
The Results of Medical Examination and Treatment Under The Impact of The Medical Equipment System at Central Public Hospitals in Vietnam

Nga Phuong NGUYEN

PhD Student 33A; Major of Economic management
Thuongmai University , Hanoi Vietnam

Email: phuongngasav@gmail.com

Abstract

This study analyzes the medical equipment system's impact on patients' disease progression after being treated at Vietnamese central public hospitals. The study surveyed medical staff and patients treated at central public hospitals. The gathered information and assessment was used to evaluate the current state of medical equipment being used in hospitals. The study also compared the relationship between the medical equipment status and the change in health status after the treatment. Research shows that, although the socialization policy offers a good opportunity for hospitals to upgrade medical equipment, the current policies cause many hospitals to face legal problems and prevent patients from accessing higher treatment qualifications. Improving the health financing policy will thus improve central hospitals in providing healthcare services and create better conditions for Vietnamese people to access the health care system.

Keywords: medical equipment, hospital, patient, policy

Introduction

Along with the development of society, the principle of public sector management, particularly the management of public units in providing public services, has changed. Providing public services has now been promoted to socialization with the involvement of many sectors of the economy. As a result, public organizations are no longer monopolistic units in providing public services and goods (Hoa et al 2019). Along with the trend of new public management, promoting efficiency in providing public goods and services. Now, the private sector is nurtured and encouraged to participate in the medical and healthcare market (Nga et al 2017). More and more private hospitals are supported and to be set up to reduce the burden of public health care from public hospitals. In many countries, public hospitals have also been given autonomy in their duties. However, the understanding of autonomy in countries is sometimes heterogeneous due to political, institutional and budgetary factors... For Vietnam, financial autonomy for non-business units in the public sector has been promoted since 2002. After many policy adjustments, public hospitals are now financially autonomous units. They have been divided into four groups: Group (1) The unit can self-finance all regular operating expenses and development investment funds;

Group (2) Units can self-finance all regular operating expenses; Group (3) The unit guarantees part of the regular operating budget; Group (4) Units funded by the state budget.

Vietnam's central public hospitals are the last-line hospitals, where they receive cases that the lower level cannot treat (Nguyen and Cheng 2014). Most central hospitals have been assigned financial autonomy to ensure recurrent expenditure. However, some central hospitals still have to rely on the state budget to maintain their operations (The National Assembly of Vietnam 2020). In 2018 the government promoted financial autonomy in some central public hospitals. 4 hospitals were selected to give the highest degree of financial autonomy. Bach Mai Hospital, K Hospital, Viet Duc Hospital, Cho-Ray Hospital are oriented to self-finance recurrent and investment expenses; Bach Mai Hospital and K Hospital were selected as the pioneer. Giving the authority of financial autonomy to public hospitals promotes the socialisation process and upgrades hospitals' medical equipment. It improves the capacity of examination and treatment for patients and creates a premise for enhancing the quality of health of people. However, after a pilot implementation, Bach Mai and K hospital encountered many difficulties during operation. Therefore, Viet Duc Hospital and Cho-Ray Hospital have decided not to participate in this project. Therefore, this study compares and analyzes the current state of equipment in several central public hospitals that have been given some type of authority in financial autonomy in ensuring their operations from 2018 to the present. The study also compared patients' ratings at these hospitals to see the impact of medical equipment on the disease progression of patients in these hospitals.

Reviews and research methodology

As a part of a medical and social organization, the hospital has the function of ensuring that people receive comprehensive medical care, both curative and preventive. The hospital is not separate and isolated in community health care, but it also performs a broad function harmoniously linked to the field of health care and society (Kitaki 2021). Even so, public health care is an essential function of the hospital. The hospital is often equipped with many beds and medical equipment for patient examination and treatment. In addition, the hospital also has a team of highly qualified medical staff to perform inpatient and outpatient functions. Inpatient treatment is the performance of treatment when an inpatient treatment appointment by a doctor or a referral from another medical facility. For inpatient treatment, the patient must be hospitalized to receive treatment. In contrast, outpatient treatment is when the patient conducts treatment according to the doctor's prescription but does not need to be hospitalized (Madyaningrum et al. 2018).

As technology advances, many advanced medical devices are born. It helps to make medical examination and treatment activities for patients faster and more accurate. Medical equipment is a particular commodity that directly affects medical examination and treatment. It is one of the important factors determining the effectiveness and quality of medical work because it supports doctors accurately, quickly, safely and effectively in diagnosing and treating patients. Therefore, access to a system of specialized and modern medical equipment, tools and supplies is always valued by hospitals.

To obtain data for the assessment of the current status of medical equipment at some central public hospitals, the study investigated 217 permanent staff working at 7 central public hospitals. 217 survey subjects were doctors and nurses working in clinical and subclinical units of internal medicine and surgery departments. These subjects will be asked questions built on the Likert scale to self-assess the “modern level of equipment being used in examination and treatment” (C4); “quality of equipment being used in medical examination and treatment” (C6). Hospital staff were also asked about the “lack of equipment for patient care and treatment” (D4). Question (D4) was built on the normal scale.

In addition to the surveyed medical staff, the study also investigated 162 patients being treated at these 7 hospitals. The surveyed patients included both inpatient and outpatient groups. Due to the selection of the random survey method, some patients will have health insurance cards, and some patients do not have health insurance cards. These subjects will be asked questions built on the Likert scale to self-assess the “the current level of medical equipment serving the treatment/treatment process at the hospital” (C12). Although the patient's assessment of the state-of-the-art medical equipment is not professionally convincing, the intuitive perception of hospitals' medical equipment is also compelling. It is valuable information about the state of equipment for medical examination and treatment in hospitals.

The study used the Likert scale so that the investigated patients could self-assess the degree of change in the patient's health after treatment at the hospital. The study used the Estimation with Categorical Variables method to compare the assessment of the change in the patient's health after treatment between the selected hospitals. Compare the difference in disease progression to the evaluation of the state of medical equipment in these hospitals. In addition, the study was also conducted to clarify whether the disease status was improved based on social variables such as: choice of a voluntary treatment room, choice of doctor...

Results

Firstly, the capacity of medical equipment in selected central hospitals

a) Evaluation from medical staff

According to the assessment from the questionnaires for the group of organic staff at 7 selected hospitals, the state of upgrading medical equipment for treatment is best evaluated at Viet Duc hospital, followed by Hospital E... While the assessment of the medical staff of Bach Mai Hospital shows that the medical equipment situation of this hospital is in a dire state, both outdated and backward, lack of machinery for medical examination, care and treatment. Above the situation of Bach Mai Hospital is that of Thai Nguyen Hospital; with more than 65% of the hospital's staff evaluated that the modernity and completeness of equipment used in medical examination and treatment was at an average level or lower.

Table 1: Evaluation of the modernity and completeness of equipment used in medical examination and treatment of permanent medical staff at 7 surveyed hospitals.

			Evaluation					Total
			1	2	3	4	5	
Hospital	Bach Mai	Count	2	5	30	5	1	43

		% within Hospital	4.7%	11.6%	69.8%	11.6%	2.3%	100.0%
		% within C4	66.7%	29.4%	28.3%	7.8%	3.7%	19.8%
		% of Total	.9%	2.3%	13.8%	2.3%	.5%	19.8%
	Viet Duc	Count	0	1	7	15	12	35
		% within Hospital	.0%	2.9%	20.0%	42.9%	34.3%	100.0%
		% within C4	.0%	5.9%	6.6%	23.4%	44.4%	16.1%
		% of Total	.0%	.5%	3.2%	6.9%	5.5%	16.1%
	K	Count	0	1	26	8	12	47
		% within Hospital	.0%	2.1%	55.3%	17.0%	25.5%	100.0%
		% within C4	.0%	5.9%	24.5%	12.5%	44.4%	21.7%
		% of Total	.0%	.5%	12.0%	3.7%	5.5%	21.7%
	Thai Nguyen	Count	1	6	22	15	0	44
		% within Hospital	2.3%	13.6%	50.0%	34.1%	.0%	100.0%
		% within C4	33.3%	35.3%	20.8%	23.4%	.0%	20.3%
		% of Total	.5%	2.8%	10.1%	6.9%	.0%	20.3%
	Lung central	Count	0	4	10	12	2	28
		% within Hospital	.0%	14.3%	35.7%	42.9%	7.1%	100.0%
		% within C4	.0%	23.5%	9.4%	18.8%	7.4%	12.9%
		% of Total	.0%	1.8%	4.6%	5.5%	.9%	12.9%
	E	Count	0	0	1	2	0	3
		% within Hospital	.0%	.0%	33.3%	66.7%	.0%	100.0%
		% within C4	.0%	.0%	.9%	3.1%	.0%	1.4%
		% of Total	.0%	.0%	.5%	.9%	.0%	1.4%
	Endocrine Central	Count	0	0	10	7	0	17
		% within Hospital	.0%	.0%	58.8%	41.2%	.0%	100.0%
		% within C4	.0%	.0%	9.4%	10.9%	.0%	7.8%
		% of Total	.0%	.0%	4.6%	3.2%	.0%	7.8%
Total		Count	3	17	106	64	27	217
		% within Hospital	1.4%	7.8%	48.8%	29.5%	12.4%	100.0%
		% within C4	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.4%	7.8%	48.8%	29.5%	12.4%	100.0%

Source: author's survey analysis

Comparing the assessment of the level of the modernity and completeness of equipment used in medical examination and treatment among medical staff of the 7 surveyed hospitals, the results show that about 2/3 of the opposing view on this issue lies in assessing the full-time medical staff of Bach Mai hospital. The same point of view among the staff of Thai Nguyen Hospital accounts for about one-third. In contrast, a positive outlook of equipment used in the care and treatment of patients at the surveyed hospitals occurred at K hospital and Viet Duc hospital.

Table 2: Assessment of the lack of equipment in the care and treatment of patients by full-time medical staff at 7 surveyed hospitals

			Evaluation (D4)		Total
			YES	NO	
Hospital	Bach Mai	Count	43	0	43
		% within Hospital	100.0%	.0%	100.0%
		% within D4	23.2%	.0%	19.8%
		% of Total	19.8%	.0%	19.8%
Viet Duc	Viet Duc	Count	21	14	35
		% within Hospital	60.0%	40.0%	100.0%
		% within D4	11.4%	43.8%	16.1%
		% of Total	9.7%	6.5%	16.1%
Hospital K	Hospital K	Count	42	5	47
		% within Hospital	89.4%	10.6%	100.0%
		% within D4	22.7%	15.6%	21.7%
		% of Total	19.4%	2.3%	21.7%
Thai Nguyen	Thai Nguyen	Count	40	4	44
		% within Hospital	90.9%	9.1%	100.0%
		% within D4	21.6%	12.5%	20.3%
		% of Total	18.4%	1.8%	20.3%
Lung central	Lung central	Count	20	8	28
		% within Hospital	71.4%	28.6%	100.0%
		% within D4	10.8%	25.0%	12.9%
		% of Total	9.2%	3.7%	12.9%
E	E	Count	3	0	3
		% within Hospital	100.0%	.0%	100.0%
		% within D4	1.6%	.0%	1.4%
		% of Total	1.4%	.0%	1.4%
Endocrine Central	Endocrine Central	Count	16	1	17
		% within Hospital	94.1%	5.9%	100.0%
		% within D4	8.6%	3.1%	7.8%
		% of Total	7.4%	.5%	7.8%
Total	Total	Count	185	32	217
		% within Hospital	85.3%	14.7%	100.0%
		% within D4	100.0%	100.0%	100.0%
		% of Total	85.3%	14.7%	100.0%

Source: author's survey analysis

Inadequacy of medical equipment for medical examination and treatment at Bach Mai and E Hospital is the cause of the situation that the permanent medical staff at these two hospitals have fallen into disrepair with the lack of equipment in the care and treatment of patients. In contrast, a survey from the permanent staff working in Viet Duc Hospital shows that up to 40% of the medical staff of this hospital have never experienced a shortage of equipment in the care and treatment of patients with the patient.

Table 3: Evaluation of the staff of the organic medical hospital on the quality of equipment being used in medical examination and treatment at 7 surveyed hospitals

		Evaluation (C6)					Total
		1	2	3	4	5	
Hospital Bach Mai	Count	1	4	31	5	2	43
	% within Hospital	2.3%	9.3%	72.1%	11.6%	4.7%	100.0%
	% within C6	50.0%	36.4%	28.7%	7.9%	6.1%	19.8%
	% of Total	.5%	1.8%	14.3%	2.3%	.9%	19.8%
Viet Duc	Count	0	0	7	16	12	35
	% within Hospital	.0%	.0%	20.0%	45.7%	34.3%	100.0%
	% within C6	.0%	.0%	6.5%	25.4%	36.4%	16.1%
	% of Total	.0%	.0%	3.2%	7.4%	5.5%	16.1%
Hospital K	Count	0	1	25	5	16	47
	% within Hospital	.0%	2.1%	53.2%	10.6%	34.0%	100.0%
	% within C6	.0%	9.1%	23.1%	7.9%	48.5%	21.7%
	% of Total	.0%	.5%	11.5%	2.3%	7.4%	21.7%
Thai Nguyen	Count	1	3	22	18	0	44
	% within Hospital	2.3%	6.8%	50.0%	40.9%	.0%	100.0%
	% within C6	50.0%	27.3%	20.4%	28.6%	.0%	20.3%
	% of Total	.5%	1.4%	10.1%	8.3%	.0%	20.3%
Lung Central	Count	0	2	11	13	2	28
	% within Hospital	.0%	7.1%	39.3%	46.4%	7.1%	100.0%
	% within C6	.0%	18.2%	10.2%	20.6%	6.1%	12.9%
	% of Total	.0%	.9%	5.1%	6.0%	.9%	12.9%
E	Count	0	0	2	1	0	3
	% within Hospital	.0%	.0%	66.7%	33.3%	.0%	100.0%
	% within C6	.0%	.0%	1.9%	1.6%	.0%	1.4%
	% of Total	.0%	.0%	.9%	.5%	.0%	1.4%
Endocrine Central	Count	0	1	10	5	1	17
	% within Hospital	.0%	5.9%	58.8%	29.4%	5.9%	100.0%

	% within C6	.0%	9.1%	9.3%	7.9%	3.0%	7.8%
	% of Total	.0%	.5%	4.6%	2.3%	.5%	7.8%
Total	Count	2	11	108	63	33	217
	% within Hospital	.9%	5.1%	49.8%	29.0%	15.2%	100.0%
	% within C6	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	.9%	5.1%	49.8%	29.0%	15.2%	100.0%

Source: author's survey analysis

Regarding the quality of the equipment that patients are being used in treatment and rehabilitation care at the surveyed hospitals, the data processing results show that nearly 30% of Bach Mai hospital staff rated the quality of the equipment they use in treatment and rehabilitation care at Bach Mai hospital at an average level or below. However, the situation was somewhat optimistic in hospital E. Contrary to the assessment of the staff of Viet Duc Hospital, the Central Lung Hospital has a positive view of the equipment for patients' use in treatment and rehabilitation care.

b) From the patient's side

Evaluation of the current medical equipment serving the treatment process at the hospital of inpatients and outpatients is relatively different based on data processing results from 162 inpatients and outpatients. About 65% of inpatients think that medical equipment for treatment/treatment at the hospital is rated as good. However, only about 50% of inpatients agree with this assessment. If comparing each pair of inpatient and outpatient evaluations about the modernity of medical equipment serving the treatment/treatment process at the hospital, according to the perception from the lowest to the highest, the Outpatients often have a more permissive view than inpatients (see table 4).

Table 4: Perception of the current level of medical equipment serving the treatment/treatment process at the hospital of the group of inpatients and outpatients.

			Evaluation (c12)					Total
			1	2	3	4	5	
Pateints	inpatient	Count	1	1	14	9	9	34
		% within Pateints	2.9%	2.9%	41.2%	26.5%	26.5%	100.0%
		% within c12	100.0%	10.0%	28.6%	14.3%	23.1%	21.0%
		% of Total	.6%	.6%	8.6%	5.6%	5.6%	21.0%
outpatient	Count	Count	0	9	35	54	30	128
		% within Pateints	.0%	7.0%	27.3%	42.2%	23.4%	100.0%
		% within c12	.0%	90.0%	71.4%	85.7%	76.9%	79.0%
		% of Total	.0%	5.6%	21.6%	33.3%	18.5%	79.0%
Total	Count	Count	1	10	49	63	39	162
		% within Pateints	.6%	6.2%	30.2%	38.9%	24.1%	100.0%
		% within c12	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			Evaluation (c12)					Total
			1	2	3	4	5	
Pateints	inpatient	Count	1	1	14	9	9	34
		% within Pateints	2.9%	2.9%	41.2%	26.5%	26.5%	100.0%
		% within c12	100.0%	10.0%	28.6%	14.3%	23.1%	21.0%
		% of Total	.6%	.6%	8.6%	5.6%	5.6%	21.0%
outpatient	Count	Count	0	9	35	54	30	128
		% within Pateints	.0%	7.0%	27.3%	42.2%	23.4%	100.0%
		% within c12	.0%	90.0%	71.4%	85.7%	76.9%	79.0%
		% of Total	.0%	5.6%	21.6%	33.3%	18.5%	79.0%
Total	Count	Count	1	10	49	63	39	162
		% within Pateints	.6%	6.2%	30.2%	38.9%	24.1%	100.0%
		% within c12	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	.6%	6.2%	30.2%	38.9%	24.1%	100.0%

Source: author's survey analysis

When considering the evaluation of patients with insurance cards with the rest, the data processing results show that people with health insurance cards have a more permissive view of the current level of medical equipment. In contrast, the group that did not use the health insurance card showed a more substantial feeling.

Table 5: Perception of the current level of medical equipment serving the treatment/treatment process at the hospital of the group of patients

			Evaluation (c12)					Total
			1	2	3	4	5	
Medical care cards	Having card	Count	1	9	45	63	37	155
		% within Medical care cards	.6%	5.8%	29.0%	40.6%	23.9%	100.0%
		% within c12	100.0%	90.0%	91.8%	100.0%	94.9%	95.7%
		% of Total	.6%	5.6%	27.8%	38.9%	22.8%	95.7%
Non having card	Count	Count	0	1	4	0	2	7
		% within Medical care cards	.0%	14.3%	57.1%	.0%	28.6%	100.0%
		% within c12	.0%	10.0%	8.2%	.0%	5.1%	4.3%
		% of Total	.0%	.6%	2.5%	.0%	1.2%	4.3%
Total	Count	Count	1	10	49	63	39	162
		% within Medical care cards	.6%	6.2%	30.2%	38.9%	24.1%	100.0%
		% within c12	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			Evaluation (c12)					Total
			1	2	3	4	5	
Medical care cards	Having card	Count	1	9	45	63	37	155
		% within Medical care cards	.6%	5.8%	29.0%	40.6%	23.9%	100.0%
		% within c12	100.0%	90.0%	91.8%	100.0%	94.9%	95.7%
		% of Total	.6%	5.6%	27.8%	38.9%	22.8%	95.7%
Non having card	Non having card	Count	0	1	4	0	2	7
		% within Medical care cards	.0%	14.3%	57.1%	.0%	28.6%	100.0%
		% within c12	.0%	10.0%	8.2%	.0%	5.1%	4.3%
		% of Total	.0%	.6%	2.5%	.0%	1.2%	4.3%
Total		Count	1	10	49	63	39	162
		% within Medical care cards	.6%	6.2%	30.2%	38.9%	24.1%	100.0%
		% within c12	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	.6%	6.2%	30.2%	38.9%	24.1%	100.0%

Source: author's survey analysis

Second, compare patients' health status changes after treatment at selected central hospitals.

In evaluating the investigated group of patients about the change in their health after the treatment process, the regression estimation results show that it is challenging to assess the difference in the shift in treatment between patients at Bach Mai hospital and patients at Viet Duc hospital, Lung hospital and K hospital (P-value > 5%). Despite assessing the complete and modern condition of the hospital's medical equipment, Bach Mai hospital is relatively low compared to this target group. The state of health change at Thai Nguyen hospital is lower than that of patients treated at Bach Mai hospital (P-value < 5%) when assessing the complete and modern state of equipment. However, the patient's health at Thai Nguyen hospital is slightly more optimistic. The patient's health recovery after treatment at the National Hospital of Endocrinology was better than that of Bach Mai Hospital (P-value < 5%).

Table 6: Estimation of patients' health change with Categorical variables of Hospitals

Number of obs	162
F(5, 156)	3.48
Prob > F	0.0052
R-squared	0.1003
Adj R-squared	00715
Root MSE	.86066

	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Bach Mai						
Viet Duc	.3621554	.234023	1.55	0.124	-.1001073	.824418
K	.4363525	.1916242	2.28	0.084	.0578396	.8148654
Thai nguyen	.6208134	.1905999	3.26	0.001	.2443238	.997303
Lung central hospital	.4617225	.2946754	1.57	0.119	-.1203461	1.043791
Endocrine Central hospital	1.352632	.409441	3.30	0.001	.5438679	2.161395
_cons	3.447368	.1396182	24.69	0.000	3.171582	3.723155

Pvalue < 5%

The results of estimation according to the group of social problems show that whether or not the family performs giving money to the medical team of doctors does not affect the treatment outcome (P-value > 5%). The situation is similar to whether the patient chooses the treating doctor himself or the treatment is assigned by the head of the treatment unit. However, if patients have conditions to receive medical care in voluntary rooms, their health recovery is better than those who do not use voluntary partitions (P-value < 5%). In other words, the regression results show that doctors participating in treatment in central public hospitals are very technicians; patients need not fear not being treated by a good doctor. Even sharing a bed with other patients does not prevent the treatment from achieving a positive change in the health of the patients treated by the top medical team. Using a voluntary chamber will create a feeling of comfort and personal freedom and, therefore, a more positive impact on the treatment outcome.

Table 7: Estimation of patients' health change with Categorical variables of social issues

Number of obs	162
F(5, 156)	1.77
Prob > F	0.1377
R-squared	0.0431
Adj R-squared	0.0188
Root MSE	.88478

	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
giving money to the medical team						
Non giving money to the medical team	-.1413963	.1603164	-8.88	0.379	-.4580676	.175275
choosing the treating doctor						
Not choosing the treating doctor	.0041026	.1470376	0.03	0.978	-.2863228	.2945279
sharing a bed with other patients						
Not sharing a bed with other patients	-.0714773	.1672415	-0.43	0.670	-.4018108	.2588562

Using voluntary rooms						
Non voluntary rooms	-.3600138	.1695402	-2.12	0.035	-.6948877	.0251399
_cons	4.197287	.210376	19.95	0.000	3.781755	4.61282

Pvalue < 5%

Discussion and conclusion

The financial autonomy policy has motivated most central hospitals to self-finance in terms of recurrent expenditure. Some public hospitals have applied policies to socialize medical equipment to provide the best conditions for medical examination and treatment for Vietnamese people when sick. For socialized services, despite more cost for treatment, it would be lower compared to the total cost that a patient has to pay for treatment according to the same protocol in developed countries such as the US, Japan, etc., (Nguyen et al 2017) Hospitals such as Bach Mai, Viet Duc and K hospital are pioneers in this socialization process. However, when the mechanism and policy on financial autonomy for public non-business units are still incomplete. Policy inadequacies often plague pioneers. The teams are encouraged to promote independence but are not equipped with the necessary legal corridors, which inevitably leads to mistakes in the process of socialization. When there is a mistake, many modern and necessary medical equipment for examination and treatment at the hospital are sealed for investigation. Therefore, the situation of sending patients to lower-layer hospitals to check with high-tech equipment, waiting for results from them to provide treatment has appeared at Bach Mai hospital. This is the main reason why many patients rate the change in health at Bach Mai Hospital as lower than at the National Hospital of Endocrinology. However, Bach Mai Hospital has always been known as the National special class hospital. Although there are many difficulties in managing the medical equipment system, the quality of medical examination and treatment at Bach Mai hospital is still higher than that of patients at Thai Nguyen hospital. The medical staff of Thai Nguyen hospital have lower professional qualifications than the medical staff of Bach Mai hospital.

Completing the system of legal documents, especially those related to the implementation of joint ventures, is necessary to strengthen the confidence of hospitals to promote autonomy and improve the quality of medical equipment and provide medical care for patients. Accordingly, the guiding documents on the purchase and sale of medical equipment need to clarify the procurement authority and, approve the contractor selection plan, select the bidding packages for the purchase of drugs, goods and services for the operation. In addition, the legal corridor on medical equipment management by state agencies should change from pre-inspection to post-inspection. It is necessary to require business enterprises to be accountable to state agencies... (The National Assembly of Vietnam 2020) When these issues are satisfactorily resolved, the socialization of health in Vietnam will make new progress. Public hospitals are led by a clear policy system, which inevitably promotes upgrading medical equipment to serve patients. Vietnam's health system will therefore do better in its role, contributing to improving community service energy and people's quality of life.

ACKNOWLEDGMENTS: None
CONFLICT OF INTEREST: None
FINANCIAL SUPPORT: None
ETHICS STATEMENT: None

References

- Hoa NT, Derese A, Markuns JF, Tam NM, Peersman W (2019). Development and validation of the Vietnamese Primary Care Assessment Tool–provider version. *Prim Health Care Res Dev*; 20.
- Hoang, VM, Tran, TN, Nguyen, BN (2017). Methods for the 2016 socio-economic and health survey in Chi Linh Health and Demographic Surveillance System (CHILILAB HDSS). *Asia Pac J Public Health*; 29(suppl):9S-17S.
- Kitaki, H (2021) . Technical efficiency of public and private hospitals in Vietnam: do market-oriented policies matter? Accessed March 20,. https://www.jica.go.jp/jica-ri/publication/workingpaper/wp_163.html
- Madyaningrum, E, Chuang, Y-C, Chuang, K-Y (2018). Factors associated with the use of outpatient services among the elderly in Indonesia. *BMC Health Serv Res*;18:707. doi:[10.1186/s12913-018-3512-0](https://doi.org/10.1186/s12913-018-3512-0)
- Nga, NTT, Anh, BTM, Ngoc, NN, et al (2017). Capacity of commune health stations in Chi Linh District, Hai Duong Province, for prevention and control of noncommunicable diseases. *Asia Pac J Public Health*. ;29(5, suppl):94s-101s. doi:[10.1177/1010539517717020](https://doi.org/10.1177/1010539517717020)
- Nguyen TK, Cheng TM (2014). Vietnam's health care system emphasizes prevention and pursues universal coverage. *Health Aff (Millwood)*.;33(11):2057–63. pmid:25354953
- Nguyen, TH, Le, THH, Truong, QT (2017). Determinants of health-related quality of life among elderly: evidence from Chi Linh Town, Vietnam. *Asia Paci J Public Health*.;29(suppl):84S-93S.
- The National Assembly of Vietnam (2020). Law on Health Insurance No. 46/2014/QH13. Accessed June 21,. <https://thuvienphapluat.vn/van-ban/Bao-hiem/Luat-Bao-hiem-y-te-sua-doi-2014-238506.aspx>