ISRCTN58713975 https://doi.org/10.1186/ISRCTN58713975

Enhancing TB control and the quality of primary health care through the realignment of provider incentives in China

Submission date
20/08/2012

Recruitment status
No longer recruiting

Registration date
03/10/2012

Overall study status
Completed

Last Edited
11/12/2012

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims:
With significant government subsidies, health insurance coverage in China has reached 92 percent of the population. However, expansion of insurance coverage and corresponding increases in reimbursement rates have not kept pace with cost escalation resulting in increases in out-of-pocket spending by consumers and continuing variable and questionable effectiveness of service provision. A key underlying reason is the poor incentives faced by providers. Since the introduction of market reforms, providers were permitted to earn revenues (and make profits) by charging for services. Fee for service provider payment systems including a distorted price schedule that overcharges (cost plus pricing) for drugs and high-technological diagnostic tests are considered major drivers of high spending while contributing to unaffordable health care and impoverishment. The aim of the study is to evaluate the impact of this intervention on quality of care, efficiency and demand for health care through means of a cluster randomised controlled trial.

Who can participate?
The study takes place in two counties of Ningxia Province, covering approximately 600,000 individuals. Providers participating are those village clinics and township health centres located in the two counties.

What does the study involve?
In collaboration with the leadership of the Government of Ningxia Province in China, the project team has developed new policy measures with the goal of improving access to health services and quality of care. One component of the policy reforms is a shift in the payment system from fee for service to capitation with performance payments for primary care providers. Seventy percent of the annual budget is disbursed to health providers at the beginning of a year. The remaining thirty percent is withheld for performance assessment. A health providers overall performance is measured according to an index which is generated from a large range of indicators of quality of care. The relative performance of health providers at each level of care, assessed using this quality index, determines the amount of funds disbursed.

What are the possible benefits and risks of participating?
The intervention is designed to benefit all patients seeking outpatient care at the primary care level by improving the quality and efficiency of services. Possible risks relate to unanticipated responses to the change in incentives on the part of health providers that in turn affect the quality of health care.

Where is the study run from and how long is it expected to run?
The project is a team effort of faculty members and graduate students from Harvard, Oxford, Fudan, Shandong, and Ningxia Medical Universities, and the officials of the Ningxia provincial and several county governments. The study started at the beginning of 2010 and is expected to run until the end of 2013.

Who is funding the study?
Gates Foundation.

Who is the main contact?
Professor Winnie Yip
winnie.yip@dph.ox.ac.uk.

Contact information

Type(s)
Scientific

Contact name
Prof Winnie Yip

Contact details
University of Oxford
Department of Public Health
Old Road Campus
Headington
Oxford
United Kingdom
OX3 7LF

Additional identifiers

Study information

Scientific Title
Enhancing TB control and the quality of primary health care through the realignment of provider incentives in China: a cluster randomised trial of capitation with performance payments

Study objectives
A change in the provider payment system from one of fee for service to capitation with performance payments will lead to an improvement in the quality of primary health care and a reduction in costs, particularly for TB patients.

Ethics approval required

Old ethics approval format

Ethics approval(s)
1. University of Oxford Ethical Review Committee, 02 July 2010, ref: 17-10
2. Ningxia Medical University Ethical Review, 20 May 2010

Primary study design
Interventional

Study design
Matched-pair single centre non-blinded cluster randomised controlled trial

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Primary health care, tuberculosis, diabetes, heart disease

Interventions
The intervention consists of a capitation budget with pay-for-performance. In the control arm, the default system is in place in which health providers are paid on a fee for service basis.

The capitation rate is estimated on the basis that it covers use of outpatient services at both the township health centre and village doctor level. Seventy percent of the budget is disbursed at the beginning of a year. The remaining thirty percent is withheld for performance assessment at mid- and end of the year. A health providers overall performance is measured as an index of a large range of structural and process-orientated indicators of quality of care. The relative performance of health providers at each level of care, assessed using the quality index, determines the amount of funds disbursed.

To prevent providers from reducing volume of service, quantity thresholds are specified in the contract. Pre-paid funds would have to be returned if a provider does not meet the volume threshold. To ensure there are incentives for village doctors to provide basic health care, they are also paid a per visit fee of 2 RMB, or 4 RMB if it is a home visit. The capitation budget is estimated such that if providers satisfy the volume threshold and meet performance standards, village doctors will on average earn 12,000 RMB a year while township health centres will earn enough to break even, covering its operating expenses.

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
The primary outcomes are a set of process measures for following key tracer conditions: tuberculosis, hypertension, urinary tract infection, common cold, and pelvic inflammatory disease. The indicators reflect local standards defined by clinical guidelines.

Primary outcomes will be measured through a management information system that has been setup for the purposes of the research study and records information on every outpatient consultation in the study area. Outcomes will be measured at 6, 12 and 18 months.

Key secondary outcome(s)
1. Health care expenditure per outpatient visit (patient measure)
2. Outpatient caseload (village clinic measure)
3. Self-reported patient satisfaction index (population measure)
4. Percentage of working hours spent providing services in village clinic (doctor measure)

Secondary outcomes will be measured using data from a survey of households in the study area, survey of village doctors, and the health insurance information system.

Completion date
30/12/2013

Eligibility

Key inclusion criteria
Intervention:
The intervention is a government policy change to the provider payment system at the primary care level. Providers participating are those village clinics and township health centres located in the two pilot counties. There are no other pre-determined intervention inclusion criteria.

Outcomes:
For measures of quality of care, individuals seeking outpatient care at primary care level of the health system. For measures of efficiency and caseload, village clinics and township health centres located in the two pilot counties.

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
Does not meet the inclusion criteria

Date of first enrolment
01/01/2010

Date of final enrolment
30/12/2013

Locations

Countries of recruitment
United Kingdom

England

China

Study participating centre
University of Oxford
Oxford
United Kingdom
OX3 7LF

Sponsor information

Organisation
Bill & Melinda Gates Foundation (USA)

ROR
https://ror.org/0456r8d26

Funder(s)

Funder type
Charity

Funder Name
Bill and Melinda Gates Foundation (USA)

Alternative Name(s)
Bill & Melinda Gates Foundation, Gates Foundation, Gates Learning Foundation, William H. Gates Foundation, BMGF, B&MGF, GF

Funding Body Type
Government organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location

United States of America

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Study website	Study website	11/11/2025	11/11/2025	No	Yes