Supplementary File 2

Box S1

Systematic search method

We systematically searched the PubMed, Web of Science, and Google Scholar for scientific literature published in English between 2009 and 2019, and screened the references of relevant articles. We expanded the database to China National Knowledge Infrastructure (CNKI) for searching Chinese literature, when the evidence is limited. Two authors independently screened the search results by title and abstract for eligible studies. And those potentially eligible articles were further screened for inclusion by the full texts. Disagreement were solved by discussions and the inextricable ones were further resolved by the last author. The inclusion criteria include: (1) The study periods ranged from the year 2009 to 2019; (2) Article type: original research (peer-reviewed journal article); (3) Researches were conducted in mainland China; (4) Studies that reported the effect of the health insurance, public health services, national essential medicines policy and health care services.

We developed a data extraction form (Supplementary File 2: Table S2-5), which structured mainly by author details, research design, setting/sample, research period, and findings. We assessed the quality of the evidence by critically reviewing the methods used in each study relative to the internationally established methods.

Table S1 Search strategy and included articles

Research area	Search strategy	Searched articles	Included articles
Health insurance	(China) AND (health insurance)	586	37
Public health services	(Public Health Service) AND (China); (基本公共卫生服务)*	36(English)+2459 (Chinese)	24
National essential medicines policy	(China AND ("essential medicines" OR "essential drugs")	99	28
Health care services			

Research area	Search strategy	Searched articles	Included articles
Accessibility	(access/accessibility/accessible) AND (China AND (“health care”/“health service”/“health care service”))	71	10
Affordability	(China AND (affordability OR affordable)) AND ("health care" OR "health service")	149	11
Equity	(China AND ("health care" OR "health service")) AND (equal OR equality OR unequal OR inequality)	163	22
Quality	(China AND ("health care" OR "healthcare" OR "health services")) AND (quality)	57	11

Note: Search field=Title/Abstract, * searched in CNKI

Table S2 Summary of included papers about health insurances

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
(Fang, Shia, and Ma 2012)	A phone call survey	Beijing, Shanghai and Xiamen of China (5,097 households)	basic and commercial health insurance	July and August, 2011	**[Affordability]** Even for households with coverage, there was considerable out-of-pocket medical cost, particularly for households with inpatient treatments and/or chronic diseases. A small percentage of households were unable to self-finance out-of-pocket medical cost.
(Xiong et al. 2013)	A questionnaire survey	1199 families of children aged under five years in 12 communities located in of Suzhou, Wuhan and Guiyang cities.	Health insurances	July-August 2010	**[Coverage]** More than one-third of surveyed children under five were uninsured. Infants and urban children were less likely to be insured. Children with low educated or migrant parents were also less likely to be insured.

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
(Wang et al. 2013)	An in-house survey	152 cities of 25 provinces in China (2093 middle-aged and elderly subjects)	Multiple types of health insurance	January and February of 2012	**[Utilization]** Insurance utilization can reduce out-of-pocket medical expenditure. However, the amount paid by the insured is still high. Disease severity is likely to be the underlying driving factor for both higher cost and insurance utilization.
(Zhang et al. 2014a)	A cross-sectional study	Three counties in Jiangsu Province, China	NRCMS	2010-2011	**[Expenses]** An increase in yearly maximum reimbursement amount for outpatient visits could cause an increase in yearly total outpatient expenses for patients with type 2 diabetes mellitus.
(Sun et al. 2014)	A household survey	Nine cities in China: 7618 urban Chinese elderly 60 years and older	URBMI	December 2011 to February 2012	**[Equity]** Universal health insurance coverage alone cannot mitigate the existing inequity in healthcare; The elderly covered by URBMI had much lower rates of service use and higher non-use rates of health services.
(Liu, Wu, and Liu 2014)	An Analysis of data from CHRLS	1645 hospitalized patients in 28 provinces	GMI, UEBMI, URBMI and NCMS	2011	**[Equity]** A GMI patient stayed 5 days longer than a patient with no insurance. Patients enrolled in UEBMI and NCMS were more likely to receive more types of treatment items than the uninsured. SHI participation has a weak negative or even no significant association with the OOP of hospitalized patients.
(Zhao et al. 2014)	A telephone survey	32 provinces and municipalities: 644 subjects(migrant)	Health Insurances	2012	**[Coverage]** A great discrepancy of insurance coverage exists between the floating population and the general population. Demographic and personal characteristics are found as associated with insurance coverage.
(Zhang et al. 2014c)	A cross-sectional survey	Zhejiang province: 926 respondents	Health insurance	April-May 2012	**[Equity]** Health insurance does not play an important role in reducing inequalities among patients who need long-term care services.
(Filipski, Zhang,	An Analysis of panel data	Puding county in Guizhou, China	NCMS	2004,2006,2009,2011	**[Equity]** The post-reform NCMS distributed benefits more equitably in our study area. Making health insurance pro-poor may require a focus on outpatient costs, credit

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
and Chen 2015)					constraints and chronic diseases, rather than catastrophic illnesses.
(Pan et al. 2016)	A Household survey	Sample size of 11674 from 9 cities of China	URBMI	2017-2011	**[Equity]** The URBMI beneficiaries from lower income groups benefited less than that of higher income groups. Government subsidy that was supposed to promote the universal coverage of health care flew more to the rich.
(Zhang et al. 2016)	An Analysis of data from CHRLS	12,740 rural residents aged 45 and older in 28 provinces	NRCMS	2011-2012	**[Service]** The enhanced NRCMS coverage was associated with less delaying or foregoing inpatient care, which is likely to result from improved financial reimbursement of the NRCMS.
(Jin, Hou, and Zhang 2016)	An Analysis of data from CHRLS	Nationwide: 17,705 respondents (2011); 18,605 respondents (2013)	NCMS, URBMI, UEBMI	2011 and 2013	**[Coverage]** Rural residents were less likely to be uninsured and were less likely to buy private insurance. But rural-to-urban migrants were more likely to be uninsured.
(Chen, Yu, and Dong 2016)	A face-to-face interview	10 villages from 5 townships in Yuyao and Fenghua counties of Ningbo Municipality, Zhejiang, China	NCMS	2003, 2008, 2011	**[Utilization, Affordability]** NCMS greatly affected the utilization of healthcare services from outpatient clinics and improved the hospitalization rate in county hospitals. The NCMS policies alleviated the medical burdens of farmers in a certain degree.
(Liu et al. 2016b)	Repeated cross-sectional surveys	Three counties in Shandong, China	NCMS	2011-2012	**[Expenses]** The effects of NCMS expansion have been offset by the rapid escalation of medical expenditures. More attention should be paid to the design of NCMS benefit package to cover NCD outpatient services.
(Guo et al. 2016b)	A face-to-face household survey	Shandong province	NCMS	2009, 2012	**[Equity, CHEs]** Inequality was shrinking from 2009 to 2012, which could be a result of fewer rich people having CHEs in 2012 compared with 2009. The impact of NCMS in alleviating the financial burden of rural residents was still limited, especially among the poor.

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
(Ma et al. 2016)	A cross-sectional survey	Zhejiang, Hubei, Chongqing of China (1,525 rural households)	NCMS	2011	**[Affordability]** The medical financial burden was still remarkably high for the low-income rural residents in China. In Hubei province, the out-of-pocket payment of the poorest quintile was almost same as their households' annual expenditures. Even it was higher than their annual expenditures in Chongqing municipality. Effective reimbursement ratio of both outpatient and inpatient services were far lower than nominal reimbursement ratio originally designed by NCMS plans.
(Zhang, Nikoloski, and Mossialos 2017a)	An Analysis of data from CHRLS	Data of 32387 middle-aged and elderly individuals from 28 provinces	URBMI, NCMS	2011 and 2013	**[Utilization, Affordability]** China's health insurance system has been effective in boosting healthcare utilization and lowering OOP hospitalization expenditure
(Liu, Yang, and Lu 2017)	A cross-sectional study	11,570 households (7290 urban households and 4280 rural households) from 29 provinces	SHI and MFA	2014	**[Affordability, CHEs]** The MFA program is currently not an effective supplement to SHI programs in China in terms of promoting SHI enrolment and providing financial risk protection.
(Zhou et al. 2017)	An Analysis of data from Disease Surveillance Point (DSP) system	161 (97 counties and 64 districts) surveillance sites	NCMS	2004-2012	**[Health]** Little evidence proofed that the expansion of health insurance through the NCMS contributed to mortality rates declined among rural residents. Mortality benefits might arise only after many years of accumulated coverage.
(Chen et al. 2017)	A nationally representative cross-sectional study	Nationwide: 170 904 rural-to-urban internal migrants	NCMS, UEBMI, URBMI	2014	**[Coverage, Equity]** Rural-to-urban internal migrants face barriers to accessing social health insurance schemes. Social health insurance, regardless of the type of scheme, positively protected against the financial burden of inpatient services for rural-to-urban internal migrants.

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
					However, the rural scheme had a smaller protection effect than urban schemes.
(Liu et al. 2018)	Secondary data analysis	Baoji, Shaanxi Province: 3500 records	integration of urban and rural medical insurance	2009-2011	**[Expenses]** Rural residents' healthcare options and quality were improved and medical expenses were significantly reduced after implementation of the scheme.
(Su et al. 2018)	A cross-sectional study	6802 respondents between UEBMI and URBMI, 34,169 respondents between UEBMI and NRCMS, and 36,928 respondents between URBMI and NRCMS, Shanxi, China	UEBMI, URBMI, NRCMS	2013	**[Inequity]** Compared with the UEBMI, the insured residents of URBMI and NRCMS had worse health outcomes. Fragmented benefit package designs may result in the different pro-rich income-related health inequality among different schemes.
(Zhao et al. 2019b)	A cross-sectional study	8378 cases Xining, Hainan, Huangnan, and Guoluo regions within Qinghai Province	CMI	From 1 June 2014 to 31 May 2015	**[Expenses]** China CMI perfectly meet the pursued policy objectives when only considering the covered medical expenses. However, when considering the total medical expenses, the CMI is only partially effective in protecting households from CHE. The considerable gap is the result of the limitation of CMI list
(Tan, Wu, and Yang 2019)	An Analysis of data from CHRLS	28 provinces and autonomous regions	URRMI, URI, UEI, NCMS	2011 and 2013	**[Equity]** UEMI, which offers the most generous benefits, incurs the highest total costs prior to reimbursement when compared to other SHI schemes. Utilisation of SHI did not show significant reduction in out-of-pocket payments for outpatients.
(Wu, Yu, and Nie 2018)	A cross-sectional study	data of all hospitalization cases	BHIUE, BHIUR, NCRMS	2013	**[CHEs]** The possibility of CHE can be more than 50% for low-income rural families. The financial burden for

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
		from a sample hospital in Jiangxi, China			medical services of Chinese patients is quite large currently, especially for those from rural areas.
(Xu et al. 2018)	An Analysis of 10 years (2005–2014) of hospital electronic health records	9504 cases from 2 hospitals in Shandong, China	NCMS, URBMI, UEBMI	2005-2014	**[Equity]** Large rural-urban disparities in the utilization of mental health services exist in China. Having health insurance and benefiting from a relatively high RR were found to be significantly associated with a greater utilization of inpatient services, among both urban and rural residents. An increase in the RR was found to be significantly associated with an increase in the use of mental health services among rural patients.
(Wang et al. 2018c)	An Analysis of data from CHRLS	Nationwide	UEMI, URMI,	2015	**[Equity, Expenses]** Enrolment in SHI induces significant increases in both total and OOP healthcare expenses. UEMI for the urban employed has relatively higher funding criteria and reimbursement rate, which makes the greatest extent to induce increase in healthcare costs. Differences in healthcare utilization and costs between those with and without social health insurance and between those with different health insurance schemes.
(Yang et al. 2018)	A cross-sectional study	4800 sampled households and 13,986 participants in Anhui, China	NRCMS, URBMI and URRBMI	2013	**[Integration]** Individuals received more inpatient care benefits when urban and rural social healthcare systems were integrated. The recent unification of urban-rural social health insurances reduces inequality in net benefits from government subsidies.
(Guan 2019)	An analysis of data from the 2009 Rural-Urban Migration in China (RUMiC) project	Nationwide: 7194 participates	UI, PI, WII	2009	**[Utilization, Expenses]** The social insurance system played an important role in participants' health improvement. Due to the lack of systematic financing schemes, medical insurance programs were not effective in alleviating the financial burden of healthcare and

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
					promoting formal medical utilization among migrant workers.
(Fan et al. 2019)	An Analysis of data from CHNS	Nationwide: 18155 respondents in total	UEBMI, NCMS	2004, 2006, 2009, 2011, and 2015	**[Health, Equity]** Public health insurance significantly improves the physical and mental health status of health insurance beneficiaries. Rural residuals are in a disadvantaged situation because of the less generosity of their health insurance.
(Jiang et al. 2019)	A baseline survey, Face-to-face interviews	613 and 834 patients in Hubei Province and Guizhou Province	CII	2014(survey) and 2017(evaluation)	**[Expenses, Equity]** The CII has effectively reduced financial burden of patients with high medical cost, whether in the short-term or a longer length of time. It also improved health equity in health service utilization and expenditure. The effect of CII on the improvement of fairness is relatively limited
(Li, Tang, and Wang 2019a)	An Analysis of data from CHRLS	6642 participates from 150 counties/districts in 28 provinces	NRCMS and URBMI on	2013 and 2015	**[Integration]** The integration of fragmented health insurance schemes could promote access to and improve equity in health care utilization, which had significant and positive effects on number of outpatient visits and inpatient visits for rural residents but no significant effects for urban residents, leading to an increase in the frequency of inpatient care utilization for the poor among the piloted provinces but had no significant effects for the rich.
(Ren et al. 2019b)	An Analysis of data from CHRLS	7589 participants from nationally 150 counties	NCMS, URBMI, UEBMI	2013	**[Equity]** Medical Insurance for Urban Employees members were more likely to use inpatient health care services. Health insurance programs were associated with inpatient services usage but not outpatient services usage. There are significant disparities in medical costs and health care service usage among the 3 insurance programs. The role played by financial protection through basic medical insurance is limited.

Author details	Research design	Setting/Sample	Health insurance schemes	Research period	Findings
(Min et al. 2019a)	A cross-sectional study	7,747 case form 29 provinces of Mainland China	Health insurances	2014-2016	**[Affordability]** Healthcare insurance is an effective safeguard for patients with rare diseases; however, affordable and accessible treatment is still lacking for such patients.
(Diao et al. 2019)	An interrupted time-series study	69 hospitals in Hangzhou, China	Health insurances	2013-2016	**[Utilization, Affordability]** Government health insurance coverage inclusion significantly increased utilization of the expensive targeted anti-cancer medicines, and improved patient affordability. However, the financial burden of patients is still high.
(Li et al. 2019b)	An on-site, face-to-face, patients survey in	867 participants in Shenzhen, China	Health insurances	September 2017	**[Service]** Local health insurance coverage could help improve management and control of hypertension in a primary care setting. Social capital, such as trust, was positively associated with participation in local health insurance schemes.
(Liu et al. 2019)	An analysis of data from NHSS	Nationwide: 19,788 households from integrated areas and 31,797 households from non-integrated areas.	Integrated health insurances	2013	The medical insurance integration system in China is still at the exploratory stage; hence, its effects are of limited significance, even though the positive impact of this system on low-income residents is confirmed.

Note: SHI=Social health insurance; OOP=Out-of-pocket payment; GMI=Government Medical Insurance; UEBMI=Urban Employee Basic Medical Insurance; URBMI=Urban Resident Basic Medical Insurance; NCMS=New Cooperative Medical Scheme; NRCMS=New Rural Cooperative Medical Scheme; UEI=Urban Employee Insurance ; URI=Urban Resident Insurance; URRMI=Urban and Rural Resident Medical Insurance; BHIUE=Basic Health Insurance for Urban Employees; BHIUR=Basic Health Insurance for Urban Residents; UEMI=Urban Employee Medical Insurance; URMI=Urban Resident Medical Insurance; NCMI=New Cooperative Medical Insurance; UI=unemployment insurance; PI=pension insurance ; WII=work injury insurance; MFA=medical financial assistance; IMs=internal migrants; CMI=catastrophic medical insurance; CHEs=catastrophic health expenditures; CHRLS=China Health and Retirement Longitudinal Study; RR=reimbursement ratio; CII=Critical illness insurance; NHSS=National Health Services Survey

Table S3 Summary of included papers about basic public health services

Author details	Research design	Setting/Sample	Type of public health service	Research period	Findings
English Articles					
(Zhou et al. 2013)	A cross-sectional survey	Rural China: 930 hypertension patients	Hypertension	2011	**[Equity]** There were no disparities observed among HPs in the use of follow-up services, suggesting that the reform has to some extent achieved its goal in ensuring equal access to BPHS.
(Niu et al. 2014)	A cross-sectional study	Nationwide: 1,505 hypertension patients and 749 children	Services of hypertension people and children aged 0-6 years	July-October 2012	**[Coverage]** Implementation of the health reform since 2009 has headed China's public health system in the right direction and promoted the improvement of public health system development. China's public health system needs to be greatly improved in terms of its quality and accessibility
(Tian et al. 2015)	A cross-sectional survey	Jiangsu, Hubei, Chongqing: 54 urban communities and 54 rural villages	Hypertension and diabetes	April to June 2013	**[Accessibility, Effect, Equity]** People with chronic diseases have a high level in geography and economic accessibility to BPHS, but unsatisfied quality and equity of BPHS still exist in primary health system.
(Yang et al. 2016)	Literature review, interview, secondary data analysis (CHSY)	Nationwide	BPHS project	2003–2014	**[Equity, Coverage]** The equalization of NEPHSP did well through the establishment of health records, systematic care of children and maternal women, etc. Data showed that the gap between the eastern, central and western regions narrowed. However, the coverage for migrants was still low and performance was needed improving in effectiveness of managing patients with chronic diseases.
(He et al. 2017)	A cross-sectional survey	Chongqing: 502 participants	Type 2 diabetes mellitus	June to September 2014	**[Utilization]** Case management for patients with Type 2 diabetes mellitus was not effectively implemented in terms of frequency of follow-up visits and recommended tests over one-year period, as indicated in the regional practice guideline.

Author details	Research design	Setting/Sample	Type of public health service	Research period	Findings
(Zhang et al. 2017b)	Analysis of data from CHARLS (a nationally representative survey)	Nationwide: 4,958 respondents	Hypertension	2011–2013	**[Effect]**The National BPHS program improved the treatment and control among hypertension patients.
(Zhao et al. 2019a)	A longitudinal study: analysis of data from NMMSS and NHSY	Nationwide: 336 surveillance spots (126 urban areas and 210 rural areas), covering 31provinces	Maternal health services	1991-2016	**[Effect]** The BPHS project was found to be associated with the improvements in the maternal health services and reduction in maternal mortality.
(Song et al. 2019a)	Analysis of data from CHARLS (a nationally representative survey)	Nationwide: 3,479 community-residing hypertensive patients	Hypertension	2015	**[Utilization]** The national CBHMS is more likely to be used in rural areas. Disparities in utilization of urban and rural services still exist. The urban-rural difference in the utilization of CBHMS may be resulted from the different demographics of urban and rural middle-aged and older residents and uneven distributions of health services resources between urban and rural areas.
(Xu, Zhang, and Wang 2019c)	Analysis of data from CHNS (an ongoing nationally longitudinal study)	Nationwide: 8574 in 2009 and 9514 in 2015 respondents were included for this study	Preventive care services	2009-2015	**[Equity]**The pro-rich inequality in preventive healthcare services usage is evident in China despite a certain decline in such inequality during observation period.
Chinese Articles					
(Liu and Wang 2013)	Analysis of data from database	Jiangxi Province: 6 counties	BPHS project	2008-2010	**[Equity]** The equalization of basic public health service was low. And significant gap still existed between Urban and rural areas among different cities.
(Guan 2014)	Analysis of data from Information Management System	Sichuan province	Vaccination	2009-2012	**[Coverage]** The implementation effect is improving: the certificate rate of school age children, rate of immunization card, vaccination rate of national immunization program, monitoring indexes of Adverse Events Following Immunization except inspection rate within 48h and reporting rate preliminarily accomplished within 7 days were all exhibited rising trend.

Author details	Research design	Setting/Sample	Type of public health service	Research period	Findings
(Guan et al. 2015)	Secondary data analysis: Sichuan Statistical Yearbook and reported data	Sichuan province	Non-communicable Chronic Diseases	2012, 2013	**[Effect]** The management for non-communicable chronic diseases in basic public health service project in Sichuan province is improving. The rate of standard management for hypertension and Type 2 diabetes and the rate of blood pressure or blood glucose control were higher than that of last year.
(Wang et al. 2016)	Analysis of data from NHSS	Jilin Province	Maternal basic public health services	2008, 2013	**[Coverage, Equity]** The coverage of maternal basic public health services has increased greatly in Jilin Province. The gap between urban and rural area has been narrowed a lot. The effect of the equalization of basic public health service has been seen.
(Guo et al. 2016a)	Analysis of data from the "2014 Basic Health Services for Migrants Monitoring Survey"	Anhui, Sichuan, Henan, Hunan, Jiangxi, Guizhou provinces: 18 counties, 54 villages, 5812 people	BPHS project	2014	**[Accessibility]** The access to basic public health services among migrants is poor.
(Feng et al. 2017)	Self-designed questionnaire survey	Guizhou Province: 72 counties (districts) 144 towns (communities), 3610 families	Maternal and child health service	2009-2015	**[Effect, Utilization]** Infant mortality, under-5 mortality, and maternal mortality between urban and rural area all show a downward trend, and are significantly higher in rural areas than in cities. Maternal system management rates, hospital delivery rates, and system management rates for children under 3 years of age are all increasing. And the urban-rural gap is shrinking year by year
(Deng et al. 2018)	Analysis of data from disease control projects in monitoring system report	Beijing, Guangzhou, Hubei, Jilin, Yunnan and Xinjiang	BPHS project	2009-2014	**[Equity]** The equity of basic public health service disease control projects was relatively low. There were large differences of patients with hypertension and diabetes among different provinces.
(Wang et al. 2018d)	Secondary data analysis	32 provincial-level administrative regions	BPHS project	2014-2016	**[Coverage, Utilization]** The National BPHS project had achieved remarkable results: the health file had a high rate of fling but a low use rate; the coverage of vaccination services was basically 100% covered; the rate of health management for pregnant and parturient

Author details	Research design	Setting/Sample	Type of public health service	Research period	Findings
					women and children was above 90%; there was still room for the improvement in health management for the elderly and chronic patients; the health management of traditional Chinese medicine had a rapid development.
(Wang et al. 2018a)	Self-designed questionnaire survey	Gansu province: 1316 respondents	Hypertension and diabetes	September-November 2017	**[Utilization]** Basic public health services for patients with hypertension and type 2 diabetes in Gansu province are generally underutilized
(Zhang et al. 2019b)	A cross-sectional survey	Gansu province: 86counties (cities /districts)	BPHS project	2016	**[Equity]** Regional differences in public health funding and resource allocation be narrowed and the basic public health service in ethnic minority areas be improved
(He, Guo, and Wang 2019)	Self-designed questionnaire survey	Jiangsu province: 36 PHFs	BPHS project	2016	**[Equity]** Equalization has been basically achieved, but some projects still have regional differences.
(Huang, Li, and Feng 2019)	Analysis of data from NHSS	Jilin province	BPHS project	2008, 2013	**[Coverage]** The coverage of the basic public health services in Jilin province has been improved from 2008 to 2013, but it has not reached the goal of universal coverage, with the gaps between different population groups.
(Xu, Zikeya, and Murizhati 2019a)	Secondary data analysis: Monitoring data and annual reports	Xinjiang Uygur Autonomous Region	BPHS project	2018	**[Utilization, Equity]** The health file filing rate, child health management rate, normative management rate of hypertension patients, and normative management rate of type 2 diabetes patients are improved than the previous years (2013-2015). There are item-specific and regional imbalance in the implementation of BPHS in Xinjiang.
(Han et al. 2019)	Secondary data analysis: documents, reported data	Hubei Province	BPHS project	2009-2017	**[Effect]** The investment funds of BPHS projects were in place, but there was still a lack of grassroots manpower, adverse and dangerous behaviour was still increasing year by year, smoking cessation was also increasing year by year, the rate of physical inactivity exposure decreased year by year, infectious diseases had occasional small fluctuations. Infant and maternal mortality rates decline year by year.

Note: BPHS= Basic public health service, PHFs=primary healthcare facilities, NMMSS=National Maternal Mortality Surveillance System, CHSY= China Health Statistics Yearbook, CHARLS=China Health and Retirement Longitudinal Study, CBHMS=community-based hypertension monitoring service, CHNS=China Health and Nutrition Survey, NHSS=National Health Services Survey

Table S4 Summary of included papers about National Essential Medicines Policy

Author details	Research Design	Setting/Sample	Research period	Findings			
				Availability /Accessibility	Affordability /Price	Quality /Safe	Rational use
(Xiang et al. 2012)	Questionnaire survey	Liaoning, Shandong, Hubei, Shanxi, Sichuan and Shaanxi provinces	September in 2010 and 2011	Not reported	Not reported	Not reported	NEMP has improved injection use in China, but the injection abuse situation remains serious
(Fang et al. 2013)	Two cross-sectional surveys	Shaanxi Province, 50 public sector hospitals and 36 private sector retail pharmacies in 2010, 72 public hospitals and 72 retail pharmacies in 2012	September, 2010, and April, 2012	Low in both the public and private sectors, decreased from 2010 to 2012	Inflation-adjusted medicine prices were numerically lower. MUPs decreased significantly from 2010 to 2012 in primary hospitals.	Not reported	Not reported
(Li et al. 2013)	Quantitative and quality research.	Ningxia, Chongqing and Tianjin	June and September of 2010	Not reported	Total drug costs declined. However, the prices of some drugs had increased and the availability of others had declined.	Not reported	Not reported
(Yang et al. 2013)	Quasi-experimental design and time-trend analysis	Hubei province: 55 800 prescriptions from 18 primary care organizations	January 2009 to July 2011	Not reported	The NEMP interventions reduced the average cost per prescription	Not reported	The irrational use of antibiotics and unnecessary parenteral administration remains prevalent.

Author details	Research Design	Setting/Sample	Research period	Findings			
				Availability /Accessibility	Affordability /Price	Quality /Safe	Rational use
(Song et al. 2014a)	A facility-based survey	149 public PHCs in four Chinese provinces (Shandong, Zhejiang, Anhui and Ningxia)	2009, 2010, and 2011	Not reported	Drug prices were reduced significantly in 2010, but a modest decrease was seen in 2011	Not reported	Not reported
(Zhang et al. 2014b)	Analysis two waves of panel data	Chongqing, Jiangsu and Henan Province, 296 THCs	2009 and 2010	Not reported	The NEMP was significant in its effect in reducing inpatient medication and health service expenditures.	Not reported	Not reported
(Song et al. 2014b)	A field survey	146 THCs in four provinces: Shandong, Zhejiang, Anhui, and Ningxia; 28,651 prescriptions	2010, 2011	Not reported	The average expense per prescription increased significantly	Not reported	Rational medicine use effectively improved, but polypharmacy and the over prescription of antibiotics and injections remain common.
(Zhang et al. 2015)	A cross-sectional survey	21 cities, covering 98 medical institutions, 1,509 doctors, 17 medicine manufacturers, and 17 distribution companies.	2012	Not reported	Effective in curtailing prescription medicine costs in upper-level hospitals	Not reported	Not reported
(Xi et al. 2015)	A cross-sectional survey	Jiangsu Province	March 2013 to May 2013	The high availability of LPGs in primary care facilities, low availability in secondary and tertiary levels and private pharmacies	Treating ten common diseases with LPGs was generally affordable, whereas treatment with IBs was less affordable	Not reported	Not reported
(Wang et al. 2015a)	Two cross-sectional surveys	Rural Jiangxi Province: 182 public THCs, 182 private retail pharmacies,	November 2008 and May 2010	Not reported	Retail prices were significantly reduced at pilot health institutions	Not reported	Not reported

Author details	Research Design	Setting/Sample	Research period	Findings			
				Availability /Accessibility	Affordability /Price	Quality /Safe	Rational use
		and 182 private village clinics					
(Li et al. 2015)	Analysis of data from county health bureau	Shandong Province: six township hospitals and three village clinics	2008–2012	Not reported	Drug costs decrease significantly	Not reported	Not reported
(Yao et al. 2015)	Analysis of data from primary care facilities	A province in the middle-eastern of China: 23,040 prescriptions from 192 primary care facilities	2009 to 2010	Not reported	NEMS interventions are effective in reducing the overall average prescription costs.	Not reported	Despite the increased use of the EML, indicator performances with respect to rational drug prescribing and use remain poor
(Jiang et al. 2015)	Analysis of data from survey and Shaanxi government procurement office, etc.	120 public hospitals and 120 private pharmacies in ten cities (Xi'an, Yulin, Yan'an, Baoji, Xianyang, Weinan, Hanzhong, Tongchuan, Ankang, and Shangluo) in Shaanxi Province	March to May in 2012	The availability of essential medicines was low	High prices of survey medicines were observed. The affordability of generics, but not originator brands, is reasonable.	Not reported	Not reported
(Song, Bian, and Li 2016)	Self-completed questionnaire surveys	Ningxia Province: 16 PHCs, including 134 providers and 175 patients	December 2011	Not reported	All participants were satisfied with the price and quality of essential medicines		Not reported
					A decrease in the total medical expenses per visit		
(Xiao et al. 2016)	A retrospective survey	Jilin and Henan Province: 39 primary medical institutions	2009–2010 2010–2011	Not reported	Not reported	Not reported	Antibiotic usage was very inappropriate both before and after

Author details	Research Design	Setting/Sample	Research period	Findings			
				Availability /Accessibility	Affordability /Price	Quality /Safe	Rational use
							NEMP implementation.
(Gong et al. 2016)	Analysis of data from the NCHSMP	A nationwide sample of 376700 prescriptions	2007- 2011	Not reported	Not reported	Not reported	NEMP is effective in promoting rational use of medicines, but the irrational use is still high
(Ding et al. 2016)	A pre-post comparative study design	Three provinces: Jiangsu, Heilongjiang and Qinghai; 2899 prescriptions	2008 and 2013	Not reported	Not reported	Not reported	Over-prescriptions of antibiotics, injections and adrenal corticosteroids have reduced
(Ding and Wu 2017)	Analysis of administrative data	Tianjin, a total of 23,362 and 4,148 patients from the intervention and control groups	April 2008 to March 2009, April 2009 to March 2010	Not reported	NEMP implementation did not affect the total expenditure, drug expenditure, and out-of-pocket expenditure	Not reported	Not reported
(Ren et al. 2018)	A cross-sectional design, a questionnaire survey	1,037 participants in 40 CHCs from four provinces: Zhejiang, Jiangxi, Shaanxi and Xinjiang	July 2013	Not reported	Not reported	The top concerns of patients such as the effectiveness and safety of medicines have not been properly addressed	Not reported
(Huang et al. 2018a)	A longitudinal study of five yearly household surveys	Hangzhou (Zhejiang province) and Baoji (Shaanxi province)	2009 to 2013	The availability of medicines has improved: 48.2% increased availability of essential medicines in PHCs	Medicines expenditure showed an increasing trend from 2009 to 2013	Not reported	The use of medicines has improved

Author details	Research Design	Setting/Sample	Research period	Findings			
				Availability /Accessibility	Affordability /Price	Quality /Safe	Rational use
(Song, Bian, and Zhen 2018c)	A field survey	Shandong, Zhejiang, Anhui and Ningxia provinces	2009, 2010 and 2011	The availability of national essential drugs increased in 2011 compared to 2009, but the overall availability of essential medicines did not appear to increase.	The market prices of essential medicines greatly decrease, but remain high compared to international reference prices. The affordability of essential medicines has improved	Not reported	Not reported
(Li et al. 2018)	Analysis of survey data from NHRMSS	Nationwide: 2675 counties and 31 provinces	2008 to 2012	Not reported	An overall trend of decreased medical expense by the implementation of NEMP	Not reported	Not reported
(Chao et al. 2018)	Questionnaire survey	Jiangsu province: 3400 prescriptions from 17 primary care institutions	Jan 2010, Jan 2014	Not reported	Not reported	Not reported	The NEMP can promote the rational use of drugs in some degree, but its role is limited.
(Xie et al. 2018)	A cross-sectional study	Anhui Province: 6 county public hospitals	2011 to 2013	Not reported	Not reported	Not reported	Essential medicines are not so prioritized used as expected
(Guan et al. 2018)	Analysis of data from China Medicine Economic Information database	Nationwide: 396 secondary hospitals and 763 tertiary hospitals	January 2011 to November 2016	Five essential medicines had > 50% availability and the nationwide availability kept steady; availability of drugs in eastern regions of China was significantly higher than the central and western regions.	the MPR of essential medicines was well controlled and became more affordable in the context of steady availability	Not reported	Not reported

Author details	Research Design	Setting/Sample	Research period	Findings			
				Availability /Accessibility	Affordability /Price	Quality /Safe	Rational use
(Mao, Huang, and Chen 2019)	A facility-based survey	Hangzhou (Zhejiang Province): 17 Health Care Institutions and 16406 outpatient prescriptions	2011, 2013	Not reported	No significant change of the average medicine expenditure per prescription was found between 2011 and 2013	Not reported	The rational use of medicines was improved, but still existed some problems (polypharmacy, overuse of antibiotics and hormones etc.)
(Xu et al. 2019b)	A cross-sectional study	Anhui province: 143 public primary hospitals (poverty-stricken areas)	January 1, 2015 to December 31, 2015	The availability of EMs was a considerable problem: the median availability of the 44 medicines was 31.47%, and 65.91% of the medicines had less than 50% availability.	46.51% the lowest price generics and 100% of the originator brands were more expensive than the international reference price. The majority of the medicines were affordable	Not reported	Not reported
(Wang et al. 2019b)	A field investigation-questionnaire Survey	Three provinces (Zhejiang, Hubei and Gansu)	June to August 2014	That village doctors had a negative evaluation in satisfaction level of EML to village-based care and accessibility of EM distribution	Not reported	Not reported	Not reported

Note: MUPs=median unit prices, PHCs=primary healthcare centers, NEMP=National Essential Medicines Policy, THCs=township health centers, IB=Innovator Brand, LPG=Lowest Priced Generic, NCHSMP=Nationwide Community Health Services Monitoring Project, NHRMSS=National Health Resource and Medical Service Survey, MPR=median price ratio, CHCs=community health centres, EML= Essential Medicines List

Table S5 Summary of included papers about Health Services

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
(Meng et al. 2012)	Panel data analysis (NHSS)	31 provinces and municipalities	Health services	2003, 2008, and 2011	**[Accessibility]** Remarkable increases in insurance coverage and inpatient reimbursement were accompanied by increased use and coverage of health care. Important advances have been made in achieving equal access to services and insurance coverage across and within regions. However, these increases have not been accompanied by reductions in catastrophic health expenses.
(Hu et al. 2013)	A cross-sectional study	Donghai County of Jiangsu province	Health Services (rural)	2009	**[Accessibility]** Most of villages are in underserved health services areas. An unequal distribution of health service resources and the reimbursement policies of the NCMS have led to an edge effect regarding spatial accessibility of health services in Donghai County, whereby people living on the edge of the county have less access to health services.
(Lin et al. 2015b)	Qualitive study: semi-structured interview and focus groups	Guangzhou province: 35 participants	Health services (migrants)	July 2011	**[Accessibility]** African migrants experienced various barriers to accessing health care and were dissatisfied with local health services. The principal barriers to care reported included affordability, legal issues, language barriers, and cultural differences.
(Davis et al. 2016)	A qualitative study (In-depth interviews)	Guangzhou province: 19 female Ugandan sex workers	Health services (migrants)	April-July 2014	**[Accessibility]** Ugandan sex workers in China faced substantial structural barriers that limited health service access.
(Wong et al. 2016)	A secondary data analysis	Nationwide	Primary health care	2008, 2011	**[Accessibility, Equity]** The health-care reform of 2009 generally improved access to the primary health-care workforce in all 28 areas. However, based on the increase in the standard deviation of primary health care services, the gap in regional health care has increased.
(Chung et al. 2016)	A cross-sectional survey	Yanbien prefecture in northwest China	Childhood immunizations	June-August 2010	**[Accessibility, Equity]** Children born to North Korean refugees had significantly lower immunization rates, compared to Chinese or migrant children.
(Luo et al. 2017)	A case study	Xiantao County, Hubei Province, China	Health care services	Summer of 2014	**[Accessibility]** Spatial proximity was a primary concern when it came to accessibility of hospital care for rural

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
					residents in China. This is particularly true for general cares not specialized cares.
(Ma et al. 2018)	A cross-sectional survey	Hangzhou, Zhejiang province: 1322 participants	Health services (older migrants)	May to August 2013	**[Accessibility]** The low utilization of health services of older adults when they had ailments or serious diseases; the low utilization of health services of older adults when they had ailments or serious diseases.
(Wang et al. 2018b)	Analysis of data from provincial Health Bureau	Sichuan province	Primary health care	2014	**[Accessibility, Equity]** Spatial access to primary health care is better in south-eastern Sichuan compared to north-western Sichuan in terms of shorter travel time, higher spatial accessibility, and lower inequity. The disparity of access to primary health care is also apparent between ethnic minority and non-minority regions.
(Zhou et al. 2019)	A cross-sectional study	Changsha city (Hunan province): 555 participants	Reproductive health services	July-September 2015	**[Accessibility]** The female floating population exhibited poor awareness of reproductive health and rarely used reproductive health services, especially in unmarried women.
(Chen et al. 2014b)	A community-based, cross-sectional study	10 provinces: 90 community health service centers	Urban community health Service	September to December 2011	**[Equity]** Health workforce inequity was found in this study, especially in quality and geographic distribution.
(Xu et al. 2014)	Secondary data analysis	Jiangsu province	Primary health care workforce distribution	2008-2012	**[Equity]** The number of health workforces increased every year and the inequality in the distribution of health workforces showed a decline trend from 2008 to 2012. After 2009, these trends changed more rapidly.
(Liu, Wong, and Liu 2016c)	Analysis of data from National Survey of the Aged Population in Urban/Rural China	Nationwide	Health care	2006, 2010	**[Equity]** Fragmented health insurance schemes generate inequitable health care utilization and health outcomes for the elderly.
(Liu and Tang 2016)	Longitudinal study	Jiangsu province, China	Basic medical services	2010-2014	**[Equity]** From 2010 to 2014, the basic medical service equalization levels generally showed increasing trend.

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
(Liu et al. 2016a)	Secondary data analysis (CHSY, CSY)	Nationwide	Health resource allocation	2009-2013	**[Equity]** The equity of health resource allocation improved gradually from 2009 to 2013. However, the internal differences within the eastern region still have a huge impact on the overall equity in health resource allocation.
(Flato and Zhang 2016)	Household survey data analysis	30 counties in Sichuan province	Health services	2004 and 2011	**[Equity]** Pro-rich inequity in level of healthcare utilization increased after UHC reforms. Type of insurance enrolment has become a main driver of inequity in level of utilization.
(Lu, Zeng, and Zeng 2017)	A nationwide cross-sectional survey (China Labor Force Dynamic Survey)	29 provinces	Health services	2014	**[Equity]**There are inequalities of demographic, socio-economic and health status in the utilization of health services for China labor force.
(Pan et al. 2017)	Repeated cross sectional analysis	Jiangxi Province, rural areas	Inpatient Services	2003/2004, 2008, 2014	**[Equity]** The implementation of the NRCMS was associated with decreased inequity in 2008 and in 2014, but the associations were limited. Income contributed the most to the inequality of hospital utilization each year.
(Zhu et al. 2017)	Analysis of data from CHNS	Nationwide	Outpatient and inpatient services	1991-2011	**[Equity]** Regional factors were a more important determinant of inequalities of health care utilization than individual, especially income, factors.
(Sun and Luo 2017)	Secondary data analysis (CSY)	Nationwide	Health resources allocation	2011-2015	**[Equity]** There exist distinct regional disparities in the distribution of health resources in China, which are mainly reflected in the geographic distribution of health resources.
(Zhang et al. 2017c)	Secondary data analysis (CHSY)	31 provinces and autonomous regions municipalities	Health resources and health services	2010-2014	**[Equity]** Significant inequality in the geographic distribution of health resources is evident, despite a more equitable per capita distribution of resources. The residents living in the eastern developed region are more likely to use the well-resourced hospitals for outpatient care. The residents living in the western undeveloped region are more likely to use the poorly-resourced primary care institutions for inpatient care. Apart from

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
					regional disparities, inequality within each region also exists.
(Qian et al. 2017)	Secondary data analysis (the 5th National Health Service Survey of Shaanxi Province)	Shanxi province	Health services in women	2013	**[Equity]** Health service utilization was different between women with different social demographic characteristics, and unequal health service utilization is evident among women in Shaanxi.
(Song et al. 2018b)	Secondary data analysis (reports, National Bureau of Statistics, etc.)	All rural counties in China's 31 provinces	Health care services (rural)	2008, 2010, 2012, and 2014	**[Equity]** Absolute inequalities of health resources increased, while absolute inequalities of health utilization remained constant following China's health care reform.
(Zhong et al. 2018)	A patient survey	Guangdong province: 220 patients	Primary care	2014	**[Equity]** Equity in the primary care patient experiences between rural-to-urban migrants and urban locals seems to have been achieved to some extent. However, there is room for improvement in the equity of coordination of care and comprehensiveness.
(Zhang et al. 2018b)	Secondary data analysis (CHSY, CSY)	Nationwide	Primary health care resource allocation	2012-2016	**[Equity]** The equity of primary health care resource allocation had improved year by year and that the equity of population allocation was far better than the geographical area in China; The eastern region had the largest resource density and best equity and the western region had contrary results.
(Zhang et al. 2018a)	A cross-sectional study	Shaanxi Province: 8,488 women in urban areas and 18,724 women in rural areas	Maternal health services	August-November 2013	**[Equity]** Inequalities in maternal health services utilization still exist in Shaanxi Province. The determinants related to maternal health services utilization were women's age at delivery, educational level, employment status, parity, health problems during pregnancy and household income.
(Wu 2018)	Secondary data analysis	Nationwide	Health workforce distribution	2012 to 2016	**[Equity]** The increase in the number of physicians has not necessarily eliminated the geographical distribution inequalities.

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
(Fu et al. 2018)	Secondary data analysis (CHARLS)	Nationwide: 7836 participants.	Health services for the elderly.	2015	**[Equity]** There was a strong pro-rich inequality in both the probability and the frequency of use for health services among the elderly in China. The medical insurance was not enough to address this inequity.
(Song et al. 2018a)	Secondary data analysis	Rural China	Health workforce distribution	2008-2014	**[Equity]** A constant improvement in the number of health professionals per 1000 population co-existing with a worsening of the distribution of health professionals across counties in rural China following the health system reform. Economic factors were more important compared with geographic factors
(Yang, Wang, and Xue 2019)	Secondary data analysis (CSY)	Rural China	Health workforce distribution (rural)	2009-2016	**[Equity]** Chinese village physician distribution is generally equitable. But there are obvious inequalities existing with the divisions.
(Song et al. 2019b)	Analysis of data from the routine report of rural counties	Rural China	Health resource and health care	2008-2014	**[Equity]** Absolute inequalities of health resources were increased, while that of health utilization kept constant following China's health care reform.
(Wu and Yang 2019)	Secondary data analysis (CHSY, CSY)	Nationwide	Health workforce distribution	2002-2016	**[Equity]** The distribution equality of health care professionals by population was satisfactory, whereas the corresponding distribution inequality by area was severe. Different types of distribution inequality of health care professionals existed regionally and nationally despite their increasing quantities and densities.
(Liu, Emsley, and Dunn 2013)	Qualitative research (in-depth Interview)	Nationwide: seven elites and 10 ordinary families	Health services	July–August 2011	**[Affordability]** The new system was providing affordable basic health care to even the most remote and poorest of our participants who were among the most remote and poorest in China in July–August 2011.
(Kumar et al. 2015)	A cohort study	Nationwide:10,218 households	Health services	2007-2010	**[Affordability]** Annually, about 7% of the population in China fall in poverty due to out-of-pocket-health-expenditure. Also, the percentage shortfall in income for the population from poverty line due to out-of-pocket-health-expenditure is 2% in China.

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
(Lin et al. 2015a)	Qualitative research (semi-structured interview and focus group)	Guangzhou city: 35 African immigrants	Health services (African migrants)	July 2011	**[Affordability]** Fifteen participants (42.3 %) cited that the health care costs in Guangzhou can be so high as "to put you out of business." Participants delayed seeking health care or had to terminate medical treatments because they could not afford them.
(Fang, Hu, and Han 2017)	Longitudinal study	Nationwide: 1110 county hospitals	Health services	2006-2012	**[Affordability]** After the reform, the per-visit outpatient and inpatient expenses increased significantly
(Li and Feng 2017)	Longitudinal study	Nationwide: 28103 participants	Health services	2011-2013	**[Affordability]** Between 2011 and 2013, outpatient care medical costs rose by nearly 50%, whereas there was no such obvious trend for self-medication. People with insurance schemes offering lower cost sharing incurred consistently higher out-of-pocket outpatient payments. In China, it seems that the current reform and the huge government investment have not resulted in access to affordable quality care.
(Huang et al. 2018b)	A cohort study	Hangzhou, Baoji of China: over 800 households	Health services (urban)	2009-2013	**[Affordability]** Following China's Health Care System Reform and implementation of UHC, availability and use of medicines has improved in urban areas. However, the affordability of medicines is still a concern.
(Zhang et al. 2019a)	Longitudinal study	Hubei province: 17,522 patients with pulmonary tuberculosis	Health services (patients with pulmonary tuberculosis)	2011-2018	**[Affordability]** The current direct medical expenses of tuberculosis patients are relatively affordable, but for low-income patients and patients in severe condition, the financial burden is still heavy.
(Min et al. 2019b)	A cross-sectional survey	Nationwide: 7,747 patients with rare diseases	Health services (patients with rare diseases)	2016	**[Affordability]** Healthcare insurance is an effective safeguard for patients with rare diseases; however, affordable and accessible treatment is still lacking for such patients.
(Li et al. 2019c)	A cohort study	Zhejiang province, Gansu province: 2685 interviewees	Health services	2008 and 2012	**[Affordability]** Although the OOP burden and pharmaceutical spending portion had been reduced following the health reform, these impacts were still limited.

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
(Ren et al. 2019a)	A cross-sectional survey	Nationwide: 7589 participants	Health services (elderly people over 60 years old)	2013	**[Affordability]** 13.1% of respondents advised by a doctor to be hospitalized refused to do so, mainly (56.3%) because of financial difficulties.
(Li et al. 2019d)	A cohort study	Nationwide:1,070 patients with type 2 diabetes	Health services (diabetic)	2015	**[Affordability]** Diabetes is imposing a growing economic burden in patients with type 2 diabetes in China.
(Chen et al. 2014a)	A mixed method study	Zhao County, Hebei Province: 1601 caregivers	Postnatal care	July to August 2011	**[Quality, Coverage]** Coverage and quality of postnatal care were low in rural Hebei Province and far below the targets set by Chinese government.
(Wang et al. 2015b)	Face-to-face patient surveys	Tibet: Shigatse and Linzhi prefectures	Primary Care	September and October 2013	**[Quality]** Township health centers patients reported better primary care quality than patients visiting prefecture and county hospitals.
(Yin et al. 2016)	Natural experimental study	Shanghai, Kunming	General practitioner team service	November 2011 and December 2013	**[Quality]** Primary care policies that promote long-term provider–patient relationships, coordinated service with hospitals and capitation payment for the GP team may contribute to the improvement of care quality in Shanghai.
(Wang et al. 2017)	Secondary analysis using the household survey data from WHO SAGE	Eight provinces, 7598 rural people	Primary care	2007 -2010	**[Quality]** Rural public clinics, which share many characteristics with the optimal primary care delivery model, should be strongly strengthened to well respond to patients' needs and responsiveness.
(Li, Wei, and Wong 2017)	Two rounds of cross-sectional questionnaire surveys	Shanghai: 437 patients	Care for older patients with hypertension	November 2011 and June 2013	**[Quality]** Older adult hypertensive patients perceived better primary care quality from 2011 to 2013 in Shanghai. This may be associated with the general practitioner team service in Shanghai where hypertensive patients were targeted.
(Fan et al. 2017)	Questionnaire survey using the SERVQUAL model	27 hospitals in 15 provinces: 1,303 respondents	Health care services	January and June of 2016	**[Quality]** All the dimensions of service quality showed a negative gap, indicating that patients' expectations were not met. The largest gap was for the economy

Author details	Research design	Setting/Sample	Health care services	Research period	Findings
					dimension followed by responsiveness, empathy, assurance, reliability, and tangibility.
(Lee et al. 2018)	A cross-sectional survey	Nationwide: 12 hospitals, 3313 patients	Health services	July and August 2014	**[Quality]** The treatment - before - deposit policy has a potential to enhance patients' trust in their physicians through improving patients' perceived service quality.
(He et al. 2018)	A retrospective study	Henan Province: Xi County and Huaibin County	Medical service	2011- 2013	**[Quality]** Upgraded case payment is more reasonable and suitable for rural areas than simple quota payment or cap payment. It has successfully curbed the growth of medical expenses, improved the efficiency of medical insurance fund utilisation, and alleviated patients' economic burden of disease. However, no positive effects on service quality and efficiency were observed.
(Gong et al. 2018)	A series of nationwide surveys	Nationwide: 35 cities	Community health services	2008 and 2011	**[Quality]** Quality of community health services has been improved significantly at the first stage of health care reforms in China. CHCs were larger and better equipped after health care reforms in terms of average building area and average number of medical equipment. Patient satisfaction increased, and patient payments per visit decreased after health care reforms. But there was no significant improvement in health human resource, and overuse of injections remains prevalent.
(Wang, Loban, and Dionne 2019a)	Analysis of survey data from WHO SAGE	Nationwide: 1471 respondents	Inpatient care services	2010	**[Quality, Equity]** An important gap still remains between China and other countries in relation to patient experience of inpatient care; Noticeable disparities in patient experience of inpatient care also persist between different geographical regions
(Dong et al. 2019)	Analysis of data from the Chinese Ministry of Health	18 representative provinces or cities: 370 county-level hospitals	County hospitals' service	2009- 2012	**[Quality]**The comprehensive service capability of both pilot and non-pilot group all got improvement. However, county public hospital reform did not significantly play a due good role in improving the service capability in pilot group.

Note: NCMS=New Cooperative Medical Scheme, NHSS=National Health Services Survey, CFPS=China Family Panel Studies, CHNS=China Health and Nutrition Survey, CHSY=China Health Statistical Yearbook, CSY=China Statistical Yearbook, NRCMS=New Rural Cooperative Medical Scheme, CHARLS=China Health and Retirement Longitudinal Study, OOP=out-of-pocket, SAGE=Study on global AGEing and adult health, CHCs=community health centers

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