumption and then the current target min and max actual quantities (in units) of that product.	13.234 (15.315) [0.388]	0.691 (0.152) [0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from MSK. The model is estimated from 53 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. SRH refers to sexual and reproductive health.

f. SafeCare: Human Resources Management

Item	Discrimination	Difficulty
The health facility has a policy on resuscitation, which includes the level at which resuscitation is provided, by whom, and training and equipment requirements.	0.841	-0.081
	(0.392)	(0.304)
	[0.032]	[0.79]
Each employee has a written job description/performance agreement, which defines their responsibilities.	1.891	0.311
	(0.671)	(0.181)
	[0.005]	[0.086]
A designated member of personnel is responsible for the storage and retrieval of personnel records.	2.002	0.487
	(0.758)	(0.191)
	[0.008]	[0.011]
Protective clothing (gloves, masks, aprons, etc.) is available and used correctly.	2.158	-0.262
	(0.942)	(0.173)
	[0.022]	[0.13]
The staff members registration, education, training, and experience are used to authorize the individual to provide clinical services consistent with his/her qualifications.	2.468	0.672
	(0.962)	(0.179)
	[0.01]	[0]
There are documented processes for staffing the health facility.	3.393	0.989
	(1.552)	(0.206)
	[0.029]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

g. SafeCare: Governance and Management

Item	Discrimination	Difficulty
A senior management team is responsible for operating the facility.	1.160	-1.580
	(0.478)	(0.517)
	[0.015]	[0.002]
The health facilities manager ensures that policies and procedures guide and support the activities and management of the health facility.	1.325	0.038
	(0.405)	(0.217)
	[0.001]	[0.861]
The health facility manager promotes networking with the leaders of other relevant organizations in the community.	1.573	0.216
	(0.452)	(0.205)
	[0]	[0.292]
The system includes safe handling, storing, and disposing of different types of waste.	1.889	0.643
	(0.644)	(0.251)
	[0.003]	[0.01]
Each patient has access to a nurse call system at all times.	1.985	-3.129
	(2.525)	(2.051)
	[0.432]	[0.127]
The facility manager position has been filled for the past year.	2.127	-1.864
	(1.395)	(0.565)
	[0.127]	[0.001]
A suitably qualified individual is designated to control the ordering, storage, distribution, and control of equipment and supplies used in the organization.	2.276	1.085
	(0.76)	(0.249)
	[0.003]	[0]
All procedures and diagnostic tests requested are noted in the patient's record.	3.157	0.969
	(1.302)	(0.257)
	[0.015]	[0]
First aid kits/materials for health care workers are available.	4.466	1.794
	(4.344)	(0.498)
	[0.304]	[0]
Documents describe governance accountability and responsibilities.	11.144	0.467
	(14.277)	(0.144)
	[0.435]	[0.001]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 94 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

h. SafeCare: Medication Management

Item	Discrimination	Difficulty
Patients who require early attention are identified (e.g. the very frail or ill, or women in an advanced stage of pregnancy).	0.828	-1.382
	(0.428)	(0.723)
	[0.053]	[0.056]
A designated individual, who is suitably qualified, has clearly defined responsibilities and accountability for all aspects of the pharmaceutical service.	0.870	-1.798
	(0.396)	(0.701)
	[0.028]	[0.01]
There is a list of the medications, stocked in the organization, or readily available from outside sources.	1.901	-0.128
	(0.7)	(0.162)
	[0.007]	[0.43]
The consultation rooms are clean, well ventilated, well maintained, and adequately equipped.	2.881	-0.625
	(1.494)	(0.209)
	[0.054]	[0.003]
Policies and procedures are developed and implemented for identified processes, which include at least those from a) to l) in the intent above.	2.900	-0.768
	(1.392)	(0.206)
	[0.037]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 108 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

i. SafeCare: Non-Clinical Patient Care

Item	Discrimination	Difficulty
The patients need for privacy is protected during all examinations, procedures, and treatments.	0.787	-0.300
	(0.304)	(0.29)
	[0.01]	[0.301]
A designated, competent individual is responsible for supervising the maintenance of buildings, plant, and installations.	1.022	1.313
	(0.372)	(0.445)
	[0.006]	[0.003]
Where applicable, relevant charters, laws, and regulations are included in organizational policies regarding patient and family rights.	1.371	1.315
	(0.526)	(0.446)
	[0.009]	[0.003]
Patients have access to ablution facilities.	1.389	-0.256
	(0.502)	(0.214)
	[0.006]	[0.232]
Only authorized persons have access to personnel records.	1.457	-1.241
	(0.553)	(0.351)
	[0.008]	[0]
The patient's need for privacy is protected during all examinations, procedures, and treatments.	2.560	0.127
	(0.896)	(0.166)
	[0.004]	[0.445]
The patient's need for privacy is protected when providing personal information.	3.221	-0.715
	(1.424)	(0.179)
	[0.024]	[0]
Organizational policy regarding patient and family rights is implemented.	5.188	0.149
	(4.03)	(0.131)
	[0.198]	[0.254]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

j. SafeCare: Clinical Management

Item	Discrimination	Difficulty
Data is aggregated, analyzed, and transformed into useful information.	0.828	-1.769
	(0.42)	(0.759)
	[0.049]	[0.02]
An on-call roster is available for after-hour, weekend, and holidays emergency coverage (e.g. for infectious diseases).	0.914	-0.777
	(0.479)	(0.41)
	[0.056]	[0.058]
Regular and/or emergency water supplies, including drinkable water, are available 24 hours a day, seven days a week, in all essential areas.	1.420	-0.545
	(0.563)	(0.263)
	[0.012]	[0.038]
The health facility uses a health information system that facilitates the collection and utilization of data.	1.612	-1.573
	(0.744)	(0.446)
	[0.03]	[0]
Electrical power is available 24 hours a day, seven days a week, from regular or emergency sources.	1.628	0.027
	(0.598)	(0.192)
	[0.006]	[0.886]
Security systems, including guards, provide for internal security.	1.859	-0.507
	(0.64)	(0.182)
	[0.004]	[0.005]
The organization provides its personnel with occupational health services.	2.325	-0.213
	(0.939)	(0.158)
	[0.013]	[0.177]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

k. SafeCare: Clinical Processes and Infrastructure

Item	Discrimination	Difficulty
Policies and procedures for assessing patients on arrival and during ongoing care are implemented.	0.092	-31.628
	(0.663)	(226.021)
	[0.889]	[0.889]
Policies and procedures guide the care of high-risk patients and the provision of high-risk services.	0.886	0.405
	(0.375)	(0.328)
	[0.018]	[0.216]
Patient assessments are conducted by staff members who have been identified as competent to do so.	0.942	-2.217
	(0.515)	(1.012)
	[0.067]	[0.029]
Each personnel member signs their job description/performance agreement to show that that they accept it.	0.985	-1.777
	(0.498)	(0.744)
	[0.048]	[0.017]
There is a process for evaluating and verifying the credentials (license, education, training, and experience) of physicians.	1.056	-1.643
	(0.503)	(0.649)
	[0.036]	[0.011]
There is a system for fast tracking patients requiring early attention.	1.096	-1.864
	(0.515)	(0.702)
	[0.033]	[0.008]
The individuals who provide patient care in the ambulance service, have the required training and experience.	1.228	2.042
	(0.66)	(0.825)
	[0.063]	[0.013]
Guidelines for pediatric emergency triage, assessment, and treatment (ETAT) are available and are followed.	1.247	0.492
	(0.467)	(0.259)
	[0.008]	[0.058]
The service is organized in terms of personnel, facilities, equipment, and procedures to evaluate, manage, stabilize, and transfer patients with emergency conditions.	1.377	-1.792
	(0.674)	(0.639)
	[0.041]	[0.005]
There are sufficient laboratory benches for the projected activities.	1.400	-1.228
	(0.566)	(0.383)
	[0.013]	[0.001]
The personnel member's registration, education, training, and experience are used to authorize the individual to provide clinical services consistent with his/her qualifications.	2.033	-0.067
	(0.739)	(0.177)
	[0.006]	[0.706]
Sufficient equipment is available to provide the required laboratory services for the projected activities.	2.036	-1.141
	(1.002)	(0.307)
	[0.042]	[0]
Adequate, convenient, and regular laboratory services are available to meet the organization’s needs.	2.073	-0.767
	(0.885)	(0.241)
	[0.019]	[0.001]

The ambulances are fully equipped to deal with obstetric emergencies.	2.814	-1.054
	(1.324)	(0.276)
	[0.034]	[0]
There is an organized process for referring patients.	8.001	-1.312
	(12.179)	(0.209)
	[0.511]	[0]
The availability of resuscitation equipment and medicines with clear instructions for use is specified in the organization's policy on resuscitation.	23.275	1.913
	(1.13)	(0.093)
	[0]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 106 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets.

l. SafeCare: Primary Health Care (Outpatient) Services

Item	Discrimination	Difficulty
Guidelines for preventing and treating diarrheal infections are available and are followed.	0.881	0.038
	(0.325)	(0.341)
	[0.007]	[0.911]
Policies and procedures guide the personnel in the process of gaining informed consent.	0.954	-2.933
	(0.824)	(2.329)
	[0.247]	[0.208]
Patients and families are informed about their rights to refuse or discontinue treatment.	0.973	-0.023
	(0.429)	(0.287)
	[0.023]	[0.937]
There is a system, which includes patient identification, for initiating screening at the point of first contact.	0.978	-0.807
	(0.3)	(0.307)
	[0.001]	[0.009]
Patient and staff accommodation in the outpatient service are adequate for the personnel to provide patient care.	0.994	-2.169
	(0.369)	(0.675)
	[0.007]	[0.001]
The patient's right to privacy is protected for all forms of counselling.	1.203	-2.602
	(0.982)	(1.858)
	[0.22]	[0.161]
Information is provided in a way and in a language that is understood by those making the care decisions.	1.227	-0.429
	(0.483)	(0.27)
	[0.011]	[0.112]
The road is accessible throughout the year (e.g. take a situation like the rainy season into account).	1.320	0.641
	(0.478)	(0.269)
	[0.006]	[0.017]
The lines of communication between the health facility, referral hospital, and community services are clearly defined.	1.373	-1.678
	(0.503)	(0.533)
	[0.006]	[0.002]
Patients are informed about their condition and the proposed treatment.	1.382	-0.906
	(0.569)	(0.369)
	[0.015]	[0.014]
Guidelines for routine tests, observations, and examinations to be conducted on pregnant women are available and followed.	1.542	-0.383
	(0.417)	(0.204)
	[0]	[0.06]
Guidelines for post-natal care are available and followed.	1.637	1.107
	(0.522)	(0.291)
	[0.002]	[0]
Arrangements are in place to ensure that adequate referral services are available.	1.680	0.883
	(0.509)	(0.228)
	[0.001]	[0]

Policies and procedures for holding patients for observation are implemented.	1.813	1.276
	(0.606)	(0.303)
	[0.003]	[0]
The organization has a written response and deployment plan including the identification of response areas and the availability of response units.	1.848	-0.174
	(0.588)	(0.178)
	[0.002]	[0.33]
There is an access road to the facility.	1.887	-0.235
	(0.637)	(0.183)
	[0.003]	[0.199]
The health facility has a policy on resuscitation, which includes the level at which resuscitation is provided, by whom, and training and equipment requirements.	1.893	-0.442
	(0.502)	(0.175)
	[0]	[0.012]
Patients are informed about the consequences of such decisions.	2.219	0.052
	(0.711)	(0.162)
	[0.002]	[0.748]
Written guidelines for providing primary emergency services are available and followed.	2.381	1.179
	(0.867)	(0.238)
	[0.006]	[0]
Guidelines for measuring the growth and development of children and referring them appropriately where growth or development are delayed and the IMCI manual are available and are followed.	2.383	-0.949
	(0.65)	(0.202)
	[0]	[0]
The patient and his/her family are taught in a language and format that they can understand.	2.749	-1.276
	(1.348)	(0.38)
	[0.041]	[0.001]
Policies and procedures for assessing patients on arrival and during ongoing care are implemented.	3.022	-0.862
	(0.923)	(0.176)
	[0.001]	[0]
Guidelines providing contraceptive services are available and followed.	3.174	-1.521
	(1.195)	(0.256)
	[0.008]	[0]
The health facility has access to ambulance services (EMS).	3.387	-1.602
	(2.289)	(0.548)
	[0.139]	[0.003]
The health facility has a procedure, which is implemented, when others have to grant informed consent.	5.241	-0.731
	(2.638)	(0.169)
	[0.047]	[0]

Note: Discrimination and difficulty coefficients are estimated from two-parameter logistic model fit to binary work environment items from SafeCare. The model is estimated from 109 clinics. Items are ordered from smallest to largest discrimination coefficient. Standard errors are in parentheses. Two-sided p-values are in brackets. IMCI refers to the Integrated Management of Childhood Illness. EMS refers to emergency medical services.

Appendix 6.A1 Chapter 6 Supplement for Processes: Text

Appendix 6.A1.1 Standardized Patients: Supplementary Methodology

A. SP Case Development and Technical Advisory Group

We selected four cases to be portrayed by SPs: childhood diarrhea, family planning, asthma, and malaria. Since the SP study is embedded in the AHME impact evaluation, we considered (1) primary care services covering a wide scope of the AHME services of interest, and (2) cases that were feasible to implement in the Kenyan context. The childhood diarrhea and asthma cases are evolved from Daniels et al.'s (2017) SP study conducted in Nairobi;[1] the family planning case is evolved from a Senegal study implemented by the London School of Economics;[2] the malaria case is evolved from a Tanzania study implemented by the London School of Hygiene and Tropical Medicine.[3]

We convened a technical advisory group (TAG) of four clinicians, who were versed in the international and Kenya national guidelines for these four health services and related health conditions. For our TAG, we specifically recruited for clinicians based on the following criteria: (1) expertise in the health topics of related to the AHME SP study: childhood illnesses and Integrated Management of Childhood Illnesses (IMCI) (specifically diarrhea), malaria, respiratory conditions (asthma), and reproductive health (specifically family planning); (2) ability to articulate and work on national and international guidelines and recommendations related to the health conditions above; (3) demonstrated experience in clinical practice (current or very recent, and preferably not in any clinics in the evaluation sample in the previous five years); (4) ability to consult on disease archetypes, patient characteristics, and patient archetypes, and how many of these end up in the disease registry; (5) availability for SP activities during design and field implementation dates; and (6) not practicing or acting as locum (temporary staff) at any of the AHME evaluation clinics. We hired four clinicians with these qualities. They advised on the initial drafts of the SP cases, participated in recruitment and training, advised an AHME evaluation Co-Investigator (AK) on outcomes, and reviewed laboratory tests and medicine data during analysis.

B. SP Recruitment

The initial advertisement was posted for recruiting individuals for SPs on October 30, 2018 and closed on November 9, 2019. The post was administered by Innovations for Poverty Action (IPA) in Kenya, which would contract all SPs and supervisors for the data collection activities. Because the SPs would visit clinics across Kenya, recruitment focused on obtaining a mix of females and males who represented the age groups for each of the

1 Daniels, Benjamin, Amy Dolinger, Guadalupe Bedoya, Khama Rogo, Ana Goicoechea, Jorge Coarasa, Francis Wafula, Njeri Mwaura, Redemptar Kimeu, and Jishnu Das. "Use of Standardised Patients to Assess Quality of Healthcare in Nairobi, Kenya: A Pilot, Cross-sectional Study with International Comparisons." BMJ Global Health 2, no. 2 (2017): e000333.

2 Communication with Mylène Lagarde. Mystery Patient Study implemented by the London School of Economics. June 28, 2018.

3 Goodman, Catherine, Christina Makungu, Timothy Powell-Jackson, Jessica King, and Nicole Spieker. A study to evaluate the effectiveness of SafeCare in Tanzania: Protocols for the use of standardized patients. London School of Hygiene and Tropical Medicine. July 27, 2017.

four SP cases and could speak languages that were well represented by areas of the evaluation sample. A total of 4693 applications were received. All applications were reviewed, and 110 candidates were shortlisted.

All 110 candidates were invited for a two-day interview in mid-December 2018. The goal of this two-day interview was to understand who possessed discomfort with deception or lying, wanted to opt out, had any fear of being in a hospital, had long or previous work history in medical facilities, or was judgmental or opinionated or was coming with fixed expectations of the medical professions; these were qualities that would not be suitable for the SP role. An invitation was sent to another 16 applicants to maximize attendance, particularly for languages that were less represented in the pool of shortlisted individuals.

Overall, there was good representation for languages. However, men from the coastal area never showed up, and also there were only a few Maasai women. The team sourced again for these particular groups and was able to identify two men who have lived on the Coast, one of whom knew the local dialect (Mijikenda) well. These two were added to the Coast team. (The Coast is also largely cosmopolitan so any of the SPs could be sent to this region if there was any issue.) Three additional Maasai women were recruited. From this two-day interview and additional sourcing, a total of 89 attended the January 2019 SP training. The language and gender breakdown was as follows:

Embu/Meru = 12 (7 female, 5 male)

Kalenjin = 10 (3 female, 7 male)

Kamba = 12 (8 female, 4 male)

Kikuyu = 10 (5 female, 5 male)

Luhya = 17 (14 female, 3 male)

Luo = 14 (11 female, 3 male)

Maasai = 9 (5 female, 4 male)

Mijikenda = 5 (5 female, 0 male)

Total = 89 (58 female, 31 male)

More females were interviewed because two of the SP cases (childhood diarrhea, family planning) were designed for females only. The other two cases (asthma, malaria) were designed so that half the SPs would present as female and the other half as male.

Notably, the SP fieldwork was managed by five supervisors, who had conducted a mapping exercise for AHME endline activities in August–September 2019. By design, all supervisors worked together to conduct mapping of all clinics in the sample in Nairobi, and then each supervisor was in charge of one of the following regions: Western, Eastern, Central, Coast, and Rift Valley. The regional design and allocation of the mapping activities continued into SP training and fieldwork. Each supervisor was in charge of ensuring a suitable number of SPs who not only fit each of the four cases, but also spoke the languages or possessed familiarity with the regions covered in the sample. Thus, throughout SP recruitment and training, we aimed for all supervisors to oversee fieldwork in Nairobi

county at the beginning and then teams would move out to different regions with each supervisor of each respective region directly overseeing the fieldwork responsibilities of 8 to 10 SPs and their visits to the evaluation clinic sample.

C. SP Training

SP training activities occurred between January 15–February 1, 2019 in Nairobi, Kenya, and were led by a Co-Investigator of the AHME evaluation (AK) who had conducted several SP trainings in different countries, including the Nairobi study reported in Daniels et al. (2015).[4] The schedule for SP training was modified from Kwan et al. (2019).[5] Week 1 of training focused on SP case development, adapting the cases to different regions across Kenya, dress code, and internalizing the cases. Week 2 focused on mock interviews (play scenarios in the classroom between providers and patients), improvisation techniques, risk mitigation strategies, and the introduction and recall testing of the exit questionnaires. During week 3, increasingly complex mock interviews were introduced, and dry runs (planned visits to health clinics that anticipated the SPs) were conducted at health clinics around Nairobi. Throughout the three weeks, experimental variants for the cases were designed and developed with the help of the clinical consultants and the SPs.

Over the course of the three weeks, we implemented a selection process where we invited back SPs that were strong and demonstrated qualities that would be fitting for fieldwork. At the end of training, a total of 41 (of the original 89) individuals were recruited and hired to continue for a two-week pilot that immediately followed training.

D. SP Pilot

After the three-week training, a two-week pilot was conducted between February 5–15, 2019. The pilot had multiple objectives: (1) to pilot interactions for the SPs in settings similar to the clinic sample; (2) to test the data flow; (3) to ensure detection rates were low through a detection survey administered among the consenting pilot clinics two months after pilot completion; and (4) to pilot the standard cases and experimental case variants as a team. In order to pilot the cases in settings similar to the clinic evaluation sample, we worked in Nairobi, Eastern region (Machakos County), and Western region (Nyanza province, Kisumu County). The pilot was designed to mirror the plan for SP fieldwork as closely as possible. For this reason, the pilot had two phases. Phase 1 involved the implementation of standard cases and a small, randomized proportion of the interactions were assigned the "empowered" case variants. Phase 2 involved more complex case variants, such as "poor." After the completion of the pilot, 40 SPs were hired for fieldwork. One of the SPs who was invited to the pilot decided not to accept the job.

E. Additional SP analyses

[4] Daniels, Benjamin, Amy Dolinger, Guadalupe Bedoya, Khama Rogo, Ana Goicoechea, Jorge Coarasa, Francis Wafula, Njeri Mwaura, Redemptar Kimeu, and Jishnu Das. "Use of Standardised Patients to Assess Quality of Healthcare in Nairobi, Kenya: A Pilot, Cross-sectional Study with International Comparisons." *BMJ Global Health* 2, no. 2 (2017): e000333.

[5] Kwan, Ada, Benjamin Daniels, Sofi Bergkvist, Veena Das, Madhukar Pai, and Jishnu Das. "Use of Standardised Patients for Healthcare Quality Research in Low-and Middle-Income Countries." *BMJ Global Health* 4, no. 5 (2019): e001669.

Section 6.1 describes estimating equations for the AHME evaluation's assessment of process quality and health care outcomes. For each model using SP data we present in section 6.2, we conducted additional specifications to account for possible mediating effects between AHME treatment and each of the SP experimental case variants to test whether the effect of AHME on any of our outcomes were different for different client characteristics (that is, values representing our SP experimental case variants). For these analyses, we use conditional linear regression that include additional interaction terms to assess whether the AHME program effects influenced specific client characteristics (equation 6.A2.1):

$$Y_i = \alpha + \beta\ AHME\ Treatment_i + \sum_{v=1}^{V} \delta_v\ AHME\ Treatment_i * CaseVariant_i + \sum_{v=1}^{V} \gamma_v\ CaseVariant_i + CaseFE_i + SPIndividualFE_i + \epsilon_i, \quad (6.A2.1)$$

where α is the intercept, and $AHME\ Treatment_i$ is a binary treatment indicator for whether the clinic associated with the SP-provider visit received the AHME intervention ($AHME\ Treatment_i = 1$) or was assigned to the control arm ($AHME\ Treatment_i = 0$). $CaseVariant_i$ is a set of V indicators for each of the SP experimental case variants, where each variant is identified at the SP case level. $CaseFE_i$ are SP case fixed effects, and $SPIndividualFE_i$ are SP actor fixed effects. The coefficient on the AHME treatment indicator variable, β, is interpreted as the impact of the AHME intervention on the outcome of interest (Y_i). The coefficients on each of the interactions between the AHME indicator and each SP experimental case variant, δ_v , where v takes on values 1 to V corresponding to each of the SP experiments, are interpreted as different effects due to the AHME program for the SP experimental case variant. The coefficients on each of the SP experiment indicator variables, γ_v , where v takes on values 1 to V corresponding to each of the SP experiments, are interpreted as the effect of the client characteristic corresponding to the SP case variant on the outcome of interest (Y_i). Lastly, ϵ_i is a normally distributed error term for observation *i*, that is clustered at the index clinic level. Results of these additional analyses are cited in the main text and tables of Chapters 6 and 7 and are found in appendices 6.A2 and 7.A1.

Appendix 6.A1.2 Standardized Patients: Ethical Considerations

The AHME quantitative evaluation was granted clearance by the ethics committees at Kenya Medical Research Institute (No. KEMRI/RES/7/3/1; NON-SSC PROTOCOL NO. 372) and the Human Subjects Committee for Innovations for Poverty Action IRB-USA (IPA IRB Protocol #1085). The ethical clearance included all primary data collection activities for process quality analyses. This appendix describes the protocol for SP data collection.

All the SPs in this study were hired as field staff and participated in a three-week training, and a two-week pilot, and are required to participate in refresher trainings throughout fieldwork in order to mitigate any potentially harmful events, such as unsafe injections, invasive tests, and consumption of any medicines during encounters in the health sector.

Similar to other SP studies with similar designs and embedded in an intervention[6], we sought a waiver of provider informed consent to conduct the SP study. The request for a waiver was based on a recent study commissioned by the United States Department of Health and Human Services to assess the ethics of simulated patient studies.[7] Supported by a pilot study conducted in Nairobi that validated the SP method in the Kenyan context,[8] both ethics committees approved the waiver request within the AHME evaluation study because (1) combining informed consent with the congregation of providers during trainings and the implementation of interventions during the study period posed threats to the scientific validity of the study objectives, as well as to the risk of SP detection, and (2) there is no more than minimal risk of participation to the SPs or providers, as reported in the Nairobi SP pilot and validation study (Daniels et al. 2017).

Ethics committee approvals with the waiver of informed consent were provided conditional on our agreement to return to all clinics visited by SPs to disclose the SP study to them and to provide them with an opportunity to ask questions and discuss any concerns. During January 1–23, 2020, we informed all clinics that received SPs and that were not closed permanently at that time. All questionnaires and case scripts are available upon request. The approved waiver request is presented in appendix 6.A1.3.

[6] Kwan, Ada, Benjamin Daniels, Sofi Bergkvist, Veena Das, Madhukar Pai, and Jishnu Das. 2019. "Use of Standardised Patients for Healthcare Quality Research in Low-and Middle-Income Countries." *BMJ Global Health* 4 (5): e001669.

[7] Rhodes, K. V., and F. G. Miller. 2012. "Simulated Patient Studies: An Ethical Analysis." *The Milbank Quarterly* 90 (4): 706–24.

[8] Daniels, Benjamin, Amy Dolinger, Guadalupe Bedoya, Khama Rogo, Ana Goicoechea, Jorge Coarasa, Francis Wafula, Njeri Mwaura, Redemptar Kimeu, and Jishnu Das. 2017. "Use of Standardised Patients to Assess Quality of Healthcare in Nairobi, Kenya: A Pilot, Cross-sectional Study with International Comparisons." *BMJ Global Health* 2 (2): e000333.

Appendix 6.A1.3 Standardized Patients: Request for Waiver of Informed Consent

1.1 Purpose/Introduction

With this submission, we are seeking approval for the amendment of the main AHME impact evaluation study. Within this amendment, we are requesting a waiver for provider informed consent for the standardized patient (SP) component of the endline data collection activities for the AHME evaluation.

For the AHME evaluation endline data collection, we are proposing to study the impact of quality of care for four health conditions under a triple-blind, randomized evaluation design with the gold standard method to assess clinical quality of care: the standardized patient (SP) method. SPs are individuals who are locally recruited, trained for approximately 150 hours, and hired to portray and present health conditions at health facilities. SP studies have been safely and effectively implemented in urban and rural field settings in South America, South Asia, East Asia, and across Africa, to assess quality of provider practice for child and adult health conditions, and in Europe and the United States, SPs are common practice in professional medical training at accredited medical schools [1]. By taking advantage of the randomized evaluation design of the AHME evaluation, the proposed triple-blind SP study involves ensuring that the clinic treatment assignment will be masked to: (1) agencies implementing the AHME intervention, (2) clinics and providers in the evaluation sample, and (3) the hired SP actors. In order to conduct this study with fidelity and based on existing evidence on the ethical implementation of SP studies in Kenya and other settings, we request a waiver for provider informed consent for the reasons stated in this section.

In particular, this request is the result of a careful assessment of findings that report that the SP method has been validated and can be safely conducted in Kenya, according to the ethical principles stated in the Declaration of Helsinki (2008). Based on a study published by Daniels et al. (2017) where 14 trained SPs successfully conducted 166 interactions between April 3rd and June 9th, 2014 among 42 health facilities in Nairobi, we believe that demonstrating a scientifically valid answer to the AHME evaluation research questions is not possible unless the requirement of individual provider informed consent is waived [2].

Previous SP studies, which are large-scale in nature and/or have been incorporated in program evaluations similar to the AHME evaluation and conducted by AHME Study Co-Investigator Dr. Jishnu Das and his colleagues, have requested and received waivers of informed consent from ethics committees at McGill University, Harvard University, Duke University, and other partner institutions. We will share the IRB protocols and approvals, if requested, of this precedent. Another SP study conducted at the Universidad Peruana Cayetano Heredia has also received waiver of informed consent [3].

These waivers have been granted under the provisions for waiver or alteration of the informed consent requirements under the United States Department of Health and

Human Services regulations 45 CFR 46.116(d) (Office for Human Research Protections (OHRP), accessed at: http://www.hhs.gov/ohrp/policy/consentckls.html).

The remainder of this section provides background of the proposed SP study (**Section 1.2**) and details our proposal for the waiver of informed consent (**Section 1.3**) and addresses the implications and protocol of the proposed waiver under the same provisions above, including risks to health care provider/study participants (**Section 1.4**) and standardized patients/hired staff (**Section 1.5**). We also discuss the potential benefits (**Section 1.5**) and the maintenance of strict confidentiality of our research data involving several mechanisms to protect confidentiality of participating healthcare providers in the study (**Section 1.6**).

Background

In order to assess the impact of the AHME intervention on quality of care, we propose to implement the SP method for four health conditions, which cover the scope of services of interest in the AHME intervention package:

- Case 1: Childhood diarrhea
- Case 2: Asthma
- Case 3: Family planning
- Case 4: Adult malaria

For two of the proposed AHME SP cases above (childhood diarrhea and asthma), we plan to draw from the same study materials as those recently implemented in Nairobi, Kenya – these are presented in Daniels et al. (2017). We additionally propose to develop two additional SP cases for the AHME study (family planning and malaria), developing study materials borrowed from SP studies in South Africa and Tanzania, respectively. We plan to contract clinician consultants who are knowledgeable in international and national guidelines for these health conditions to advise us on SP case development. Further, we will draw from: (1) SP studies conducted for family planning in Kenya [4], Morocco [5], Nigeria [6], Tanzania [7], and Haiti [8], as well as current studies underway in Kenya (IPA communication); and (2) an SP study assessing quality of malaria care that has been successfully conducted in Tanzania, in fact for the SafeCare intervention we are evaluating in the AHME package (Catherine Goodman, Timothy Powell-Jackson, Principal Investigators from London School of Hygiene and Tropical Medicine; communication on January 24, 2019). During the development of the two additional SP cases and before and during implementation, any concerns deviating from this protocol that arise will be promptly communicated to the IRB.

The language for this provider waiver request is informed by previous SP studies and has been adapted and drawn from resources [1] and the experience of AHME evaluation research team members (JD, AK), who have led and supported training, study design, and implementation of SP studies in a variety of settings, including in Kenya [2, 9–12].

1.2 Informed Consent – Waiver

In accordance with the ethical principles stated in the Declaration of Helsinki (2008), this subsection describes the evidence that informs our assessment of the ethical implications of a waiver for our triple-blind SP study and supports our request for a waiver. In summary, this subsection covers the following:

A. The proposed research involves no more than minimal risk to participants and any risks to hired SPs can be mitigated with training.
B. The combination of spacing of SPs and waiver of informed consent will minimize the risk of SP detection rates (confirming that SPs are perceived as real patients).
C. The lack of participant consent is unlikely to adversely affect the welfare of the participants, since no welfare loss will be incurred by providers, no added inconvenience will be imposed on other patients, and the identity of all providers and clinics will be maintained under strict confidentiality until anonymized.
D. For our study, we have made the educated decision to select the SP approach after considering more than a decade of research, during which researchers were unable to find adequate ways to answer the research questions about quality of health care that can be answered through the use of SPs.
E. The combination of informed consent, franchising and quality supervision as part of the AHME intervention package, and congregation of providers at frequent intervention trainings (at times several are scheduled in a month) threaten the validity of our study as these provide opportunities for study participants to discuss the SP study and identities of the SPs. This will threaten our ability to interpret the data as actual quality of care.

The proposed waiver of informed consent for AHME is based on a pilot SP study implemented in Nairobi, Kenya (henceforth, "the Nairobi SP pilot"). The findings are further described in Daniels et al. (2017). The objective of the Nairobi SP pilot was to validate the method for implementation and to ensure implementation was ethically sound in the Kenyan context. In order to achieve the study objective of the Nairobi SP pilot, four health conditions were assessed (asthma, childhood diarrhea, tuberculosis, and unstable angina), and private and public facilities were consented.[9] Ethical clearance was granted by the ethics committee at the African Medical and Research Foundation

[9] Daniels et al. (2017) describe the consenting procedure as follows: "Facilities were provided a consent form with details on the study, which included both a description of the process ('In the following 6 months, you will be visited by someone who has been trained by us to act as a patient. These patients are called 'standardized patients' and this approach has been used to assess quality of medical care. You will not know exactly when this standardized patient will visit you, but please note the date and time if/when you think you saw this standardized patient. No later than one month after this visit, our research team will contact you to find out if/when you saw our standardized patient'.) and informed consent ('The standardized patient who visits you for a consultation will pay your usual consultation fees. So, you will not suffer any economic loss due to participation in this study. While you will not directly benefit from the research, we hope that the information from this study will help us understand how the standardized patient approach can be used to evaluate quality of primary care in Kenya.'). There were no direct refusals to participate; however, 3 of the 49 facilities initially approached requested additional time before signing the consent form to obtain further authorisation from a main office that oversees the facility, and they were dropped from the sample."

(AMREF, Reference Number AMREF-ESRC P94/2014) with additional clearance from the Ministry of Health, Government of Kenya, as well as from each county in which the facilities were located.

A. We expect the proposed research for the SP study in AHME to involve no more than minimal risk to participants. The Nairobi SP pilot documented that the SP method is minimally intrusive with no risks or harms to the providers participating in the project [2]. Daniels et al. (2017) reports the following from the Nairobi pilot:

> *There were no adverse events reported by SPs during the fieldwork. The most common invasive treatment that SPs had to avoid was being given an injection, which was offered in 38 of 126 non-diarrhoea interactions (30%; 95% CI 23 to 39). To assess detection rates, each provider was administered a structured questionnaire within 2 weeks of the completion of fieldwork asking whether an SP had visited the clinic, and, if so, the characteristics of the SP. Providers claimed to have detected an SP in nine instances, but on further elicitation of the characteristics and presentations of the suspected cases, there was no match between the SPs we had sent and the presentation of the patient that the provider suspected to be an SP. We therefore conclude that detection rate for the SPs was zero in this study.*

We want to emphasize that this research does not involve any therapeutic interventions, such as those involved in randomized clinical trials that compare the effects of drugs among individuals. Researchers of the Nairobi pilot, who are investigators in the AHME evaluation, have verified that all 38 events in which injections were offered were successfully avoided by the SPs, as a result of thorough risk mitigation strategy training. As part of the Nairobi pilot, SPs were fully informed and trained on how to recognize and avoid harmful situations, such as avoiding blood draws and injections. Further, two members of the AHME evaluation team were also present and participated as trainers in the Nairobi pilot training – therefore, we propose and can ensure that the Nairobi SP training protocol will be followed and implemented for the AHME SP study. Following any potential event, the team will plan a full debriefing and SPs will be led through a refresher on avoiding all invasive examinations. Consideration to drop any SP case that presents more than minimal risk to participants will also be carefully made with ethical considerations and protocol.

B. The combination of spacing SP visits and waiver of informed consent will minimize the risk of SP detection rates, which confirm that SPs are perceived as real patients. With the experience of the Nairobi SP pilot and in a pilot study that validated the SP method for tuberculosis in Delhi and based on that study's detection results [11], we do not recommend any changes to the SP training and practice implemented and believe that the combination of spacing of SPs and the waiver of informed consent for the proposed AHME SP component will maintain detection rates at zero or near zero.

C. The lack of participant consent is unlikely to adversely affect the welfare of the participants. Based on the Nairobi SP pilot [2] and following similar results from SP studies in other low- and middle-income settings [11, 12], we predict that the lack of the participant's consent is unlikely to adversely affect the welfare of the providers for several reasons. Firstly, no financial losses will be incurred by providers as the SPs, like real patients, will pay them whatever they charge in the clinics. There will be no added inconvenience to other patients as we will train the SPs on how to immediately step aside if there is an emergency that demands the doctor's attention. Based on Daniels et al. (2017), average consultation times in private clinics in Nairobi are on average 8.64 minutes (Standard Error, 0.64 minutes), so we expect SPs will inconvenience other patients only by that time [2]. None of the identities of the providers or their health facilities will be compromised since we will maintain strict anonymity in the information collected. At no time during or after the project (or in any publications or presentations) will the providers or health facilities be identified. Further, in a detection survey following SP visits conducted in urban India, Das and colleagues elicited provider opinions on whether participation in the study had adversely affected their practice in any way [1, 11]. The results were stark: of the 98 responding providers, not a single one replied with the affirmative.

D. For our study, we have made the decision to select the SP approach after considering more than a decade of research, during which researchers were unable to find adequate ways to answer the research questions about quality of health care that can be answered by using SPs. The SP method is a unique assessment for achieving the AHME evaluation research objectives. Ethics guidelines on health services audit studies state that SPs should be used in cases where the person being sent the SP is providing a service to other people and where other options have been carefully studied but cannot answer the research questions required. For example, with the direct observation approach, four notable issues arise:

1. How can the true condition of a real patient be determined? For example, research teams are not able to determine whether patients at a clinic have certain risk factors that are not identified by the provider ahead of consultation visits.
2. Real patients for certain health conditions is a rare event and will appear very infrequently in a clinic.
3. What is a trained team to observe quality of care to do if the observed doctor begins to engage in malpractice?
4. Direct observation is limited by the Hawthorne effect, which suggests that when observed while doing a job or task, individuals will have the propensity to alter their natural routine.

In short, there is no other way to get accurate illness-specific metrics of care, or at least none that do not present the above issues.

E. The combination of informed consent, franchising and quality supervision as part of the AHME intervention package, and congregation of providers at frequent intervention trainings (at times several are scheduled in a month) threaten the

validity of our study as these provide opportunities for study participants to discuss the SP study and identities of the SPs. This will threaten our ability to interpret the data as actual quality of care. Our particular study will evaluate the quality of care among clinics and providers, who are networked in franchises and who will attend many trainings and workshops together, as well as be visited by the same franchising staff and the same quality improvement consultants and supervision staff. Obtaining provider consent in this environment poses an added risk of both providers and franchising staff discussing the identities and personal characteristics of the SPs throughout the period of the study during which we will send SPs multiple times in the AHME evaluation sample.

To expand, we cite a recent study by Rhodes et al. on ethical aspects of simulated patient studies, commissioned by the US Department of Health and Human Services [13]. The review found "several relevant considerations both favor and oppose soliciting consent for simulated patient studies. Making research participation conditional on informed consent protects the autonomy of research subjects and shields them from unreasonable exposure to research risks. However, scientific validity is also an important ethical principle of human subjects research, as the net risks to subjects must be justified by the value to society of the knowledge to be gained. The use of simulated patients to monitor access is a naturalistic and scientifically sound experimental design that can answer important policy-relevant questions, with minimal risks to human subjects" [13].

The report concluded: "As long as adequate protections of confidentiality of research data are in place, minimally intrusive simulated patient research that gathers policy-relevant data on the health system without the consent of individuals working in that system can be ethically justified when the risks and burdens to research subjects are minimal and the research has the potential to generate socially valuable knowledge" [13]. Daniels et al. (2017) report that across all four conditions, 52% of SPs were correctly managed by providers with wide variation in essential actions for correct management. With no other method to ascertain these metrics, the SP method can help inform policy on universal health care access to high quality services (e.g., ensuring all patients are correctly managed 100% of the time) and quality improvement strategies – both objectives in the AHME intervention package.

In order to fully use the potential of this "mystery client" approach and maximize its impact, SPs have to present themselves as regular patients to health providers, who therefore cannot be informed ahead of time that they will be visited by trained SPs posing as patients. Under the proposed triple-blind study, we request that the requirement for provider informed consent be waived to ensure that health providers will treat the SPs as they would any regular patient.

At the end of the study, a letter of full disclosure will be sent to debrief any provider who received an SP, similar to ethical agreements under previous SP studies which have been granted waivers of informed consent [1, 11, 12]. Section 1.7 shows a template for this letter. The letter will offer providers a chance to further discuss any aspect of the

findings or methodology and register any concerns; however, if providers request to understand any findings, no individual data on any clinic or provider will be disclosed to them. Any concerns expressed by providers will be promptly communicated to the IRB.

1.3 Risks to Health Care Providers

This subsection expands the consideration of the risks posed to health providers receiving SPs.

As the pilot study in Nairobi confirmed [2], there are no obvious risks perceived risk by doctors who will be involved in the study. Doctors will receive their usual consultation fees because SPs will be instructed to pay the consultation fees, like any other patient in such settings. So, there is no economic loss for the doctors to participate.

Also, we do not anticipate any risks to the real patients of the healthcare providers for two reasons. First, these are private health clinics that see on average 15–20 patients a day and the private clinic providers spend on average 8–9 minutes per patient as shown in Daniels et al. (2017) [2]. Therefore, it is not the case that our study is going to add substantial waiting time for any of the patients, as we estimate the additional waiting time to be at most 8–9 minutes. In addition, our protocol also dictates that if there is a medical emergency in the clinic, our SPs will immediately step aside.

1.4 Risks to Standardized Patients

This subsection expands the consideration of the risks posed to SPs, who will be hired and properly trained.

In the Nairobi SP pilot, the detection rate was 0% for 166 SP interactions among 42 Nairobi clinics [2]. There were no adverse events noted, and no SPs were given an injection. In comparison, in a urban India pilot study conducted by members of this research team, the detection rate was about 5% of all SP interactions; however, for every correctly detected SP, providers reported as many false positives [11]. The SP training from these two studies have evolved from an older study conducted in rural India [9], in which detection rates were less than 1% and one risk was uncovered (providers attempted to conduct a tuberculin skin test without asking the SP). The rural India research team identified the appropriate risk mitigation measure (SPs must keep their hands below any desk) and implemented it into SP training. In all the true positive detection events across the three studies, detection was noted ex-post, after the visit was completed and during a follow-up survey. None of the detections caused any harm to the SPs.

Following protocol from other SP studies, including those granted with waivers of informed consent and those in which members of our research team have led, our data collection supervisors will hold two meetings with all the SPs to review the dos and don’ts with regard to SP safety and risk mitigation strategies. During these meetings,

supervisors will go over instructions for the SPs on how to avoid invasive or potentially unclean examinations (e.g. thermometers) and interventions (e.g. injections), such as avoiding the placement of their arms on the table and always asking the provider what he intends to do if he moves toward the SP for any examination.

Additionally, we will review once a week during which SPs will be asked to describe any situation that arose with regard to invasive procedures and what tactics were used to avoid or refuse such events. SPs will be reminded in these weekly meetings that rather than risk invasive procedures, they should reveal their identities and give the supervisor's phone number to the provider if they feel that the provider is aggressively pursuing an invasive procedure (we note that this situation did not arise during the pilot in Nairobi). Any such a case will be recorded as an adverse event with clear documentation of the circumstances that led to the disclosure.

1.5 Potential Benefits

The clinics and providers will receive a small gift (e.g., a weigh scale) from participating in the overall AHME evaluation. For the SP component of the AHME evaluation alone, there are no additional, direct benefits for the clinics and providers involved in the study. The AHME SP component will serve to assess the impact of the SP strategy to evaluate quality of care for childhood illnesses, reproductive health and family planning, and adult curative care – all of which are main services for the AHME intervention package. This study can in turn inform policy and decision makers, and further the goal of the Government of Kenya's social health insurance plan and implementing agencies social franchising and quality improvement strategies in the private health sector across Kenya. Thus, there is an important public health/societal benefit. Our project will be Kenya's first-ever, nation-wide study of quality of care using SPs, and if the Nairobi SP pilot findings hold true on a larger scale, it can offer valuable insights for intervention, policy, and health financing that no other method can assess without methodological limitations.

1.6 Confidentiality

We have documented that our project will maintain strict confidentiality of our research data involving several mechanisms to protect the confidentiality of participating healthcare providers in AHME evaluation sample. All study data will be kept confidential. The identity of providers who participate in the study will be anonymized through the process described below. This process will be communicated explicitly to those involved.

During training and throughout data collection, all SPs participating in the study are debriefed on their critical duty to restrain themselves from discussing SP and fieldwork experiences with individuals outside of the research team (e.g., family members, friends, neighbors). SPs and supervisors will conduct the exit questionnaires and debrief sessions in spaces where they are not to be overheard from others and away from the location of the SP-provider interaction.

All exit questionnaires will be completed on paper, and data on the exit questionnaires will be entered by data entry operators. All data entry operators will sign a confidentiality form stating that they will not discuss or expose any information related to the survey to any person outside the research team. To ensure the confidentiality and the safety of the information gathered, all data will be accessed through a secure domain and stored on a Microsoft Windows SQL server 2008 R2. An extensible web server called IIS (Internet Information Services) 7.5 created by Microsoft will be used.

After data from the SP-provider interactions are entered, they will be retrieved through the secure server by the study investigators. Study investigators will then strip all provider identifiers (for this study, the term "provider identifiers" means: provider name, GPS codes, street address, work place and address if applicable, mobile or fixed telephone numbers, other contact information) and confirm numerical code IDs assigned to each provider ahead of fieldwork as the first step in receiving data. Each provider in the study will have their own numerical code ID, and the access to the file that matches provider numerical code IDs to provider identifiers will be restricted to the study investigators only. All study documents (e.g., completed exit questionnaires) will be kept in a locked cabinet at a designated office at the IPAK Nairobi office. The keys to the locked cabinets will be with the project coordinator at each site. The list that associates provider identifiers with code ID will be kept in a password-protected secure server.

Databases will be constructed from these de-identified data and will be used in analysis in understanding the impact of the AHME intervention on quality of care. This also pertains to any future use of data generated from this study.

All expert clinician consultants who will participate on a SP study panel for treatment coding will at no time receive any data that contain identifiable characteristics for providers, supervisors, or SPs. This will protect participants and maintain their anonymity, in addition to eliminating any coding bias.

Additionally, to minimize the likelihood of identifying providers or their institutions in this study [14], data used by the PIs will be aggregated at the county level. Participant names and other identifying information will not be used in any reports of the research, and any quote used will be anonymized.

1.7 Letter Template of Full Disclosure at Study Completion in Lieu of Consent

Note: This letter has been sourced from [1], [11], and [12].

Dear [Provider]:

We are a research team from [institution name (location)].

Over the last [time period], we have been working closely with [relevant organizations and agencies] to understand [research goals]. This is an important issue because [study rationale].

As part of this initiative, we selected providers by [method of sample selection]. These providers were from [study location(s)], and they received standardized patients over [time period of the study].

Standardized patients are regularly used in medical education and are people trained to present symptoms of a disease in a clinical interaction and to answer any questions asked by the provider. The standardized patients we sent to [study sample] presented with certain symptoms to these clinics. With permission from our research institution, all patients were unannounced which allowed us to record the nature of care being provided with validity**. The identities of these clinics and providers will not be given to anyone,** since our interest is in general patterns across [location] and not in the performance of any individual clinics located in our sample. [This initiative was started after first piloting the approach and checking with a large number of doctors and health care providers that there were no adverse effects on the initiative on their practices.]

We are able to provide general feedback on the results of our study, aggregated at the [level of analysis]. We are eager to hear your opinions about this study and its outcomes. We would also like to be able to discuss with you the relevance of the methods we used and ask your frank opinion about the use of unannounced patients. You are under no compulsion to discuss these findings or issues arising from our study, but if you would like to discuss these issues with us, we would be happy to schedule a meeting at your convenience.

If you are interested in hearing more results about this project or would like further information, please contact us through email at [email contact] or through phone at [phone contact] and we will fix a time and place for a member of our team to visit you. Following the discussion with the member of our team, if you have further concerns, we will put you in contact with the [ethics committee] at [institution name].

Lastly, regardless of whether you wish to contact us for further discussion or not, we want to express our grateful thanks for your contribution to our project and for the work you are doing among the population in [location].

Sincerely,
[Principal Investigators]
[Titles]

1.7 References

1 Kwan, A., S. Bergkvist, B. Daniels, J. Das, V. Das, and M. Pai M. Forthcoming. *Using Standardized Patients to Measure Health Care Quality: A Manual and Toolkit for Projects in Low- and Middle-Income Countries*. Qutub Project.

2 Daniels, B., A. Dolinger, G. Bedoya, K. Rogo, A. Goicoechea, J. Coarasa, et al. 2017. "Use of Standardised Patients to Assess Quality of Healthcare in Nairobi, Kenya: A Pilot, Cross-Sectional Study with International Comparisons." *BMJ Global Health* 2 (2): e000333.
3 Planas, M. E., P. J. García, M. Bustelo, C. Cárcamo, S. Martinez, H. Ñopo, et al. *Using Standardized Simulated Patients to Measure Ethnic Disparities in Family Planning Services in Peru: Study Protocol and Pre-Trial Procedures of a Crossover Randomized Trial*. Inter-American Development Bank, Contract No. IDB-TN-640.
4 Tumlinson, K., I. S. Speizer, L. H. Archer, and F. Behets. 2013. "Simulated Clients Reveal Factors that May Limit Contraceptive Use in Kisumu, Kenya." *Global Health: Science and Practice* 1 (3): 407–16.
5 Brown, L., M. Tyane, J. Bertrand, D. Lauro, M. Abou-Ouakil, and L. Demaria. 1995. "Quality of Care in Family Planning Services in Morocco." *Studies in Family Planning* 26 (3): 154–68.
6 Ezire, O., I. Okekearu, F. Adeniyi, and O. Faweya. 2015. "Analysis of Health Facility-Based Barriers and Facilitators to Use of Sexual and Reproductive Health Care Services among Most At Risk Populations (MARPS): Evidence from a Mystery Client Survey in Nigeria." *Journal of Tropical Diseases & Public Health* 3 (4): 1000171.
7 Mchome, Z., E. Richards, S. Nnko, J. Dusabe, E. Mapella, and A. Obasi. 2015. "A 'Mystery Client' Evaluation of Adolescent Sexual and Reproductive Health Services in Health Facilities from Two Regions in Tanzania." *PLoS One* 10 (3): e0120822.
8 Maynard-Tucker, G. 1994. "Indigenous Perceptions and Quality of Care of Family Planning Services in Haiti." *Health Policy and Planning* 9 (3): 306–17.
9 Das, J., A. Holla, V. Das, M. Mohanan, D. Tabak, and B. Chan. 2012. "In Urban and Rural India, A Standardized Patient Study Showed Low Levels of Provider Training and Huge Quality Gaps." *Health Affairs* 31 (12): 2774–84.
10 Das, J., A. Holla, A. Mohpal, and K. Muralidharan. 2016. "Quality and Accountability in Health Care Delivery: Audit-Study Evidence from Primary Care in India." *American Economic Review* 106 (12): 3765–99.
11 Das J., A. Kwan, B. Daniels, S. Satyanarayana, R. Subbaraman, S. Bergkvist, et al. 2015. "Use of Standardised Patients to Assess Quality of Tuberculosis Care: A Pilot, Cross-Sectional Study." *The Lancet Infectious Diseases* 15 (11): 1305–13.
12 Satyanarayana, S., A. Kwan, B. Daniels, R. Subbaraman, A. McDowell, S. Bergkvist, et al. 2016. "Use of Standardised Patients to Assess Antibiotic Dispensing for Tuberculosis by Pharmacies in Urban India: A Cross-sectional Study." *The Lancet Infectious Diseases* 16 (11): 1261–68.
13 Rhodes, K. V., and F. G. Miller. 2012. "Simulated Patient Studies: An Ethical Analysis." *The Milbank Quarterly* 90 (4): 706–24.
14 World Health Organization (WHO). 2013. *Ethical Issues in Patient Safety Research: Interpreting Existing Guidance*. Geneva: WHO.

Appendix 6.A1.4. Standardized Patients: Childhood Diarrhea SP Case (Example)

AHME Impact Evaluation
SP Case 1 Contents
Script and SP Exit Questionnaire
Version last updated: 24 February 2019

Standardized Case 1: Watery Diarrhoea

JOSEPHINE

Josephine is 28 years old and a merchandiser in Nairobi. Today she decided to go home earlier than usual because she left her daughter Diana feeling unwell in the house. Diana has been unwell for the past two days and Josephine was really getting worried about her. Since then she had diarrhoea six or seven times and was crying more than usual. As Josephine was making her way home, she received a call from her niece, informing her that Diana's diarrhoea had worsened again. Her husband is away travelling.

Diana is one and a half years old. Lately Josephine has tried to observe cleanliness in the house. But recently there has been some water shortage due to a burst city council pipe. She buys 2-3 20-liter Jelicans of water[10] per day and divides it for all her chores. She stores the drinking water in a five-liter plastic can. She boils it when she has some paraffin to spare after making the family meals. There is no provision for drainage system, and they have one toilet that is shared among many households within the plot. There is also no system for garbage collection, and it is always heaped just behind her house. (Josephine lives in a small village. She gets water from a well/river nearby. She stores her drinking water in a small pot or a jelican. She boils it when she has some paraffin/wood to spare after making the family meals. There is no provision for a drainage system, and they have one toilet that is shared among many households.)

Diana is still breastfeeding, has had all of her immunizations and has been a healthy baby. Lately, she has not been her usual self, and since last night she is having several bouts of watery stools – sometimes they have mucus and stickiness. They did not smell particularly foul though. She seemed a little weak and tired but was still playful. Diana's body was a little hot. She has also been crying more than usual, and it seemed she had some tummy ache. She was vomiting a little. She lost her appetite but was drinking lots of water. Josephine had prepared ORS before she left for work for her to be given during the day. On hearing of the many episodes of diarrhoea that Diana has been having, Josephine was worried. She decided to visit a nearby clinic on her way home.

Josephine, miaka ishirini na nane ni mfanyi biashara Nairobi. Leo aliamua kuenda nyumba mapema kwa sababu alikuwa amemwacha mwanawe Diana akiwa ajihisi vizuri. Diana amekuwa mgonjwa kwa siku mbili zilizopita na Josephine amekuwa na wasiwasi sana. Kutoka wakati huo, alihara mara kama sita au saba na akawa analia sana ile si kawaida. Diana alikuwa mgonjwa sana na hangeweza kupata usingizi usiku kucha. Akiwa njiani kuelekea nyumbani, alipokea simu kutoka kwa binamuye kumwelezea ya kwamba hali ya Diana ilikuwa dhohofika. Binamu wake wa miaka kumi na nne aliyekuwa anamlinda Diana alimweleza kuwa kuhara kwa Diana kulikuwa kumezidi tena. Diana amekuwa akilia na kuwa mnyonge zaidi. Mumeo yuko safarini.

Diana ana mwaka mmoja unusu. Hivi karibuni Josephine amekuwa akiaribu kuangalia hali ya usafi kwa nyumba. Siku chache zilizopita wamekuwa na upungufu wa maji kwa ajili ya kupasuka kwa bomba la maji la manispa. Ye hununua mitungi mwili au mitatu ya lita ishirini ya maji kwa matumizi yake yote

10 Other sources of water are the river, lake, wells/boreholes and even springs.

ya nyumbani. Na pia huhifadhili lita tano ya kunywa kwenye mtungi wa plastiki. Wakati mwingine huchemsha maji ya kunywa mafuta taa ikiwa imesalia baada ya kupika chakula. Sehemu anayoishi Josephine hamna mtaro wa kupitisha maji taka na pia choo ni kimoja kinachotumika na wakaazi wote kwenye ploti. Hamna pia sehemu iliyotengwa ya kutupa takataka kwa hivyo hutupwa nyuma ya nyumba yake. (Josephine anaishi katika kijiji kidogo. Yeye huchota maji kwenye kisima/mto ulio karibu. Anahifadhi maji ya kunywa kwenye mtungi wa lita tano/chungu. Wakati mwingine yeye huchemsha maji ya kunywa iwapo mafuta/kuni zikisalia baada ya kutayarisha chakula. Hakuna mifereji ya kupitisha maji taka na wana choo moja ambacho hutumiwa na watu wote wa boma lao.

Diana bado ananyonya, amepata chanjo zako zote na ana afya mzuri. Lakini tangu juzi jioni amekuwa akihara. Mwanzoni choo chake kila kuwa majimaji baadaye ikawa na makamasi kidogo na kunata. Hakikuwa na harafu yoyote. Alionekana mnyonge, mchovu na mwili wake ukawa na joto lakini bado alikuwa anacheza. Mwili wake ulikuwa na joto kidogo. Amekuwa akilia sana ambayo si kawaida na akaonekana mwenye kuumwa na tumbo. Alikuwa akitapika kidogo na akapoteza hamu ya kula lakini alikuwa akinywa maji mengi. Mamake aliposikia Diana amezidiwa aliingiwa na hofu kwa vile alijua hakuwa na dawa yoyote nyumbani ya kumpa. Alijua hakukuwa na dawa ya kumpa Diana nyumbani lakini alimwambia binamuye ampe ORS naye akaamua kutembelea kituo cha afya kilichoko karibu kupata usaidizi.

Other details:
Maelezo mengine:

- Niece's age: 17
  Miaka ya binamuye: 17

- Diana's date of birth: 1 July 2017
  Tarehe ya kuzaliwa kwa Diana: 1 July 2017

Experiments for Standardized Case 1: Watery Diarrhoea

Only conduct the following experiments if assigned by your supervisor.

Experiment 1. Expressing Serious Concern and Demanding Unnecessary Drugs

Josephine goes to the facility, presents her case and on occasions when the provider refuses to give her anything/treat the baby, she tells him/her that she is really worried about her baby's condition and asks to be given (a) *dawa ya minyoo* (ABZ deworming medicines) or (b) Amoxyl (amoxicillin) for babies.

a. **Demanding dawa ya minyoo (concern, abz):**
   When assigned to this experiment, the SP presents worried and remembers another time when her baby was not feeling well and *dawa ya minyoo* calmed the baby. She wants the provider's advice and help in this concerning situation (otherwise she would just go to the chemist), but she is also convinced by her comfort that *dawa ya minyoo* will help.

At three possible moments when appropriate, the SP assigned this experiment can express the desire for *dawa ya minyoo*: (i) when the provider is writing a prescription or about to dispense drugs, (ii) when the doctor asks what the patient wants, or (iii) at the end of the interaction and if the provider hasn't given *dawa ya minyoo* (ABZ) yet, the SP stands up and seem as if she wants to leave then turn back and says to the doctor in a pleading tone:

"But doctor I'm really worried… Can you give me *dawa ya minyoo* for my baby? The last time she was sick, it helped."

b. **Demanding Amoxyl (concern, amoxyl):**
When assigned to this experiment, the SP presents worried and remembers another time when her baby was not feeling well and *Amoxyl* calmed the baby. She wants the provider's advice and help in this concerning situation (otherwise she would just go to the chemist), but she is also convinced by her comfort that *Amoxyl* will help.

At three possible moments when appropriate, the SP assigned this experiment can express the desire for *Amoxyl*: (i) when the provider is writing a prescription or about to dispense drugs, (ii) when the doctor asks what the patient wants, or (iii) at the end of the interaction and if the provider hasn't given *dawa ya minyoo* (ABZ) yet, the SP stands up and seem as if she wants to leave then turn back and says to the doctor in a pleading tone:

"But doctor I'm really worried… Can you give me amoxyl for my baby? The last time she was sick, it helped."

Josephine's dress:

1. Generally, Josephine is a very simple woman.
2. Wears smart and casual clothes, which are not expensive.
3. She doesn't wear excessive make-up, and most times she does not wear any at all.
4. She puts on simple doll shoes or rubber shoes and small earrings or studs.
5. She carries a very simple handbag sometimes a shopping bag and a kikoi/kanga.
6. In the coast, Josephine wears a long dress/skirt, Dera or a Buibui. In some parts of Homabay and towards Kisii, she does not wear trousers at all. She only wears long skirts.

Opening statement:

My child has been having diarrhea.
Kiswahli: Mtoto wangu ana hara/endesha.
Taveta: Dakitari mwana wangu efwaka
Rabai: Dakitari mwanangu yunahara
Luhya: Omwana wanje anyalala
Kamba: Ndakitali mwana wakwa nukwitua
Meru: Kana gakwa igakwatwa/ mwana okwa nakwarwa
Kalenjin: Taktari mondoe moet lakwenyun
Maasai: Nkitari, keloito (e)nkeraiai (e)nkoshoke

Luo: Daktari, nyathina diewo
Kikuyu: Mwana wakwa niaraharwo
Taita: Dakitari mwana wapowawefwaya
Kisii: Omwana one agosaa
Embu: Ndakitare mwana wakwa nearavarwa

History questions asked by the provider and their answers:

1. Q: How old is the child?
   Mwanao ana umri gani?
   A: 1 1/2 years old.
   Mwaka mmoja unusi.

2. Q: How many times has she passed stools?
   Amehara mara ngapi*?*
   A: Many times.
   Mara nyingi.

3. Q: How many times in the last 24 hours?
   A: Maybe 6 or 7 times in the last two days.

4. Q: For how many days has she had this?
   Kwa muda wa siku ngapi amekuwa hivi?
   A: Two days ago but it wosened today.
   Siku mbili iliyopita lakini ilimzidia mchana.

5. Q: Was there any blood in the stool?
   Kulikuwa na damu katika hyo haja?
   A: No.
   La*.*

6. Q: Is the diarrhea watery?
   Mhara ina majimaji
   A: Yes.
   Ndio

7. Q: Was there any mucus in the stool?
   Ilikuwa ikionekana kuwa na kamasi hivi kwenye haja?
   A: A little.
   Ndio.

8. Q: Were the stools sticky?
   Je haja ilikuwa inakaa kama kushikana?
   A: They are watery and at times sticky.
   Ni majimaji na saa zingine kushikana.

9. Q: Does the child feel hot?
   Mtoto anahisi joto jingi?

A: A little hot.
Joto kidogo.

10. Q: Is the child vomiting?
Alikuwa akitapika?
A: Yes, a little but not everything.
Ndio.

11. Q: How many times?
Mara ngapi?
A: A few times
Mara chache.

12. Q: Is the child crying when passing stools?
Mtoto ana maumivu tumboni?
A: Yes.
Ndio.

13. Q: Has the child been able to take water or breastfeed?
Mtoto ameweza kunywa maji ama kunyonya
A: Yes.
Ndio.

14. Q: Is the child eager to take water?
Mtoto ana kiu ya maji
A: Yes.
Ndio.

15. Q: What was the last meal of the child before the diarrhea started?
Mtoto alikula nini ya mwisho kabla ya mharo kuanza?
A: Ugali and milk.
Ugali na maziwa.

16. Q. Has the child eaten since?
Mtoto amekula tangu?
A: She was drinking milk, but she was very restless so she did not take much.
Alikunywa maziwa lakini hakuwa na utulivu kwa hivyo aliyanywa kiasi tu.

17. Q: How many times has the child eaten?
Amekula mara ngapi?
A: She has eaten poorly today. Took some porridge but did not finish her lunch.
Hajakula vizuri leo. Alikunywa uji wakati wa lunch lakini hakumaliza

18. Q: Is the child playing?
Mtoto anacheza?
A: She seemed very tired and irritable.
Anakaa kuchoka na kkutokuwa na utulivu kulia sana.

19. Q: Is the child passing urine normally?
Mtoto anaenda haja ndogo kama kawaida?
A: Yes.
Ndio.

20. Q: How many times during the day?
Mara ngapi kwa siku?
A: It seems normal; (she) was also passing urine with the stools.
Ni kama kawaida; alikuwa akienda haja kubwa na ndogo pamoja.

21. Q: What color is the urine?
Mkojo ni ya rangi gani?
A: It is light yellow.
Ni ya kijani kibichi isiyokoleza.

22. Q: What else did you give to the child for his loose motions? (Water or ORS – i.e. water with salt and sugar)
Nini tena ulimpatia kwa kuendesha? (maji ama ORS – yaani maji iiliyochanganywa na sukari na chumvi)
A: Water and ORS.
Moji na ORS.

23. Q: What is the source of your drinking water?
Mnayapata maji ya kunywa wapi?
A: Usually city council water but lately we have to buy from water vendors.

A: If in a village, the souce of water could be; a river, lake, well, springs
Kwa kawaida ni ya baraza la mji lakini hivi majuzi imetubidi tuyanunue toka wachuuzi.

24. Q: How do you store it?
Unahifadhi maji kivipi?
A: In a five litre jerry can?
Katika kibuyu ya lita tano.

25. Q: Do you boil your water?
Unachemsha maji ya kunywa?
A: No.
La.

26. Q: Who prepares her food?
Nani anatengeneza chakula chake?
A: Myself
Mimi.

27. Q: Do you have toilets?
Una choo?
A: Yes, but 5 minutes walk from the house.
Ndio, lakini ni kutembea dakika tano kutoka kwa nyumba.

28. Q: How is your child's health otherwise?
Afya ya mtoto wako iko aje, anaugua kila mara?
A: She is quite healthy.
Yuko na afya njema.

29. Q: Is she teething?
Je anaota meno?
A: No – all her teeth are out.
La – ashaota meno yote.

30. Q: Is there anyone else in the family who is sick?
Kuna mtu yeyote katika familia anayeugua?
A: No.
La.

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

Clinic ID: ☐☐☐☐☐☐☐ Form No: ☐☐☐☐

COVER PAGE					
CP1	Clinic ID	☐☐☐☐☐	**CP2**	Clinic Name	
CP3	County		**CP4**	Sub county	
CP5	Physical Address				

In the following section, visit 2 should only be filled if Visit 1 was unsuccessful, and Visit 3 should only be filled if the first two visits were unsuccessful.

	Visits	**Visit-1**	**Visit-2**	**Visit-3**
CP6	Date of survey for each visit	__ __ / __ __ / __ __ *DD/MM/YY*	__ __ / __ __ / __ __ *DD/MM/YY*	__ __ / __ __ / __ __ *DD/MM/YY*
CP7	SP Name			
CP8	SP ID	☐☐☐	☐☐☐	☐☐☐
CP9	Time in (entry) and time out (exit) for total time at clinic (24hr time)	Time In: ☐☐ Hrs ☐☐ Min; Time Out: ☐☐ Hrs ☐☐ Min	Time In: ☐☐ Hrs ☐☐ Min; Time Out: ☐☐ Hrs ☐☐ Min	Time In: ☐☐ Hrs ☐☐ Min; Time Out: ☐☐ Hrs ☐☐ Min
CP10	Completion of the case *(1=Yes, 0=No)*	☐	☐	☐
CP10a	If no, give reason:	☐	☐	☐
	Reason for non-completion of the case: 1 = Waited 7 hours, 2 = No providers available, 3 = Facility closed for the day, 4=Turned back at registration, 5 = Other, specify:			

CP11a	How many patients were waiting when you reached the clinic?	☐☐	**CP11b**	How many patients were waiting when you left the clinic?	☐☐
CP12	How long did you spend with the main provider? (Note: Total time including any interruptions in minutes)	☐☐			
CP13	In which age group do you think the provider falls? *(1=Under 30, 2=Between 30 and 50, 3=Above 50)*	☐	**CP14**	Provider Gender *(1=Male, 2=Female)*	☐
CP15	Do you know the name of the provider you saw? *(1=Yes, 0=No; If no, skip to CP16)*	☐	**CP15a**	If yes, provider's name:	**CP15b** Did SP ask for the provider's name? *(1=Yes, 0=No)* ☐
CP16	Do you know the provider's qualification? *(1=Yes, 0=No; If no, skip to CP17)*	☐	**CP16a**	If yes, select qualification. *(1=Doctor, 2=Nurse, 3=Clinical Officer (CO), 4=Lab Tech, 5=Receptionist/Admin, 6=Pharmacist, -222=Other, Specify)* ☐ *Specify if other:*	**CP16b** Did SP ask for the provider's qualification? *(1=Yes, 0=No)* ☐
CP17	Interviewer Name		**CP18**	Interviewer ID	☐☐

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

Clinic ID: | | | | | | | | Form No: | | | |

EXPERIMENTS			*1 = yes 0 = no Unless otherwise noted*
EXP0a	Did anyone at the clinic ask you, "are you paying by cash or (NHIF) card"?		
EXP0b	Did anyone at the clinic ask what you can afford?		
EXP1	Did you tell the provider or anyone (receptionist, lab tech) that you couldn't afford something today?		*If yes, answer EXP1a*
EXP1a	What service(s) did you say you couldn't afford and how much did each service originally cost? ***Only list services that you said you could not afford at all.*** ***Only provide original price (not how much you paid).***	*Service:* *1.*	Ksh |	|	|	|
		2.	Ksh |	|	|	|
		3.	Ksh |	|	|	|
		4.	Ksh |	|	|	|
		5.	Ksh |	|	|	|
EXP1b	Did the clinic have a consultation fee? (1=Yes 0=No)		
EXP1b_1	If yes, **did you tell** the receptionist / provider that you can or cannot afford the consultation fee? (1=Can 2=Cannot -555=NA)		
EXP1c	Aside from the consultation fee, how much did you tell the receptionist or intake nurse you can afford?		| | | | -222 "Not enough" -555 N/A
EXP1d	Aside from the consultation fee, how much did you tell the provider you can afford?		| | | | -222 "Not enough" -555 N/A
EXP1e	What did the receptionist or intake nurse say after you told him/her you cannot afford the full amount?		
EXP1f	What did the provider say after you told them you cannot afford the full amount?		
EXP1g	Were you assigned to present as a poor SP? (Note: A poor SP expresses to the clinic that he/she cannot afford all the services that day.)		
EXP2	Did you present as an insured (NHIF) SP? (Note: An insured SP tells the clinic that he/she is covered by NHIF and has an insurance card.)		
EXP2a	Were you assigned to present as an insured (NHIF) SP? (Note: An insured SP tells the clinic that he/she is covered by NHIF and has an insurance card.)		
EXP3	Did you present as a knowledgeable SP? (Note: A knowledgeable SP demonstrates specific knowledge about their case.)		
EXP3a	Were you assigned to present as a knowledgeable SP?		

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

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	(Note: A knowledgeable SP demonstrates specific knowledge about their case.)	
EXP4	Did you express serious concern at the end of the interaction?	☐
EXP4a	Were you assigned to express serious concern at the end of the interaction?	☐
EXP5	Did you demand drugs or lab tests as an SP at the end of the interaction?	☐ *If yes, answer EXP5a-EXP5c*
EXP5a	What did you demand?	☐ 0. Nothing specific 1. ABZ (childhood diarrhea) 2. Amoxyl (childhood diarrhea) 3. Calpol (childhood diarrhea) 4. Franol (asthma) 5. Other, specify_____
EXP5b	What did the provider say after you demanded [the item in EXP5a]?	
EXP5c	Did the provider give you or write you a prescription for what you demanded?	☐
EXP5d	Were you assigned to demand [the item in EXP5a]?	☐

HISTORY INFORMATION (ESSENTIAL) ASKED BY THE PROVIDER			***Asked*** **YES (1) NO (0)**	**If not *asked*, given by SP? YES (9) NO (0)**
	KISWAHILI	*ENGLISH*		
H1	*Je,mhudumu aliuuliza miaka ya mtoto?*	Did the provider ask about the age of the child?	☐	☐
H2	*Je,mhudumu aliuliza kuhusu muda (siku ama wiki ngapi)?*	Did the provider ask about the duration of the sickness (how many days or weeks)?	☐	☐
H3	*Je, mhudumu aliuuliza mara ngapi mtoto anahara (mara ngapi kwa siku)?*	Did the provider ask about the frequency (how many times per day) the baby passes stool?	☐	☐
H4	*Je, mhudumu aliuuliza kuhusu aina ya mharo (kama rangi,uwepesi hata kama ni ya majimaji)?*	Did the provider ask about the qualities of stool (consistency and color, including if it is watery)?	☐	☐
H5	*Je,mhudumu aliuliza kama mharo ina damu?*	Did the provider ask if there is any blood in the stool?	☐	☐
H6	*Je mhudumu aliuliza kama mharo ina makamasi?*	Did the provider ask if the stool has mucus?	☐	☐
H7	*Je,mhudumu aliuuliza kuhusu joto?*	Did the provider ask about fever?	☐	☐
H8	*Je,mhudumu aliuuliza kuhusu kutapika?*	Did the provider ask about vomiting?	☐	☐
H9	*Je,mhudumu aiuuliza kama mtoto anaweza kunywa, kunyonya au kunywa maji mengi?*	Did the provider ask about if the child is able to take fluids (or breastfeed)? Excessive thirst?	☐	☐
HISTORY INFORMATION (RECOMMENDED) ASKED BY PROVIDER			***Asked*** **YES (1) NO (0)**	**If not *asked*, given by SP? YES (9) NO (0)**
	KISWAHILI	*ENGLISH*		
H10	*Je,mhudumu aliuuliza kuhusu aina ya mharo?*	Did the provider ask about the quantity of stool?	☐	☐

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

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H11	*Je,mhudumu aliuuliza kama mtoto anacheza vizuri (tabia ya mtoto kwa ujumla)?*	Did the provider ask about the general behavior of the child (active/playful, restless/irritable/sleepy)?	☐	☐
H12	*Je,mhudumu aliuuliza kuhusu chakula ambacho mtoto amekula?*	Did the provider ask about what has the child eaten?	☐	☐
H13	*Je,mhudumu aliuliza kuhusu uchungu kwa tumbo?*	Did the provider ask about abdominal pain?	☐	☐
H14	*Je,mhudumu aliuuliza kuhusu kukojoa?*	Did the provider ask questions about urination?	☐	☐
H15	*Je,mhudumu aliuuliza kuhusu afya ya mtoto?*	Did the provider ask about previous health status of the child?	☐	☐
H16	*Je,mhudumu kama kuna watu wanashida kama hii nyumbani ama katika familia?*	Did the provider ask about others with similar symptoms in the household or family?	☐	☐
H17	*Je,mhudumu aliuuliza mahali ambapo unatoa maji ya kunywa?*	Did the provider ask about source of drinking water?	☐	☐
H18	*Je,mhudumu aliuuliza kuhusu kupika chakula?*	Did the provider ask about food preparation?	☐	☐
H19	*Je,mhudumu aliuuliza kuhusu mtaa/nyumbani?*	Did the provider ask any question about neighborhood/family background?	☐	☐
H20	*Je,mhudumu aliuuliza kuhusu mazingira?*	Did the provider ask about physical environment?	☐	☐
H21	*Je,mhudumu aliuza kama kuna madawa mtoto anatumia kwa sasa?*	Did the provider ask if the child is taking any other medication currently?	☐	☐
H22	*Je,mhudumu kuhusu allergy ya madawa?*	Did the provider ask about allergies to medication?	☐	☐
H23	*Je, mhudumu wa afya aliuliza kama mtoto anakohoa ama ana ugumu wa kupumua au kupumua kwa kasi?*	Did the provider ask if the child has cough or difficulty or rapid breathing?	☐	☐
H24	*Je, mhudumu aliuliza kama kuna watoto wengine kwa nyumba?*	Did the provider ask If there are other children in the house?	☐	☐
H25	*Je, mhudumu aliuliza kuongea na binamu yako?*	Did the provider ask to talk to the niece?	☐	☐
H26		Did the provider ask if the child was restless or irritable or sleepy? For example, cannot be consoled or calmed when the child is touched or held or breastfed?	☐	☐
H27	*Je, mhudumu aliuliza kama macho ya mtoto yanakaa sio kawaida?*	Did the provider ask if the child's eyes look unusual?	☐	☐
H28	*Je, mhudumu aliuliza kuhusu vile mtoto anavyo kunywa?*	Did the provider ask about how the child is drinking?	☐	☐
H29	*Je, mhudumu aliuliza kama kuna mtu yeyote kwa familia anayekohoa?*	Did the provider ask if anyone in the family is coughing?	☐	☐
H30	*Je, mhudumu aliuliza kuhusu hali ya mtoto wako ya virusi vya ukimwi?*	Did the provider ask about your child's HIV status?	☐	☐
H31	*Je, mhudumu aliuliza kuhusu ugumu wa kupumua?*	Did the provider ask about breathing difficulty or rapid breathing?	☐	☐
H32	*Je, mhududmu aliuliza kuhusu kutoa sauti (wakati anapopumua)?*	Did the provider ask about wheezing?	☐	☐

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

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EXAMINATIONS (INVESTIGATIONS) RECOMMENDED BY THE PROVIDER *Write the name of the lab or facility where the provider recommended the test, if no name was given put -99. If in the same facility, leave blank.*			**Yes (1) No (0)**	**Cost** *(Enter -999 if cost is not specified. Enter 0 if free.)*
	Investigation Name	*Name of referral site*		
E1	Stool test, general		☐	KSh ☐☐☐☐
E2	Blood test, general		☐	KSh ☐☐☐☐
E3	Did the provider order any other investigations? *(1=Yes, 0=No. If yes, list below. If no, skip to E4)*		☐	KSh ☐☐☐☐
	Investigation Name 1.	*Name of referral site*		KSh ☐☐☐☐
	2.			KSh ☐☐☐☐
	3.			KSh ☐☐☐☐
	4.			KSh ☐☐☐☐
	5.			KSh ☐☐☐☐
E4	Total cost of investigations. *Sum of investigations costs or lump sum, if lump sum is given. Enter -999 if not specified. Enter 0 if free.*			KSh ☐☐☐☐
E_SO	Did the provider mention stockouts for any of the above tests?			☐
	If stockouts were mentioned please, specify:			

DIAGNOSIS		**1=Yes, 0=No**
D1	Did the provider mention any suspicion of loose or watery or acute diarrhea in the whole conversation?	☐
D2	Did the provider give or mention a diagnosis?	☐
D2a	If yes, what was the diagnosis? *(If one or more diagnosis given, then write all of them)*	

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TREATMENT			1=Yes, 0=No Unless otherwise specified
T1	Did the provider ask the mother to come back with the child? *(If yes, mark from T1a to T1h, If no, skip to T2)*		☐
T1a	If symptoms persist		☐
T1b	If symptoms become worse		☐
T1c	To get pills		☐
T1d	For diagnostic tests		☐ *If No, go to T1e_1*
T1d_spec	Specify diagnostic tests		
T1e_1	For a physical examination		☐
T1e_2	To check abdomen		☐
T1f	With more money		☐
T1g_1	To get an injection		☐
T1g_2	If yes, enter number of injections. If no, leave blank.		☐☐
T1g_3	If yes, enter how much the injections would cost. If no, leave blank.		KSh ☐☐☐☐
T1h_1	After so many days *(If yes, fill T1h_2. If no, skip to T1i_1)*		☐
T1h_2	If yes, enter number of days. If no, leave blank. If asked to come back immediately or on same day, enter 0.		☐☐
T1i_1	Other		☐
T1i_2	*Specify if other:*		
T2	Cost of consultation/registration *If given, write cost. If there is not a separate consultation/registration cost, write -99.*		KSh ☐☐☐☐
T3	Other costs *Enter -999 if not applicable.*	*Specify if other:*	KSh ☐☐☐☐
T4	Total amount paid: *Sum of treatment, investigations, consultation/registration and other costs, or lump sum, if lump sum is given. Enter 0 if free.*		KSh ☐☐☐☐
T5	Did the provider say they were giving you a discount, a markdown or anything for free?		☐

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

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T5a	How much was discounted? (Enter how much the provider saved you.) *This value should not be included in what you paid (not included in T2-T4).*	KSh ☐☐☐☐
T5b	What was the discount for?	
T6	Any other questions asked that were not on the previous list?	1.
		2.
		3.
		4.
	☐ *1=Yes, 0=No*	5.
		6.
		7.
		8.
T7	Did the provider speak about hygiene, such as washing hands?	☐
T8	Did the provider explain that you should ensure the child continues eating?	☐
T9	Did the provider explain that you should continue giving the child fluids?	☐
T10	Did the provider explain that you should give the child ORS?	☐
T11	Did the provider explain that you should give the child Zinc?	☐
T12	Did the provider tell you to bring the child to a nearby clinic?	☐
T13	Did the provider explain that you should continue breastfeeding the child?	☐
T14	Did the provider explain that you should offer the child some water?	☐
T15	Did the provider explain that you should put water in the child's mouth if child does not drink?	☐
T16	Did the provider explain that you should check if the child is unhappy when you take water away?	☐
T_SO	Did the provider mention stockouts for any treatment?	☐
	If stockouts were mentioned please, specify:	

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

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REFERRAL			*1 = yes 0 = no*
R	Did the provider ask the patient to go anywhere for further management? (***If yes fill R1 to R4a, if no, go to G1)***		
R1	Private Provider/Private Hospital		
R2	Government Hospital		
R3	Other		
R4	Specify:		
R_SO	Were you referred because of a stock out?		
	If you were referred because of stockouts, please specify:		

GLOBAL ASSESSMENT SCALE			
G1	Did the provider use a cell phone at any point during the whole conversation?	Yes =1, No =0	
G2	Were there other people in the room besides clinic staff?	Yes =1, No =0	
G3	Was there a TV on in the room?	Yes =1, No =0	
G4	Did you like this provider?	Yes =1, No =0	
G5	Would you go to this provider again?	Yes =1, No =0	
G6	How well did the provider create an environment in which you could convey your symptoms and concerns easily?	Definitely =3 Somewhat =2 Not at all =1	
G7	How well did the provider appear to be knowledgeable about your illness?	Very knowledgeable =3 Somewhat knowledgeable =2 Not at all =1	
G8	How well did the provider address your worries seriously?	Very seriously =3 Somewhat seriously =2 Not at all =1	
G9	How well did the provider explain anything about your baby's illness?	Very well 3 Somewhat =2 Not at all =1	
G10	How well did the provider explain your baby's treatment plan?	Very well =3 Somewhat =2 Not at all =1	
G11	Did the provider ask for your consent at any time during your visit? **(*Before conducting any examination or tests*)**	Yes =1, No =0	
G12a	***Think about the consultation table, floor, equipment used, whether there were adequate and functional windows***. Would you say that your consultation room(s) were clean?	Yes =1, No =0	
G12b	Would you say that your consultation room(s) were spacious?	Yes =1, No =0	

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G12c	Would you say that your consultation room(s) were private?	Yes =1, No =0	☐
G12d	Would you say that your consultation room(s) were well ventilated?	Yes =1, No =0	☐
G12e	Would you say that your consultation room(s) were well maintained?	Yes =1, No =0	☐
G13	Was there a poster in the waiting room stating patient and/or family rights?	Yes =1, No =0	☐
G14a	Was your information recorded in a register, individual patient file or book?	Yes =1, No =0	☐
G14b	Did you fill out any forms at the clinic?	Yes =1, No =0	☐
G15a	Did the provider or other staff wear gloves?	Yes =1, No =0	☐
G15b	Did the provider or other staff wear masks?	Yes =1, No =0	☐
G15c	Did the provider have clean protective clothing? For example, fresh gloves, clean lab coat or apron?	Yes =1, No =0	☐
G16	Did the provider speak to you in a language you understood? For example, using local terms and not medical terms.	Yes =1, No =0	☐
G17	Do you feel as though your needs were protected during all examinations, procedures, and treatments?	Yes =1, No =0	☐
G18a	Were there IEC posters in the waiting room?	Yes =1, No =0	☐
G18b	Were you offered brochures or information pamphlets from the clinic?	Yes =1, No =0	☐
G19	Did the clinic have sufficient natural light? ***Is the room completely dependent on artificial light? Would you be/are you able to read comfortably if the lights were switched off?***	Yes =1, No =0	☐
G20a	Did any patients at the clinic require early attention?	Yes =1, No =0	☐
G20b	Were these patients identified by the health staff?	Yes =1, No =0	☐
G21	**Provider Assessment** **Note: The SP will give a rank to the provider from 1-10, where 10 is the highest and 1 is the lowest.**		☐
L	Which language (s) did you use with the provider? *Select all that apply.*	☐ 1. Bukusu ☐ 2. Embu ☐ 3. Kalenjin	

		☐ 4. Kamba ☐ 5. Kikuyu ☐ 6. Kisii ☐ 7. Kuria ☐ 8. Luhya ☐ 9. Luo ☐ 10. Maasai ☐ 11. Maragoli ☐ 12. Mbeere ☐ 13. Meru ☐ 14. Mijikenda ☐ 15. Sabaot ☐ 16. Swahili ☐ 17. Teso ☐ 18. Tharaka ☐ Other, specify	

YS QUESTIONS

ENUMERATOR & PROGRAMMING INSTRUCTIONS: FOR EACH ROW YS1-YS11, THE SET A STATEMENT OR SET B STATEMENT SHOULD BE RANDOMLY DRAWN TO BE ASKED AT 50%:50% PROBABILITY (IF PAPER-BASED, ENUMERATORS MUST FLIP A COIN AND CIRCLE THE STATEMENT GIVEN). AFTER BEING READ EITHER THE SET A OR SET B STATEMENT, EACH RESPONDENT SHOULD (.1) BE ASKED AGREE OR DISAGREE, FOLLOWED BY (.2) WHETHER THEY AGREE/DISAGREE MODERATELY OR STRONGLY.

	SET A STATEMENT [YS#A] *PROGRAMMING: THIS COLUMN OF QUESTIONS SHOULD BE ASSIGNED YS1A, YS2A, YS3A…*	**SET B STATEMENT [YS#B]** *PROGRAMMING: THIS COLUMN OF QUESTIONS SHOULD BE ASSIGNED YS1B, YS2B, YS3B…*	**AGREE/DISAGREE [YS#{A/B}.1]** *PROGRAMMING: A or B SHOULD BE INCORPORATED INTO THE VARIABLE NAME SO THAT WE CAN DETERMINE WHETHER SET A OR SET B QUESTION WAS STATED.*	**MODERATELY/STRONGLY [YS#{A/B}.2]** *PROGRAMMING: A or B SHOULD BE INCORPORATED INTO THE VARIABLE NAME SO THAT WE CAN DETERMINE WHETHER SET A OR SET B QUESTION WAS STATED.*

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YS1	This clinic is clean.	This clinic is dirty.	**YS1[A/B].1.** 1. I agree 2. I disagree -888. RTA	**YS1[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS2	The waiting time was appropriate.	The waiting time was too long.	**YS2[A/B].1.** 1. I agree 2. I disagree -888. RTA	**YS2[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS3	The providers at this clinic are courteous and respectful.	The providers at this clinic are rude and disrespectful.	**YS3[A/B].1.** 1. I agree 2. I disagree -888. RTA	**YS3[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS4	The providers did a good job of explaining your condition.	The providers did a poor job of explaining your condition.	**YS4[A/B].1.** 1. I agree 2. I disagree -888. RTA	**YS4[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS5	You had enough privacy during your visit.	You had too little privacy during your visit.	**YS5[A/B].1** 1. I agree 2. I disagree -888. RTA	**YS5[A/B].2** 1. Moderately 2. Strongly -888. RTA
YS6	The providers spent a sufficient amount of time with you.	The providers spent too little time with you.	**YS6[A/B].1** 1. I agree 2. I disagree -888. RTA	**YS6[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS7	The hours this clinic is open are adequate to meet your needs.	The hours this clinic is open are too short to meet your needs.	**YS7[A/B].1.** 1. I agree 2. I disagree -888. RTA	**YS7[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS8	You completely trust the provider's decision about medical treatment in this facility.	You do not completely trust the provider's decision about medical treatment in this facility.	**YS8[A/B].1.** 1. I agree 2. I disagree -888. RTA	**YS8[A/B].2.** 1. Moderately 2. Strongly -888. RTA
YS9	The registration fees of this visit to the clinic were reasonable.	The registration fees of this visit to the clinic were too expensive.	**YS9[A/B].1.** 1. I agree 2. I disagree -888. RTA -555 NA	**YS9[A/B].2.** 1. Moderately 2. Strongly -888. RTA -555 NA

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

Clinic ID: | | | | | | | | Form No: | | | | |

YS10	The fees for medicines or drugs you received today were reasonable.	The fees for medicines or drugs received today were too expensive.	**YS10[A/B].1.** 1. I agree 2. I disagree -888. RTA -555 NA	**YS10[A/B].2.** 1. Moderately 2. Strongly -888. RTA -555 NA
YS11	The lab fees today were reasonable.	The lab fees today were too expensive.	**YS11[A/B].1.** 1. I agree 2. I disagree -888. RTA -555 NA	**YS11[A/B].2.** 1. Moderately 2. Strongly -888. RTA -555 NA

Errors and Detection		
ED1	Did you think you made any mistakes in the presentation of the case? If yes, please note them down.	☐ *(1=Yes, 0=No)*
ED2	Do you think the provider detected you as an SP? If yes, how were you detected?	☐ *(1=Yes, 0=No)*
ED3	Did you refuse any treatment or diagnostic tests? If yes, please note them down and why.	☐ *(1=Yes, 0=No)*

SP1 EXIT QUESTIONNAIRE: WATERY DIARRHOEA

Clinic ID: | | | | | | | | Form No: | | | | |

Comments:

Appendix 6.A1.5. Provider Survey: Vignettes

Summary of Vignette Protocol

This is a summary of the protocol for the vignette modules. These have been adapted from study materials and protocol from the World Bank, ISERDD, and the World Bank Service Delivery Indicators Project.

One interviewer will administer three vignettes with the respondent. For each vignette, the interviewer will serve as both a typical enumerator and a client. As the client, the interviewer will behave as the client throughout the case. The interviewer will also have three additional tasks: (1) controlling the interview, (2) recording the answers, and (3) providing answers to questions regarding examinations.

The respondent (provider) will work from differential diagnosis and ask questions and perform examinations to rule out various options. The interviewer must be extremely careful in sticking to the case guidelines. For each case, there are three sections: the history, the examination/labs, and the treatment.

- In the history section, the interviewer as the client must be careful (i) to not volunteer any information, other than that specifically mentioned in the volunteered information section, and (ii) to not deviate from the case modules.
- In the examination and labs section, the interviewer must provide the results from each examination that the doctor asks, as well as ask for clarifications in case the examination is unclear.
- The treatment section is divided into recorded answers and prompted treatment questions. The interviewer will ask each prompted treatment question separately to the doctor. The interviewer will not record any additional questions regarding the history or the examination once the treatment section of the module is reached.

There are 3 vignettes in this module, and each one (i) deals with a case that is present in Kenya's morbidity profile, and (ii) is similar to an implemented standardize patient case scenario implemented at least six months prior to the administration of the vignette. Some of these cases are fairly common (diarrhea and malaria), while others are less common, but needed to be treated carefully. For each of these cases, the respondent will work by attempting to rule out differential diagnosis- i.e., the respondent will start with a number of options in his/her mind, and then, through a series of questions and examinations, will try to rule out the options one by one, until he/she is left with the correct diagnosis. It is therefore crucial that questions asked by the respondent are carefully answered, so that at no point is a symptom or examination result presented to the doctor that does not agree with the final diagnosis we have in mind. The vignette case scenarios are:

Vignette Case 1 "Atieno"

Background information: One year old Atieno has been passing up to 6 loose stools for the past 3 days with fever. The boy has been irritating and was taken to the chemist the 2nd day for

treatment. She was told to give him sugar and salt solution. He has only been taking liquid food though conscious but looks tired. He is always eager to drink something.

Interviewer reads to the provider: A 25 year old mother comes to you with her 1 year old male child who has had diarrhea for the last three days. She complies with all tests and medication that you recommend and will return to you if you require follow up.

Interviewer as the caretaker of the patient says:
"Doctor, My child is 1 year old, and has had diarrhea for the last three days. I am worried."

Vignette Case 2 "Rachel"

Background information: Rachel would like to delay getting pregnant and not sure what contraception will be best for her since her husband does not want to use condoms during sexual intercourse. She wants your advice on what is best for her in terms of delaying birth whilst satisfying her husband's desires in bed. Though she has previously been on pills (Femi-plan) for 2 years which she had from a local chemist, she has stopped for the last one year since the husband was away. During her last pregnancy, she was treated for swelling at the back of her legs. She also has regular menstrual periods, which usually lasts for 4-5 days. She is currently in her "danger period". She is also currently on antibiotics and antifungals (amoxil and griseofilvin) with previous treatment of varicose veins and is planning to get pregnant in the next two years.

Interviewer reads to the provider: A 24 year old woman with one child, currently not on any birth control method whose husband has recently returned from Kismayu. She complies with all tests and medication and will return to you if you require for follow up.

Interviewer as the patient says:
"Doctor, my husband has just returned from Kismayu and I would like to delay getting pregnant. I am not sure about the best method and I am here to get your advice."

Vignette Case 3 "Paul"

Background information: Mr. Kubai works for a local NGO in Nairobi and has travelled recently to Kisumu for one week. 2 days upon returning, he has not been feeling well. He went to the chemist for some medication (Panadol and actal tums) but still feeling the same. He has Mild tenderness of the epigastrium. Though at the hotel he did eat his usual fish samosa, but started vomiting. He has a wife with two daughters and lives in a two-bedroom compound house at the outskirt of Nairobi where he has to trek 20 minutes before boarding a public bus to work. The whole household sleeps under treated mosquito nets due to the wet nature of the environment. He has been on treatment of heartburn for the past six months and some cough recently. He feels cold and shivers at night.

Interviewer reads to the provider: A 35 year old man walks into the clinic complaining of the symptoms fever headache and shivering. He complies with all tests and medications that you recommend and will return to you if you require follow up.

Interviewer as the patient says:
"Doctor, My body is aching all over, I have a headache, fever, backache and shivering at night. I don't feel like eating and I am throwing up all the time. I am worried."

Appendix 6.A2. Chapter 6 Supplement for Processes: Tables and Figures

Table 6.A2.1. Effects on Correct Case Management: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	-0.064	-0.051	-0.053	-0.073	-0.061
Standard Error	(0.068)	(0.084)	(0.085)	(0.055)	(0.040)
p-value	[0.347]	[0.543]	[0.536]	[0.192]	[0.127]
AHME treatment * Demanding					
Coefficient	-0.011				-0.013
Standard Error	(0.094)				(0.055)
p-value	[0.908]				[0.814]
AHME treatment * Unmarried					
Coefficient		-0.070			-0.028
Standard Error		(0.123)			(0.088)
p-value		[0.569]			[0.751]
AHME treatment * Poor					
Coefficient			-0.052	-0.039	-0.050
Standard Error			(0.149)	(0.065)	(0.062)
p-value			[0.727]	[0.551]	[0.415]
Demanding					
Coefficient	0.096				0.097
Standard Error	(0.069)				(0.036)
p-value	[0.164]				[0.008]
Unmarried					
Coefficient		-0.002			-0.026
Standard Error		(0.101)			(0.095)
p-value		[0.985]			[0.787]
Poor					
Coefficient			-0.392	-0.170	-0.139
Standard Error			(0.125)	(0.070)	(0.060)
p-value			[0.002]	[0.016]	[0.021]
Mean control group	0.686	0.264	0.500	0.850	0.636
Observations	400	199	204	392	1195

Note: Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment (demanding, unmarried, poor). Model 5 contains case fixed effects. Correct case management is a 0-1 binary measure constructed specific to each case. For diarrhea, correct case management = 1 is defined as whether the provider gave or advised on oral rehydration salts or referred or asked the client to return; 0 otherwise. For family planning, SP data were coded as correctly managed = 1 if the provider performed all four of the following actions: asked any family planning history questions, asked obstetric history questions, ruled out pregnancy, and asked the client her preferred family planning method; 0 otherwise. For asthma, SP data were coded as correctly managed = 1 if the provider treated the case with an inhaler or bronchodilator; 0 otherwise. For malaria, SP data were coded as correctly managed = 1 if the provider ordered a malaria rapid diagnostic test (RDT) or a malaria microscopy test; 0 otherwise. SP refers to standardized patients.

Table 6.A2.2. Childhood Diarrhea IMCI Questions

a. Summary Statistics from SP Surveys

	(1)	(2)	(3)	(4)	(5)	(6)
	Pooled N=189		AHME control N=92		AHME treatment N=97	
IMCI questions	Mean	SE (mean)	Mean	SE (mean)	Mean	SE (mean)
Provider asked if child has cough or difficulty or rapid breathing	0.063	0.018	0.043	0.021	0.082	0.028
Provider asked about breathing difficulty or rapid breathing	0.005	0.005	0.000	0.000	0.010	0.010
Provider asked if anyone in family is coughing	0.000	0.000	0.000	0.000	0.000	0.000
Provider asked about child's HIV status	0.005	0.005	0.011	0.011	0.000	0.000

Note: Proportions and standard errors (SE) (mean) are reported on data from SP childhood diarrhea survey for all clinics pooled in columns 1 and 2, AHME control clinics only in column 3 and 4, and AHME treatment clinics only in column 5 and 6. Observations contain all successful and completed visits and do not include data of childhood diarrhea SP visits that resulted in immediate referral or the SP being turned away for child in absentia. These four IMCI questions were AHME internal monitoring indicators identified by Item Response Theory (see section 5.1). All data reflect post-demanding SP experiment (see section 6.1). IMCI refers to the Integrated Management of Childhood Illnesses approach. SP refers to standardized patients. HIV refers to human immunodeficiency viruses.

Table 6.A2.2. Childhood Diarrhea IMCI Questions (continued)

b. Effects: SP Regression Models with Interactions between AHME Treatment and SP Experiment

	(1) Provider asked if child has cough or difficulty or rapid breathing	(2) Provider asked about breathing difficulty or rapid breathing	(3) Provider asked if anyone in family is coughing	(4) Provider asked about child's HIV status
AHME treatment				
Coefficient	0.009	0.012	0.000	0.000
Standard Error	-0.034	-0.012	0	-0.001
p-value	[0.779]	[0.318]	[.]	[0.982]
AHME treatment * Demanding				
Coefficient	0.01	0	0	-0.011
Standard Error	-0.010	0.000	0.000	-0.011
p-value	[0.325]	[0.911]	[.]	[0.325]
Demanding				
Coefficient	0.000	0.000	0.000	0.011
Standard Error	0.000	0.000	0.000	(0.011)
p-value	[1.000]	[0.909]	[.]	[0.325]
Mean control group	0.044	0.000	0.000	0.005
Observations	378	378	378	378

Note: The table shows multivariate regressions using SP data. Robust standard errors in parentheses, clustered at clinic level. Two-sided p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, the childhood diarrhea SP experiment (demanding indicator, where pre-demanding is 0), and an interaction between the 0-1 AHME treatment indicator and the SP experiment (demanding). Observations contain all successful and completed visits and do not include data of childhood diarrhea SP visits that resulted in immediate referral or the SP being turned away for child in absentia. The dependent variables for models 1–4 are binary outcomes for whether the provider asked the SP the IMCI-related question. IMCI refers to the Integrated Management of Childhood Illnesses approach. SP refers to standardized patients. HIV refers to human immunodeficiency viruses.

Table 6.A2.3. Effects on Any Unnecessary Lab Tests: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	-0.064	0.008	-0.037	0.119	0.003
Standard Error	(0.040)	(0.029)	(0.041)	(0.065)	(0.026)
p-value	[0.111]	[0.774]	[0.376]	[0.070]	[0.894]
AHME treatment * Demanding					
Coefficient	-0.012				-0.081
Standard Error	(0.056)				(0.039)
p-value	[0.832]				[0.038]
AHME treatment * Unmarried					
Coefficient		-0.037			-0.016
Standard Error		(0.042)			(0.049)
p-value		[0.381]			[0.743]
AHME treatment * Poor					
Coefficient			0.027	-0.145	-0.035
Standard Error			(0.066)	(0.074)	(0.046)
p-value			[0.685]	[0.051]	[0.449]
Demanding					
Coefficient	0.021				0.058
Standard Error	(0.041)				(0.023)
p-value	[0.600]				[0.014]
Unmarried					
Coefficient		0.051			0.040
Standard Error		(0.034)			(0.043)
p-value		[0.136]			[0.357]
Poor					
Coefficient			-0.086	0.024	-0.005
Standard Error			(0.046)	(0.063)	(0.042)
p-value			[0.064]	[0.701]	[0.907]
Mean control group	0.138	0.022	0.065	0.289	0.154
Observations	400	199	204	392	1195

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP and case fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. Model 5 contains case fixed effects. The outcome any unnecessary lab tests is a 0-1 binary measure constructed specific to each scenario. For childhood diarrhea, SP data were coded as any unnecessary lab tests = 1 if providers ordered any lab tests excluding stool test; 0 otherwise. For family planning, SP data were coded as any unnecessary lab tests = 1 if providers ordered any lab tests excluding pregnancy test; 0 otherwise. For asthma, SP data were coded as any unnecessary lab tests = 1 if providers ordered any lab test; 0 otherwise. For malaria, SP data were coded as any unnecessary lab tests = 1 if providers ordered any lab test excluding malaria RDT, malaria microscopy, blood count, and brucellosis test; 0 otherwise. SP refers to standardized patients.

Table 6.A2.4. Effects on Any Unnecessary Medicines: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1)	(2)	(3)	(4)	(5)
	Diarrhea	Family planning	Asthma	Malaria	Pooled
AHME treatment					
Coefficient	-0.106	-0.041	-0.015	-0.059	-0.062
Standard Error	(0.066)	(0.054)	(0.087)	(0.057)	(0.038)
p-value	[0.112]	[0.446]	[0.861]	[0.300]	[0.103]
AHME treatment * Demanding					
Coefficient	0.000				-0.029
Standard Error	(0.093)				(0.047)
p-value	[1.000]				[0.538]
AHME treatment * Unmarried					
Coefficient		-0.004			0.017
Standard Error		(0.079)			(0.069)
p-value		[0.962]			[0.801]
AHME treatment * Poor					
Coefficient			-0.138	0.125	0.074
Standard Error			(0.154)	(0.088)	(0.070)
p-value			[0.370]	[0.156]	[0.292]
Demanding					
Coefficient	0.000				0.015
Standard Error	(0.067)				(0.025)
p-value	[1.000]				[0.538]
Unmarried					
Coefficient		0.028			0.015
Standard Error		(0.065)			(0.074)
p-value		[0.669]			[0.838]
Poor					
Coefficient			-0.304	-0.284	-0.256
Standard Error			(0.138)	(0.088)	(0.065)
p-value			[0.029]	[0.001]	[0.000]
Mean control group	0.723	0.088	0.554	0.717	0.586
Observations	400	199	204	392	1195

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1−4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. Model 5 contains case fixed effects. The outcome any unnecessary medicines is a 0-1 binary measure constructed specific to each scenario. For childhood diarrhea, SP data were coded as any unnecessary medicines = 1 if providers dispensed/prescribed any medicines excluding oral rehydration salts (ORS) or zinc; 0 otherwise. For family planning, SP data were coded as any unnecessary medicines = 1 if providers dispensed/prescribed any medicines excluding contraceptive pills; 0 otherwise. For asthma, SP data were coded as any unnecessary medicines = 1 if providers dispensed/prescribed any medicines excluding inhaler or bronchodilators; 0 otherwise. For malaria, SP data were coded as any unnecessary medicines = 1 if providers dispensed/prescribed any medicines excluding artemether lumefantrine or paracetamol; 0 otherwise. SP refers to standardized patients.

Table 6.A2.5. Effects on Family Planning

a. Correct Management Components: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Asked family planning history	(2) Asked obstetric history	(3) Ruled out pregnancy	(4) Asked which FP method preferred
AHME treatment				
Coefficient	0.052	-0.029	-0.163	-0.050
Standard Error	(0.073)	(0.100)	(0.100)	(0.088)
p-value	[0.472]	[0.774]	[0.104]	[0.570]
AHME treatment * Unmarried				
Coefficient	-0.113	0.034	0.000	0.077
Standard Error	(0.106)	(0.146)	(0.146)	(0.128)
p-value	[0.291]	[0.817]	[0.998]	[0.552]
Unmarried				
Coefficient	-0.040	-0.062	-0.176	0.018
Standard Error	(0.087)	(0.120)	(0.120)	(0.105)
p-value	[0.647]	[0.606]	[0.143]	[0.868]
Mean control group	0.857	0.604	0.505	0.703
Observations	199	199	199	199

Note: The table shows multivariate regressions using SP data. Each observation is one SP-provider visit at a different clinic. Standard errors in parentheses. Two-sided p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, the unmarried (vs. married) family planning SP experiment, and an interaction between the 0-1 AHME treatment indicator and the SP experiment. Asked family planning history is a 0-1 indicator for whether the provider asked the SP any history questions related to family planning (model 1). Asked obstetric history is a 0-1 indicator for whether the provider asked the SP any questions related to obstetric history (model 2). Ruled out pregnancy is a 0-1 indicator for whether the provider ruled out pregnancy, for example through asking the SP history questions or ordering a pregnancy test (model 3). Asked which FP method preferred is a 0-1 indicator for whether the provider asked the SP what family planning method she preferred (model 4). SP refers to standardized patients. FP refers to family planning.

Table 6.A2.5. Effects on Family Planning (continued)

b. Effects on Family Planning Counseling: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Modern method: Side effects mentioned	(2) Modern method: Offered choice	(3) Traditional method: Explanation of effectiveness mentioned	(4) Traditional method: Suggested
AHME treatment				
Coefficient	0.012	-0.058	0.092	-0.121
Standard Error	(0.081)	(0.088)	(0.055)	(0.061)
p-value	[0.887]	[0.515]	[0.097]	[0.051]
AHME treatment * Unmarried				
Coefficient	0.118	0.192	-0.035	0.047
Standard Error	(0.119)	(0.129)	(0.080)	(0.090)
p-value	[0.321]	[0.139]	[0.662]	[0.601]
Unmarried				
Coefficient	-0.068	0.017	0.080	0.003
Standard Error	(0.098)	(0.106)	(0.066)	(0.074)
p-value	[0.487]	[0.876]	[0.226]	[0.971]
Mean control group	0.758	0.648	0.055	0.165
Observations	199	199	199	199

Note: The table shows multivariate regressions using SP data. Each observation is one SP-provider visit at a different clinic. Standard errors in parentheses. Two-sided p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, the unmarried (vs. married) family planning SP experiment, and an interaction between the 0-1 AHME treatment indicator and the SP experiment. The dependent variable for model 1 is whether the provider mentioned side effects for modern family planning methods to the SP. The dependent variable for model 2 is whether the provider offered the SP a choice of modern family planning methods. The dependent variable for model 3 is whether the provider mentioned or explained the effectiveness of traditional family planning methods to the SP. The dependent variable for model 4 is whether the provider suggested a traditional family planning method to the SP. SP refers to standardized patients.

Table 6.A2.6. Effects on Malaria Diagnostics and Treatment

a. Malaria Diagnostics: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1)	(2)	(3)	(4)	(5)
	Temperature attempted with thermometer	Temperature taken by touch	Malaria test	Malaria RDT	Malaria Microscopy
AHME treatment					
Coefficient	-0.077	0.082	-0.073	-0.121	0.051
Standard Error	(0.074)	(0.040)	(0.055)	(0.067)	(0.074)
p-value	[0.298]	[0.043]	[0.186]	[0.072]	[0.494]
AHME treatment * Poor					
Coefficient	0.068	-0.063	-0.021	0.040	-0.068
Standard Error	(0.072)	(0.055)	(0.059)	(0.064)	(0.074)
p-value	[0.348]	[0.255]	[0.720]	[0.538]	[0.363]
Poor					
Coefficient	-0.122	0.027	-0.137	-0.044	-0.114
Standard Error	(0.075)	(0.043)	(0.066)	(0.076)	(0.077)
p-value	[0.103]	[0.524]	[0.040]	[0.557]	[0.140]
Mean control group	0.494	0.060	0.875	0.387	0.500
Observations	379	379	379	379	379

Note: The table shows multivariate regressions using SP data. Robust standard errors in parentheses, clustered at clinic level. Two-sided p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, the poor (vs. not poor) malaria SP experiment, and an interaction between the 0-1 AHME treatment indicator and the SP experiment. The dependent variable temperature attempted with a thermometer is a 0-1 indicator for whether the physical examination was attempted on the SP (model 1), and temperature taken by touch is a 0-1 indicator for whether the physical examination was performed on the SP (model 2). Malaria test is a 0-1 indicator for whether the provider ordered any malaria diagnostic test for the SP (model 3).The dependent variable for model 4 is a 0-1 indicator for whether the provider ordered a malaria rapid diagnostic test (RDT). Malaria microscopy is a 0-1 indicator for whether the provider ordered a malaria microscopy test for the SP (model 5). SP refers to standardized patients.

Table 6.A2.6. Effects on Malaria Diagnosis and Treatment (continued)

b. Malaria Test Results and Treatment: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Malaria positive	(2) Malaria positive conditional on receiving test	(3) Malaria RDT positive results	(4) Malaria microscopy positive results	(5) Dispensed/ prescribed: Artemether lumefantrine	(6) Dispensed/ prescribed: Paracetamol
AHME treatment						
Coefficient	-0.011	0.019	-0.213	0.041	0.006	-0.110
Standard Error	(0.062)	(0.071)	(0.123)	(0.103)	(0.067)	(0.066)
p-value	[0.856]	[0.789]	[0.088]	[0.696]	[0.930]	[0.097]
AHME treatment * Poor						
Coefficient	0.146	0.189	0.439	0.232	0.108	-0.014
Standard Error	(0.079)	(0.093)	(0.158)	(0.132)	(0.076)	(0.082)
p-value	[0.065]	[0.043]	[0.007]	[0.082]	[0.158]	[0.866]
Poor						
Coefficient	-0.093	-0.057	0.050	-0.135	-0.044	-0.127
Standard Error	(0.068)	(0.079)	(0.120)	(0.149)	(0.074)	(0.085)
p-value	[0.175]	[0.472]	[0.680]	[0.366]	[0.555]	[0.138]
Mean control group	0.190	0.218	0.177	0.288	0.269	0.327
Observations	379	311	118	173	384	384

Note: The table shows multivariate regressions using SP data. Robust standard errors in parentheses, clustered at clinic level. Two-sided p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, the poor (vs. not poor) malaria SP experiment, and an interaction between the 0-1 AHME treatment indicator and the SP experiment. The outcome for model 1 is a 0-1 indicator for whether the malaria SP was malaria positive unconditional on receiving any test. The outcome for model 2 is a 0-1 indicator for whether malaria test results were positive conditional on receiving either malaria RDT or microscopy tests. The outcome for model 3 is a 0-1 indicator for whether the malaria rapid diagnostic test (RDT) results were test positive given that the SP received a malaria rapid diagnostic test (RDT). The outcome for model 4 is a 0-1 indicator for whether the malaria microscopy test results were test positive given that the SP received a malaria microscopy test. The outcome for model 5 is a 0-1 indicator for whether the provider dispensed/prescribed artemether lumefantrine first-line malaria treatment. The outcome for model 6 is a 0-1 indicator for whether the provider dispensed/prescribed paracetamol, which manages the malaria fever symptom. SP refers to standardized patients.

Table 6.A2.7. Effects on Childhood Diarrhea Treatment: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Dispensed/ prescribed: Oral rehydration salts	(2) Dispensed/ prescribed: Zinc	(3) Any non-efficacious medicines	(4) Dispensed/ prescribed: Albendazole	(5) Dispensed/ prescribed: Amoxicillin
AHME treatment					
Coefficient	0.072	-0.017	-0.104	0.012	0.002
Standard Error	(0.072)	(0.072)	(0.066)	(0.056)	(0.043)
p-value	[0.318]	[0.812]	[0.118]	[0.829]	[0.966]
AHME treatment * Albendazole post-demanding					
Coefficient	0.039	0.088	0.132	-0.065	0.018
Standard Error	(0.121)	(0.123)	(0.114)	(0.095)	(0.074)
p-value	[0.747]	[0.475]	[0.249]	[0.490]	[0.803]
AHME treatment * Amoxicillin post-demanding					
Coefficient	-0.012	-0.049	-0.124	-0.018	-0.006
Standard Error	(0.125)	(0.126)	(0.114)	(0.098)	(0.076)
p-value	[0.921]	[0.697]	[0.279]	[0.856]	[0.937]
Albendazole post-demanding					
Coefficient	-0.070	-0.124	-0.094	0.176	-0.032
Standard Error	(0.093)	(0.094)	(0.087)	(0.073)	(0.057)
p-value	[0.455]	[0.190]	[0.285]	[0.016]	[0.568]
Amoxicillin post-demanding					
Coefficient	0.058	0.103	0.072	-0.146	0.027
Standard Error	(0.088)	(0.089)	(0.080)	(0.068)	(0.053)
p-value	[0.507]	[0.244]	[0.366]	[0.033]	[0.612]
Mean control group	0.352	0.420	0.723	0.205	0.091
Observations	380	380	400	380	380

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses. Two-sided p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, an interaction between the 0-1 AHME treatment indicator, and the two binary 0-1 pre-post demanding phases for the childhood diarrhea SP experiments (albendazole and amoxicillin). The dependent variable in model 1 is a 0-1 indicator for whether the provider dispensed/prescribed oral rehydration salts (ORS) for the SP. The dependent variable in model 2 is a 0-1 indicator for whether the provider dispensed/prescribed zinc for the SP. The dependent variable in model 3 is a 0-1 indicator for whether the provider dispensed/prescribed any non-efficacious medicines (i.e., any medicines excluding ORS and zinc). The dependent variable in model 4 is a 0-1 indicator for whether the provider dispensed/prescribed deworming medicine albendazole, which is harmless and non-efficacious for the childhood diarrhea case. The dependent variable in model 5 is a 0-1 indicator for whether the provider dispensed/prescribed the antibiotic amoxicillin which is harmful and non-efficacious for the childhood diarrhea case. SP refers to standardized patients.

Table 6.A2.8. Summary Statistics of SP Actor Characteristics

	N	Mean	SE (mean)	Min	Max
SP is female	40	0.650	0.076	0	1
SP age (2019)	40	28.20	0.513	22	35
SP weight (kg)	40	62.65	1.189	48	77
SP height (cm)	40	167.10	1.388	152	181

Note: SP refers to standardized patients. SE refers to standard error.
Min refers to minimum. Max refers to maximum. Weight measured in kilograms (kg), and height measured in centimeters (cm).

Table 6.A2.9. Effects of SP Actor Characteristics on Process Quality

a. SP Regression Models

	(1) Correct case management	(2) Any unnecessary lab tests	(3) Any non-efficacious medicines	(4) Total lab tests ordered	(5) Total unnecessary lab tests	(6) Number of medicines	(7) Number of efficacious medicines	(8) Number of non-efficacious medicines
AHME treatment								
Coefficient	-0.089	0.004	-0.014	-0.059	0.010	-0.155	-0.086	-0.069
Standard Error	(0.039)	(0.039)	(0.042)	(0.066)	(0.045)	(0.126)	(0.068)	(0.102)
p-value	[0.024]	[0.923]	[0.734]	[0.376]	[0.819]	[0.218]	[0.205]	[0.498]
SP is female								
Coefficient	0.010	0.032	0.090	0.076	0.034	0.314	-0.080	0.394
Standard Error	(0.040)	(0.033)	(0.043)	(0.057)	(0.037)	(0.125)	(0.069)	(0.103)
p-value	[0.800]	[0.333]	[0.036]	[0.179]	[0.363]	[0.013]	[0.250]	[0.000]
SP age (2019)								
Coefficient	-0.007	0.013	-0.001	0.017	0.013	-0.003	-0.010	0.007
Standard Error	(0.006)	(0.005)	(0.006)	(0.008)	(0.006)	(0.019)	(0.011)	(0.015)
p-value	[0.190]	[0.010]	[0.820]	[0.049]	[0.020]	[0.868]	[0.350]	[0.641]
Mean control group	0.728	0.211	0.660	0.838	0.231	1.878	0.631	1.247
Observations	596	596	596	596	583	588	588	588

Note: The table shows multivariate regressions using SP asthma and malaria data. Robust standard errors in parentheses, clustered at clinic level. All models contain case fixed effects and the binary indicator for whether the visit was conducted at an AHME treatment clinic (=1) or control clinic (=0). SP is female is a binary 0-1 indicator for whether the SP is female, and SP age is the age of the SP actor at the time of fieldwork. The dependent variable in model 1 is a 0-1 indicator for whether the SP case was correctly managed benchmarked to guidelines. Dependent variable in model 2 is a 0-1 indicator for whether any unnecessary lab tests were ordered (any lab test for asthma case; any lab test excluding malaria rapid diagnostic test [RDT] and microscopy for malaria case). Dependent variable in model 3 is a 0-1 indicator for whether any non-efficacious medicines were prescribed/dispensed to the SP (any medicine excluding inhaler and bronchodilators for asthma case; any medicine excluding artemether lumefantrine and paracetamol for malaria case). The dependent variables for models 4 and 5 are the total number of lab tests and the total number of unnecessary lab tests ordered for the SP, respectively. The dependent variables for models 6, 7, and 8 are the number of medicines, the number of efficacious medicines (inhaler or bronchodilators for asthma case; artemether lumefantrine or paracetamol for malaria case), and the number of non-efficacious medicines prescribed/dispensed for the SP (all medicines that are not considered efficacious), respectively. SP refers to standardized patients.

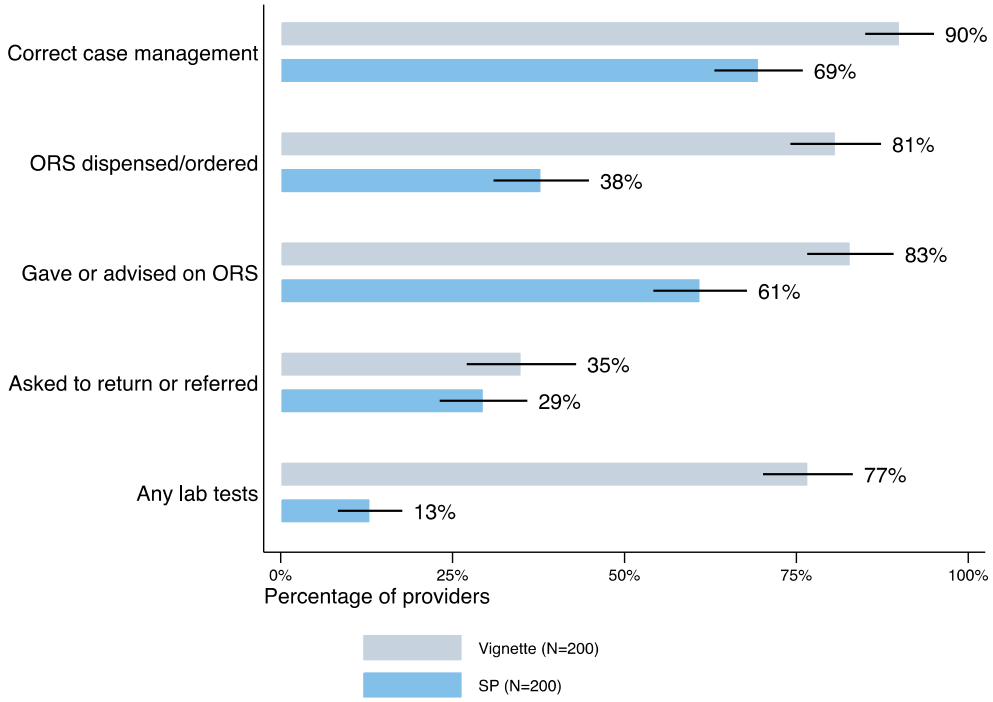
Table 6.A2.9. Effects of SP Actor Characteristics on Process Quality (continued)

b. SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Correct case management	(2) Any unnecessary lab tests	(3) Any non-efficacious medicines	(4) Total lab tests ordered	(5) Total unnecessary lab tests	(6) Number of medicines	(7) Number of efficacious medicines	(8) Number of non-efficacious medicines
AHME treatment								
Coefficient	0.015	0.207	0.340	-0.001	0.425	1.957	0.221	1.736
Standard Error	(0.334)	(0.288)	(0.368)	(0.472)	(0.314)	(1.112)	(0.632)	(0.850)
p-value	[0.964]	[0.473]	[0.355]	[0.999]	[0.178]	[0.080]	[0.726]	[0.042]
AHME treatment * SP is female								
Coefficient	-0.001	0.066	-0.031	0.129	0.063	0.032	0.111	-0.078
Standard Error	(0.077)	(0.065)	(0.085)	(0.109)	(0.075)	(0.239)	(0.134)	(0.194)
p-value	[0.985]	[0.314]	[0.719]	[0.236]	[0.403]	[0.892]	[0.411]	[0.688]
AHME treatment * SP age								
Coefficient	-0.004	-0.008	-0.012	-0.004	-0.016	-0.076	-0.013	-0.063
Standard Error	(0.011)	(0.010)	(0.013)	(0.017)	(0.011)	(0.038)	(0.022)	(0.029)
p-value	[0.746]	[0.416]	[0.332]	[0.808]	[0.157]	[0.046]	[0.558]	[0.031]
SP is female								
Coefficient	0.011	-0.005	0.109	0.003	0.000	0.302	-0.141	0.444
Standard Error	(0.055)	(0.050)	(0.067)	(0.076)	(0.057)	(0.183)	(0.099)	(0.145)
p-value	[0.840]	[0.920]	[0.105]	[0.966]	[0.996]	[0.100]	[0.156]	[0.003]
SP age (2019)								
Coefficient	-0.005	0.018	0.006	0.019	0.022	0.040	-0.003	0.043
Standard Error	(0.009)	(0.008)	(0.010)	(0.013)	(0.009)	(0.029)	(0.016)	(0.022)
p-value	[0.549]	[0.026]	[0.572]	[0.132]	[0.013]	[0.173]	[0.856]	[0.058]
Mean control group	0.728	0.211	0.660	0.838	0.231	1.878	0.631	1.247
Observations	596	596	596	596	583	588	588	588

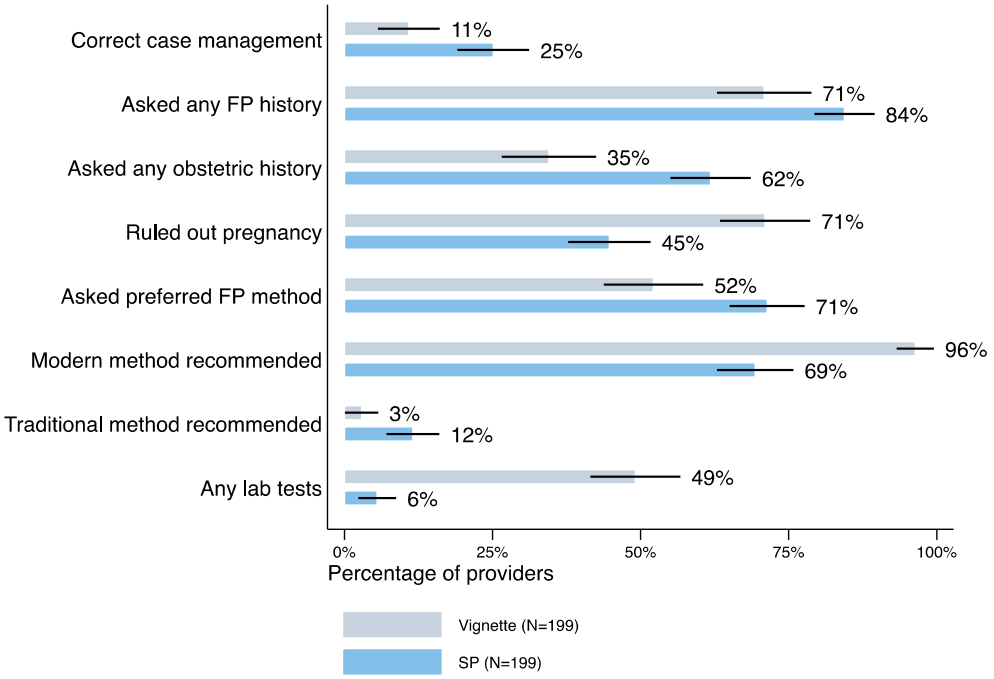
Note: The table shows multivariate regressions using SP asthma and malaria data. Robust standard errors clustered at clinic level in brackets. All models contain case fixed effects and the binary indicator for whether the visit was conducted at an AHME treatment clinic (=1) or control clinic (=0). SP is female is a binary 0-1 indicator for whether the SP is female, and SP age is the age of the SP actor at the time of fieldwork. The dependent variable in model 1 is a 0-1 indicator for whether the SP case was correctly managed benchmarked to guidelines. Dependent variable in model 2 is a 0-1 indicator for whether any unnecessary lab tests were ordered (any lab test for asthma case; any lab test excluding malaria rapid diagnostic test [RDT] and microscopy for malaria case). Dependent variable in model 3 is a 0-1 indicator for whether any non-efficacious medicines were prescribed/dispensed to the SP (any medicine excluding inhaler and bronchodilators for asthma case; any medicine excluding artemether lumefantrine and paracetamol for malaria case). The dependent variables for models 4 and 5 are the total number of lab tests and the total number of unnecessary lab tests ordered for the SP, respectively. The dependent variables for models 6, 7, and 8 are the total number of medicines, the total number of efficacious medicines (inhaler or bronchodilators for asthma case; artemether lumefantrine or paracetamol for malaria case), and the total number of non-efficacious medicines prescribed/dispensed for the SP (all medicines that are not considered efficacious), respectively. SP refers to standardized patients.

Figure 6.A2.1. Provider Knowledge and Practice for Childhood Diarrhea Scenario



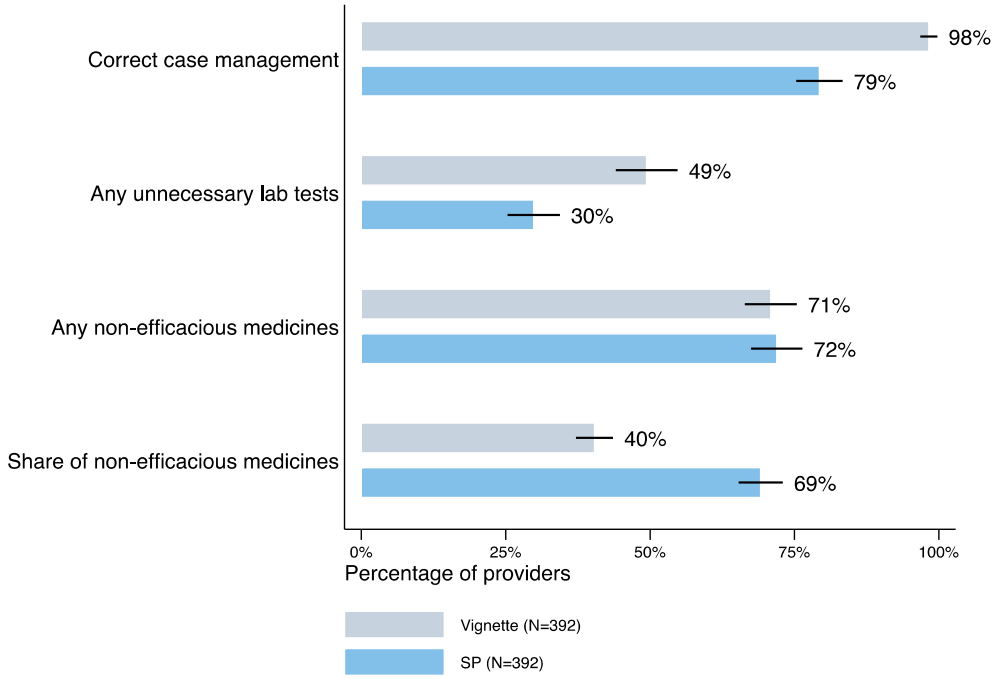
Note: Means and 95% confidence intervals from vignette (grey) and standardized patient (SP) (blue) data. Bar graphs depict averages for correct case management, whether oral rehydration salts (ORS) were dispensed/ordered, whether the provider gave or advised on ORS, whether the provider asked the client to return or referred the client, and whether the provider ordered any lab tests. For each measure, we compare provider-matched vignette data and SP data. Percentage at the end of the bar is the percentage of providers for all SP visits knowing or practicing each process quality measure in the vignette or in practice.

Figure 6.A2.2. Knowledge and Practice for Family Planning Case Scenario



Note: Means and 95% confidence intervals from vignette (grey) and standardized patient (SP) (blue) data. Bar graphs depict averages for correct case management, whether the provider asked any family planning history questions, whether the provider asked any obstetric history questions, whether the provider ruled out pregnancy with history questions or a pregnancy test, whether the provider asked the client her preferred family planning method, whether the provider recommended a modern method, whether the provider recommended a traditional family planning method, and whether the provider ordered any lab tests. For each measure, we compare provider-matched vignette data and SP data. Percentage at the end of the bar is the percentage of providers for all SP visits knowing or practicing each process quality measure in the vignette or in practice. FP refers to family planning.

Figure 6.A2.3. Knowledge and Practice for Malaria Case Scenario



Note: Means and 95% confidence intervals from vignette (grey) and standardized patient (SP) (blue) data. Bar graphs depict averages for correct case management, whether any unnecessary lab tests were ordered, whether any non-efficacious medicines were prescribed/dispensed, and the share of non-efficacious medicines of all medicines prescribed/dispensed to the malaria SP cases. For each measure, we compare provider-matched vignette data and SP data. Percentage at the end of the bar is the percentage of providers for all SP visits knowing or practicing each process quality measure in the vignette or in practice.

Table 6.A2.10. Effects of Correct Case Management, Unnecessary Lab Tests, and Non-Efficacious Medicines

		(1) Correct case management	(2) Any unnecessary lab tests	(3) Any non-efficacious medicines
Knowledge of correct management				
	Coefficient	0.258	0.106	0.104
	Standard Error	(0.123)	(0.077)	(0.116)
	p-value	[0.038]	[0.175]	[0.370]
Provider is female				
	Coefficient	0.037	0.033	0.068
	Standard Error	(0.059)	(0.054)	(0.065)
	p-value	[0.534]	[0.547]	[0.296]
Provider age				
	Coefficient	0.001	0	-0.002
	Standard Error	(0.002)	(0.002)	(0.002)
	p-value	[0.788]	[0.950]	[0.319]
Provider is nurse/midwife				
	Coefficient	0.049	-0.032	0.069
	Standard Error	(0.065)	(0.055)	(0.062)
	p-value	[0.454]	[0.560]	[0.270]
Provider is other staff				
	Coefficient	0.051	-0.11	0.151
	Standard Error	(0.086)	(0.069)	(0.063)
	p-value	[0.550]	[0.112]	[0.018]
Mean control group		0.636	0.154	0.586
Observations		466	466	466

Note: The table shows multivariate regression using standardized patient (SP) and provider survey data where each observation is one SP-provider interaction. Robust standard errors clustered at clinic level in parentheses; p-value in brackets. All models control for SP and case fixed effects and include covariates for AHME treatment (0-1), each SP experiment (demanding, unmarried, poor), knowledge of correct management, provider age, and provider qualification (medical doctor or clinical officer, nurse or midwife, other staff). Knowledge of correct management is a 0-1 binary measure defined in the same way as correct case management from SP surveys: If the SP data is for diarrhea, knowledge of correct management = 1 is defined as whether the provider mentioned giving or advising on oral rehydration salts or a referral or asking the vignette scenario to return; 0 otherwise; if the SP data is for family planning, vignette data were coded as knowledge of correct management = 1 if the provider mentioned all four of the following actions: any family planning history question, any obstetric history question, ruling out pregnancy, and asking the client her preferred family planning method; 0 otherwise; if the SP data is for malaria or asthma, vignette data were coded as knowledge of correct management = 1 if the provider mentioned ordering a malaria rapid diagnostic test (RDT) or a malaria microscopy test; 0 otherwise.

Table 7.A1.1. Effects on Client Perceptions of Amenities: SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Amenities index (9-item)	Clinic is clean	Waiting time appropriate	Providers courteous and respectful	Had enough privacy	Providers spent sufficient time	Operating hours are adequate	Completely trust provider's medical treatment decision	Registration fees are reasonable	Medicines or drug fees were reasonable
AHME treatment										
Coefficient	0.020	0.001	-0.012	0.021	0.099	-0.003	0.056	-0.005	0.022	0.000
Standard Error	(0.013)	(0.028)	(0.042)	(0.015)	(0.031)	(0.045)	(0.031)	(0.035)	(0.087)	(0.047)
p-value	[0.116]	[0.985]	[0.765]	[0.159]	[0.001]	[0.940]	[0.075]	[0.890]	[0.798]	[0.997]
AHME treatment * Demanding										
Coefficient	-0.007	0.009	-0.023	-0.008	-0.021	0.025	-0.042	-0.004	0.125	-0.010
Standard Error	(0.015)	(0.033)	(0.041)	(0.018)	(0.040)	(0.057)	(0.036)	(0.041)	(0.091)	(0.053)
p-value	[0.643]	[0.792]	[0.564]	[0.639]	[0.611]	[0.670]	[0.235]	[0.928]	[0.173]	[0.847]
AHME treatment * Unmarried										
Coefficient	0.005	0.002	0.016	0.006	0.016	0.021	-0.101	0.037	-0.150	0.050
Standard Error	(0.028)	(0.061)	(0.086)	(0.031)	(0.090)	(0.114)	(0.060)	(0.084)	(0.231)	(0.126)
p-value	[0.859]	[0.975]	[0.851]	[0.844]	[0.859]	[0.853]	[0.094]	[0.658]	[0.516]	[0.695]
AHME treatment * Poor										
Coefficient	-0.058	0.025	0.008	-0.119	-0.219	0.095	0.027	-0.109	-0.108	-0.146
Standard Error	(0.022)	(0.041)	(0.061)	(0.038)	(0.054)	(0.083)	(0.046)	(0.068)	(0.122)	(0.084)
p-value	[0.010]	[0.546]	[0.896]	[0.002]	[0.000]	[0.255]	[0.558]	[0.111]	[0.377]	[0.082]
Demanding										
Coefficient	0.004	-0.004	0.012	0.004	0.011	-0.013	0.021	0.002	-0.059	0.005
Standard Error	(0.008)	(0.017)	(0.021)	(0.009)	(0.021)	(0.029)	(0.018)	(0.021)	(0.044)	(0.028)
p-value	[0.643]	[0.792]	[0.564]	[0.639]	[0.611]	[0.670]	[0.235]	[0.928]	[0.181]	[0.848]
Unmarried										
Coefficient	0.022	0.128	0.028	0.028	0.019	-0.067	0.072	-0.012	-0.018	-0.014
Standard Error	(0.028)	(0.069)	(0.089)	(0.029)	(0.088)	(0.107)	(0.054)	(0.086)	(0.213)	(0.118)
p-value	[0.436]	[0.064]	[0.756]	[0.325]	[0.833]	[0.531]	[0.183]	[0.885]	[0.934]	[0.906]
Poor										

Coefficient	0.055	-0.001	0.071	0.081	0.157	-0.138	-0.009	0.056	0.092	0.247
Standard Error	(0.021)	(0.044)	(0.062)	(0.034)	(0.044)	(0.077)	(0.042)	(0.069)	(0.107)	(0.074)
p-value	[0.011]	[0.991]	[0.254]	[0.018]	[0.000]	[0.074]	[0.821]	[0.423]	[0.388]	[0.001]
Mean control group	0.792	0.890	0.810	0.966	0.822	0.498	0.852	0.782	0.731	0.724
Observations	1086	1086	1086	1086	1086	1086	1040	1076	365	805

Note: The table shows multivariate regressions using SP data. Robust standard errors clustered at clinic level in parentheses. All models contain SP and case fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. The dependent variable for model 1 is a 9-item index ranging from 0 to 1 for the 9 SP perceptions of clinic amenities in models 2–10. The dependent variables for models 2–10 are SP perceptions of clinic amenities for: whether the clinic was clean (=1, model 2); whether the waiting time was appropriate (=1, model 3); whether providers were courteous and respectful (=1, model 4); whether clients had enough privacy (=1, model 5); whether providers spent sufficient time with the client (=1, model 6); whether operating hours were adequate (=1, model 7); whether the client completely trusted the provider's treatment decision (=1, model 8); whether the client thought registration fees were reasonable if applicable (=1, model 9); and whether the client thought medicine or drug fees were reasonable, if applicable (=1, model 10). SP refers to standardized patients.

Table 7.A1.2. Effects on SP Ratings on the Overall Clinic Experience

a. Effects on SP Satisfaction Rating 1 (low) to 10 (high) (z-score): SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	0.058	0.307	0.102	-0.036	0.070
Standard Error	(0.141)	(0.201)	(0.222)	(0.145)	(0.103)
p-value	[0.683]	[0.128]	[0.647]	[0.803]	[0.497]
AHME treatment * Demanding					
Coefficient	0.000				-0.037
Standard Error	(0.197)				(0.109)
p-value	[1.000]				[0.732]
AHME treatment * Unmarried					
Coefficient		-0.350			0.020
Standard Error		(0.293)			(0.201)
p-value		[0.234]			[0.921]
AHME treatment * Poor					
Coefficient			-0.627	-0.066	-0.239
Standard Error			(0.388)	(0.182)	(0.143)
p-value			[0.109]	[0.719]	[0.097]
Demanding					
Coefficient	0.000				0.019
Standard Error	(0.141)				(0.056)
p-value	[1.000]				[0.732]
Unmarried					
Coefficient		0.207			-0.006
Standard Error		(0.240)			(0.204)
p-value		[0.389]			[0.978]
Poor					
Coefficient			-0.258	-0.121	0.129
Standard Error			(0.229)	(0.173)	(0.120)
p-value			[0.262]	[0.484]	[0.283]
Mean control group	0.000	0.000	0.000	0.000	0.000
Observations	378	197	132	379	1086

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses and p-values in brackets. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment (demanding, unmarried, poor). Model 5 contains case fixed effects. The dependent variable in models 1–5 is an SP satisfaction rating from 1 (least) to 10 (most) the SP gave to the provider and then standardized to the AHME mean control group. SP refers to standardized patients.

Table 7.A1.2. Effects on SP Ratings on the Overall Clinic Experience (continued)

b. Effects on Provider Did a Good Job Explaining (0-1): SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1)	(2)	(3)	(4)	(5)
	Diarrhea	Family planning	Asthma	Malaria	Pooled
AHME treatment					
Coefficient	-0.063	0.160	0.044	0.003	0.014
Standard Error	(0.058)	(0.097)	(0.087)	(0.063)	(0.039)
p-value	[0.277]	[0.101]	[0.613]	[0.968]	[0.727]
AHME treatment * Demanding					
Coefficient	0.000				-0.084
Standard Error	(0.080)				(0.047)
p-value	[1.000]				[0.080]
AHME treatment * Unmarried					
Coefficient		-0.023			0.150
Standard Error		(0.142)			(0.099)
p-value		[0.871]			[0.133]
AHME treatment * Poor					
Coefficient			-0.447	0.026	-0.053
Standard Error			(0.169)	(0.091)	(0.070)
p-value			[0.009]	[0.778]	[0.454]
Demanding					
Coefficient	0.000				0.043
Standard Error	(0.057)				(0.025)
p-value	[1.000]				[0.082]
Unmarried					
Coefficient		0.102			0.002
Standard Error		(0.116)			(0.104)
p-value		[0.380]			[0.984]
Poor					
Coefficient			0.354	-0.117	0.015
Standard Error			(0.131)	(0.082)	(0.063)
p-value			[0.008]	[0.158]	[0.811]
Mean control group	0.826	0.567	0.776	0.649	0.714
Observations	378	197	132	379	1086

Note: Standard errors in parentheses and p-values in brackets. All models contain SP and case fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. Model 5 contains case fixed effects. The dependent variable for models 1–5 is a 0-1 indicator for whether the SP found the provider did a good job explaining. SP refers to standardized patients.

Table 7.A1.3. Effects on Number of Patients Waiting (z-score)

a. SP Regression Models

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	-0.116	-0.207	-0.132	-0.065	-0.111
Standard Error	(0.089)	(0.118)	(0.132)	(0.117)	(0.098)
p-value	[0.197]	[0.080]	[0.317]	[0.578]	[0.260]
Demanding					
Coefficient	0.000				0.000
Standard Error	(0.087)				(.)
p-value	[1.000]				[.]
Unmarried					
Coefficient		-0.328			-0.325
Standard Error		(0.140)			(0.112)
p-value		[0.020]			[0.004]
Poor					
Coefficient			0.033	-0.251	-0.108
Standard Error			(0.171)	(0.111)	(0.076)
p-value			[0.845]	[0.025]	[0.160]
Mean control group	0.000	0.000	0.000	0.000	0.000
Observations	400	199	204	392	1195

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator and a 0-1 indicator for each SP experiment (demanding, unmarried, poor). Model 5 contains case fixed effects. The dependent variable in models 1–5 is the number of clients waiting refer to the number of individuals in the waiting room upon SP arrival at the clinic, standardized to AHME mean control group. SP refers to standardized patients.

Table 7.A1.3. Effects on Number of Patients Waiting (z-score) (continued)

b. SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	-0.116	-0.344	-0.160	-0.099	-0.155
Standard Error	(0.125)	(0.163)	(0.154)	(0.148)	(0.111)
p-value	[0.355]	[0.036]	[0.300]	[0.503]	[0.164]
AHME treatment * Demanding					
Coefficient	0.000				0.050
Standard Error	(0.174)				(0.080)
p-value	[1.000]				[0.528]
AHME treatment * Unmarried					
Coefficient		0.289			0.089
Standard Error		(0.238)			(0.156)
p-value		[0.227]			[0.568]
AHME treatment * Poor					
Coefficient			0.090	0.067	0.125
Standard Error			(0.273)	(0.131)	(0.100)
p-value			[0.742]	[0.611]	[0.215]
Demanding					
Coefficient	0.000				-0.027
Standard Error	(0.127)				(0.042)
p-value	[1.000]				[0.528]
Unmarried					
Coefficient		-0.493			-0.376
Standard Error		(0.195)			(0.160)
p-value		[0.012]			[0.020]
Poor					
Coefficient			-0.014	-0.288	-0.176
Standard Error			(0.224)	(0.146)	(0.103)
p-value			[0.949]	[0.050]	[0.089]
Mean control group	0.000	0.000	0.000	0.000	0.000
Observations	400	199	204	392	1195

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP and case fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. Model 5 contains case fixed effects. The dependent variable in models 1–5 is the number of clients waiting refer to the number of individuals in the waiting room upon SP arrival at the clinic, standardized to AHME mean control group. SP refers to standardized patients.

Table 7.A1.4. Effects on Minutes Spent with Provider (z-score)

a. SP Regression Models

		(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment						
	Coefficient	0.019	-0.013	-0.065	0.011	0.014
	Standard Error	(0.094)	(0.131)	(0.158)	(0.112)	(0.075)
	p-value	[0.836]	[0.918]	[0.682]	[0.922]	[0.848]
Demanding						
	Coefficient	0.000				0.000
	Standard Error	(0.091)				(.)
	p-value	[1.000]				[.]
Unmarried						
	Coefficient		-0.088			-0.087
	Standard Error		(0.155)			(0.168)
	p-value		[0.573]			[0.606]
Poor						
	Coefficient			0.036	-0.080	-0.097
	Standard Error			(0.201)	(0.122)	(0.103)
	p-value			[0.860]	[0.511]	[0.345]
Mean control group		0.000	0.000	0.000	0.000	0.000
Observations		378	197	132	379	1086

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator and a 0-1 indicator for each SP experiment (demanding, unmarried, poor). Model 5 contains case fixed effects. The dependent variable in models 1–5 is the minutes spent with the provider, measured as the total time spent with the main provider(s) seen by the SP, standardized to AHME mean control group. SP refers to standardized patients.

Table 7.A1.4b. Effects on Minutes Spent with Provider (z-score) (continued)

b. SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	0.019	0.197	-0.031	-0.239	-0.035
Standard Error	(0.131)	(0.180)	(0.183)	(0.138)	(0.085)
p-value	[0.882]	[0.278]	[0.864]	[0.085]	[0.679]
AHME treatment * Demanding					
Coefficient	0.000				0.077
Standard Error	(0.182)				(0.097)
p-value	[1.000]				[0.428]
AHME treatment * Unmarried					
Coefficient		-0.442			-0.040
Standard Error		(0.264)			(0.204)
p-value		[0.095]			[0.846]
AHME treatment * Poor					
Coefficient			-0.156	0.508	0.201
Standard Error			(0.363)	(0.202)	(0.158)
p-value			[0.668]	[0.013]	[0.205]
Demanding					
Coefficient	0.000				-0.040
Standard Error	(0.131)				(0.050)
p-value	[1.000]				[0.428]
Unmarried					
Coefficient		0.164			-0.066
Standard Error		(0.215)			(0.229)
p-value		[0.446]			[0.773]
Poor					
Coefficient			0.051	-0.360	-0.211
Standard Error			(0.203)	(0.161)	(0.132)
p-value			[0.802]	[0.027]	[0.111]
Mean control group	0.000	0.000	0.000	0.000	0.000
Observations	378	197	132	379	1086

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP and case fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. Model 5 contains case fixed effects. The dependent variable in models 1–5 is the minutes spent with the provider, measured as the total time spent with the main provider(s) seen by the SP, standardized to AHME mean control group. SP refers to standardized patients.

Table 7.A1.5. Effects on Minutes Spent at Clinic (z-score)

a. SP Regression Models

		(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment						
	Coefficient	0.019	-0.013	-0.065	0.011	0.014
	Standard Error	(0.094)	(0.131)	(0.158)	(0.112)	(0.075)
	p-value	[0.836]	[0.918]	[0.682]	[0.922]	[0.848]
Demanding						
	Coefficient	0.000				0.000
	Standard Error	(0.091)				(.)
	p-value	[1.000]				[.]
Unmarried						
	Coefficient		-0.088			-0.087
	Standard Error		(0.155)			(0.168)
	p-value		[0.573]			[0.606]
Poor						
	Coefficient			0.036	-0.080	-0.097
	Standard Error			(0.201)	(0.122)	(0.103)
	p-value			[0.860]	[0.511]	[0.345]
Mean control group		0.000	0.000	0.000	0.000	0.000
Observations		378	197	132	379	1086

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP fixed effects and control for the 0-1 AHME treatment indicator and a 0-1 indicator for each SP experiment (demanding, unmarried, poor). Model 5 contains case fixed effects. The dependent variable in models 1–5 is total minutes spent at clinic (the time from when the SP entered and exited clinic), standardized to AHME mean control group. SP refers to standardized patients.

Table 7.A1.5. Effects on Minutes Spent at Clinic (z-score) (continued)

b. SP Regression Models with Interactions between AHME Treatment and SP Experiments

	(1) Diarrhea	(2) Family planning	(3) Asthma	(4) Malaria	(5) Pooled
AHME treatment					
Coefficient	0.019	0.197	-0.031	-0.239	-0.035
Standard Error	(0.131)	(0.180)	(0.183)	(0.138)	(0.085)
p-value	[0.882]	[0.278]	[0.864]	[0.085]	[0.679]
AHME treatment * Demanding					
Coefficient	0.000				0.077
Standard Error	(0.182)				(0.097)
p-value	[1.000]				[0.428]
AHME treatment * Unmarried					
Coefficient		-0.442			-0.040
Standard Error		(0.264)			(0.204)
p-value		[0.095]			[0.846]
AHME treatment * Poor					
Coefficient			-0.156	0.508	0.201
Standard Error			(0.363)	(0.202)	(0.158)
p-value			[0.668]	[0.013]	[0.205]
Demanding					
Coefficient	0.000				-0.040
Standard Error	(0.131)				(0.050)
p-value	[1.000]				[0.428]
Unmarried					
Coefficient		0.164			-0.066
Standard Error		(0.215)			(0.229)
p-value		[0.446]			[0.773]
Poor					
Coefficient			0.051	-0.360	-0.211
Standard Error			(0.203)	(0.161)	(0.132)
p-value			[0.802]	[0.027]	[0.111]
Mean control group	0.000	0.000	0.000	0.000	0.000
Observations	378	197	132	379	1086

Note: The table shows multivariate regressions using SP data. Standard errors in parentheses for models 1–4. Robust standard errors clustered at clinic level in parentheses for pooled model 5. All models contain SP and case fixed effects and control for the 0-1 AHME treatment indicator, a 0-1 indicator for each SP experiment (demanding, unmarried, poor), and interactions between the 0-1 AHME treatment indicator and each SP experiment. Model 5 contains case fixed effects. The dependent variable in models 1–5 is total minutes spent at clinic (the time from when the SP entered and exited the clinic), standardized to AHME mean control group. SP refers to standardized patients.

Appendix 8.A1 Chapter 8 Supplement for Provider Preferences: Altruism vs. Self-interest

Additional Details

The subject was confronted with 5 different scenarios, as depicted in the appendix table 8.A1.1. The first scenario presented to each subject was always Client A in order to anchor the subject on a real-stakes scenario. Allocation decisions for each client were presented in increasing order of the multiplier before the subject was presented with a new client. For example, the subject would be paired with Client A and then the subject was asked for their allocations with a x1, then x2, then x3, then x4, and lastly x5 multiplier on the amount that would go to other ($= (w - \pi_s) * p_o$ when $p_o = 1$). After the subject completed multiplier rounds with Client A, then the remaining four clients, which were all fictitious) listed in the table shown below were presented in random order with multipliers presented in increasing sequence.

Some studies on dictator games also suggest that giving may not necessarily mean altruistic behavior, but that individuals may have negative utility from being associated with greed and do not want to be judged by the data collector. We avoided this by having enumerators turn over the tablets to the providers after reading the instructions, after this point, the enumerator was never able to see the provider's responses but was available for any questions and clarifications.

Since our budget sets are linear in our modified dictator game, we can invoke Afriat's Theorem, which states "if a finite dataset generated by an individual's choices satisfies the Generalized Axiom of Revealed Preference (GARP), then the data can be rationalized by a well-behaved (i.e., piecewise, linear, continuous, increasing, and concave) utility function" (Li et al., 2017):

$$U_s = u(\pi_s, \pi_o)$$

Following Li et al. (2017), we assess whether the data comply with GARP by calculating Afriat's Critical Cost Efficiency Index (CCEI). The CCEI provides the amount in which each budget constraint must be relaxed to avoid violations of GARP. "The CCEI is bounded between 0 and 1. "The closer CCEI is to 1, the smaller the perturbation of budget sets required to remove all violations and thus, the closer the data are to satisfying GARP."

Additionally, we suppose that $u(\pi_s, \pi_o)$ is a member of the constant elasticity of substitution (CES) family commonly used in demand analysis. The CES utility function is given by:

$$u_s = [\alpha(\pi_s)^\rho + (1 - \alpha)(\pi_o)^\rho]^{\frac{1}{\rho}}$$

where $0 \leq \alpha \leq 1$ is the weight of the payoff to self, $\rho \leq 1$ is the willingness to trade off payments to self and other in response to price changes, and $\sigma = 1 / (\rho - 1)$ is the

constant elasticity of substitution. Following the literature, we call individuals $\alpha = 1$ ($\alpha = 0$) perfectly selfish (perfectly altruistic), as they put all weight on the payoff to self (other). Individuals with $\alpha = 1/2$ are fair-minded, since they put equal weight on payoffs to self and other. When $\rho > 0$ ($\rho < 0$), an individual's social preferences are weighted towards efficiency (equality) because $p_o\pi_o$ decreases (increases) with the relative price p_s/p_o.

According to Fisman, Kariv, and Markovitz (2007, p. 1865), "If $\rho > 0$ ($\rho < 0$), a fall in the relative price of giving p_o/p_s lowers (raises) the expenditure on tokens given to *other* as a fraction of total expenditure. Thus, any $\rho > 0$ ($\sigma < -1$) indicates distributional preferences weighted toward increasing total payoffs, whereas any $\rho < 0$ ($-1 < \sigma < 0$) indicates distributional preferences weighted toward reducing differences in payoffs."

According to Jakiela (2012, pp 2-3), "The elasticity of substitution is of interest because it measures the willingness to reduce the sum of payoffs in order to equalize them. Thus, it is what distinguishes egalitarians from utilitarians: egalitarians care only about increasing the payoff to the worst-off individual, while utilitarians seek to maximize total payoffs, even at their own expense."

Because of small variation (see appendix figure 8.A1.1), we do not examine ρ or σ in this dissertation and instead focus on social preference parameter α and its ability to discern self-interest, fair-mindedness, and altruism.

Data used in tables 8.3, 8.4, and 8.5 is at the SP-provider level. We implement the model or variations of the model exhibited in Equation 6.1 of Chapter 6. Models in table 8.3 include an indicator for whether the provider seen by the SP falls into the 50%, 75%, or 70% least altruistic. Tables 8. 4 and 8.5 further includes an interaction term between the binary AHME treatment variable and the indicator for whether the provider seen by the SP falls into the 50%, 75%, or 70% least altruistic (similar to Equation 6.A2.1). Similar to SP analyses conducted in Chapter 6, we made two assumptions using ITT parameters in all these models: (1) the randomization of AHME clinic assignment created exchangeable AHME treatment arms to estimate AHME impacts; and (2) the randomization of SP experiment assignments created exchangeable SP treatment arms to estimate the impacts of SP experiments.

Our main outcomes are correct case management as described in Chapter 6 and in Tables 6.2 and 6.3, and prices paid by the SPs transformed to hyperbolic arc sine following Bellemare and Wichman (2019).

All analyses were conducted in MATLAB, R and STATA MP 14.0 and 15 (StataCorp 2020).

Appendix Table 8.A1.1 Modified Dictator Game: "Other" Scenarios and Decisions

"Other" Scenario Index	"Other" Participant	No. of Decisions (Total N=19)	Multiplier for Allocations to "Other"	Participant Recruitment	Participant Characteristics Given to Respondent
D1	Client Scenario A	5	*x1, x2, x3, x4, x5*	*Real client recruited and consented before or after the games*	*A randomly selected client from the waiting room today, who is seeking child health, family planning, or adult health services.*
D2	Client Scenario B	3	*x1, x3, x5*	*Anonymous to respondent; programmed or loaded data*	*A woman whose child is sick with watery diarrhea.*
D3	Client Scenario C	3	*x1, x3, x5*	*Anonymous to respondent; programmed or loaded data*	*A client who thinks he has malaria.*
D4	Client Scenario D	3	*x1, x3, x5*	*Anonymous to respondent; programmed or loaded data*	*A woman who comes in for family planning services.*
D5	Client Scenario E	5	*x1, x2, x3, x4, x5*	*Anonymous to respondent; programmed or loaded data*	*A client who thinks he has malaria and is poor and cannot afford any services today.*

Note: Table depicts modified dictator game setup. Each respondent participating in the game makes 19 total decisions spanned across 5 different client scenarios (A, B, C, D, E). For each client scenario, there is either 3 or 5 allocation decisions to make. For all 19 decisions, the respondent is given 1000 KSH as an endowment, presented with participant characteristics, and asked to allocate the endowment between self and other, where other's allocation is multiplied by a multiplier. Multipliers are presented in increasing order from x1, …, x5. For each respondent, Client A is always presented first to anchor to a real client to imitate real stakes; then Clients B, C, D, and E are presented in random order.

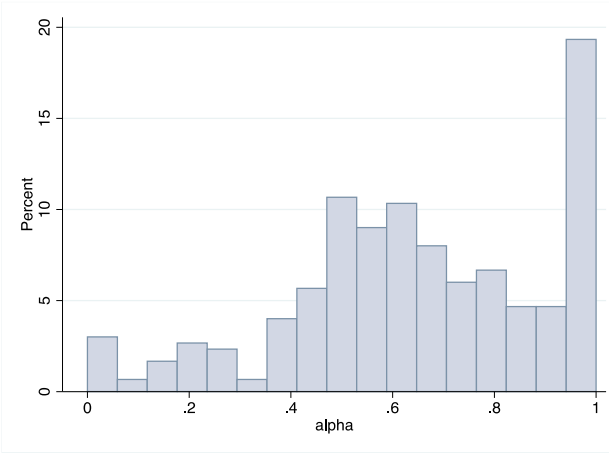
Appendix Table 8.A1.2 Descriptive Statistics from Modified Dictator Game: Allocations and Client Budget Share

				Provider kept 0 KSH (0% endowment)		Provider kept 500 KSH (50% endowment)		Provider kept 1000 KSH (100% endowment)		Amount Provider Kept		Amount Client Received		Client Budget Share	
Client	Scenario	N	Multiplier	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
A	Real Client	302	1	0.01	0.00	0.27	0.03	0.05	0.01	636.06	11.87	363.94	11.87	0.36	0.01
		302	2	0.01	0.00	0.18	0.02	0.07	0.01	672.78	12.56	654.44	25.11	0.45	0.01
		302	2	0.01	0.01	0.18	0.02	0.09	0.02	691.42	13.41	925.73	40.24	0.50	0.02
		302	4	0.01	0.00	0.15	0.02	0.10	0.02	695.20	13.45	1219.21	53.80	0.54	0.02
		302	5	0.01	0.00	0.16	0.02	0.10	0.02	705.83	13.86	1470.86	69.28	0.56	0.02
B	Fictitious Client: Childhood Diarrhea	301	1	0.04	0.01	0.22	0.02	0.03	0.01	526.48	14.75	473.52	14.75	0.47	0.01
		301	3	0.03	0.01	0.18	0.02	0.05	0.01	594.45	14.44	1216.64	43.32	0.60	0.01
		301	5	0.02	0.01	0.16	0.02	0.06	0.01	642.43	14.71	1787.87	73.55	0.63	0.02
C	Fictitious Client: Malaria	301	1	0.01	0.01	0.24	0.02	0.06	0.01	627.71	13.06	372.29	13.06	0.37	0.01
		301	3	0.01	0.00	0.14	0.02	0.07	0.02	663.46	13.94	1009.63	41.82	0.53	0.02
		301	5	0.01	0.01	0.13	0.02	0.08	0.02	696.08	13.70	1519.60	68.48	0.58	0.02
D	Fictitious Client: Family planning	300	1	0.01	0.01	0.23	0.02	0.09	0.02	624.60	14.43	375.40	14.43	0.38	0.01
		300	3	0.01	0.01	0.13	0.02	0.07	0.01	675.17	14.05	974.50	42.16	0.51	0.02
		300	5	0.01	0.01	0.13	0.02	0.07	0.02	695.20	14.66	1524.00	73.30	0.57	0.02
E	Fictitious Client: Poor, Malaria	301	1	0.12	0.02	0.23	0.02	0.03	0.01	429.47	16.11	570.53	16.11	0.57	0.02
		301	2	0.08	0.02	0.22	0.02	0.04	0.01	502.82	16.42	994.35	32.85	0.61	0.02
		301	3	0.09	0.02	0.19	0.02	0.05	0.01	537.54	16.80	1387.38	50.39	0.64	0.02
		301	4	0.08	0.02	0.18	0.02	0.07	0.01	578.21	16.93	1687.18	67.71	0.64	0.02
		301	5	0.07	0.02	0.18	0.02	0.07	0.01	591.23	17.19	2043.85	85.96	0.66	0.02

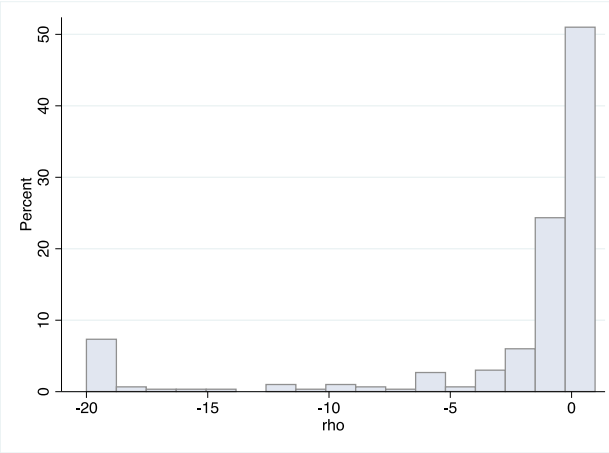
Note: Table shows descriptive statistics from modified dictator game data from provider survey. Amounts are in Kenya Shillings (KSH, where 100 KSH ~1 United States Dollar. Client Budget Share is the amount client was allocated divided by the sum of the amount provider kept and amount provider allocated to client.

Appendix Figure 8.A1.1 Histograms of Social Preference Parameters for Provider Survey Respondents

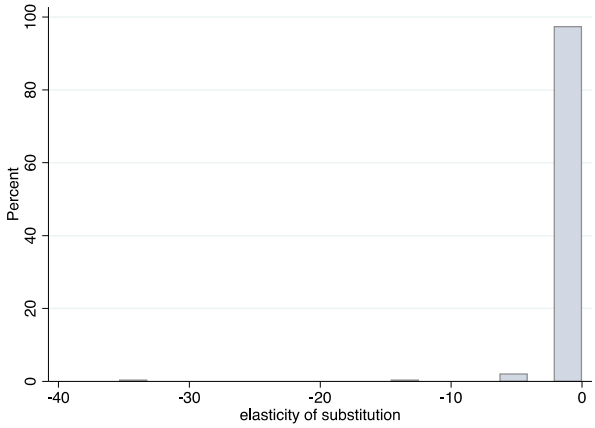
a. Alpha



b. Rho



c. Sigma



Note: Following the literature, we call individuals alpha = 1 (alpha = 0) perfectly selfish (perfectly altruistic), as they put all weight on the payoff to self (other). Individuals with alpha= 0.5 are fair-minded, since they put equal weight on payoffs to self and other. Sigma = 1 / (rho - 1) is the constant elasticity of substitution where rho <= 1 is the willingness to trade off payments to self and other in response to price changes. When rho > 0 (rho < 0), an individual's social preferences are weighted towards efficiency (equality).