A Study on the Use and Upgrading of the All-Purpose Medical Card for Xi’an Residents

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Abstract. Since put to use, the all-purpose medical card for Xi’an residents has yielded some good results. But there also exist some problems in its use. Based on a survey, this paper overviews the application of the medical card and suggests the medical card be changed into the residents’ health card.

Background
Since April 21st in 2014, the all-purpose medical card for Xi’an residents has been in use by Xi’an Center Hospital, Xi’an NO.1 Hospital, Xi’an NO.4 Hospital, Xi’an Children’s Hospital and Xi’an Hospital of TCM. It stores one’s ID and his/her basic health information, as well as helps settle the account. The medical card has yielded good results, such as simplified medical treatment procedures, optimized medical service, etc. Well received by the patients, the card also has some imperfections.

Based on the surveys of current use of the all-purpose medical card for Xi’an residents, this paper makes some suggestions on the upgrading of the all-purpose medical card service, as a way to strengthen the medical digitization and informatization in Xi’an.

Survey and Results
In this study, a stratified survey was carried out through questionnaires. In August, 2016, the questionnaires were equally distributed to the out-patients in Xi’an Center Hospital, Xi’an NO.1 Hospital, Xi’an NO.4 Hospital, Xi’an Children’s Hospital and Xi’an Hospital of TCM. After the patients completed them, these questionnaires were instantly taken back. As a result, 168 of 200 questionnaires were returned with a response rate of 84%. The method of face-face or telephone interview was also used: its subjects included staff in each hospital’s information department and finance department, as well those in the data center of Xi’an health administrative departments. The final results were as follows in three categories.

The Use Flow of the All-purpose Medical Card
a. Money depositing. a patient sets up an account via the medical card, deposits money into it and gets the receipt in the hospital’s fee-charging window.

b. Registration: the patient registers through the window or an automatic card-reading machine.

c. Queuing up to see the doctor. the patient goes to the reception stand where the card-reading machine identifies his/her information and registration through hospital information system (HIS), and puts him/her in the line for the doctor.

d. Medical examination and medicine collection. the patient goes to the medical technology department or dispensary where the card-reading machine identifies his/her
information, writes the fee information into the medical card and produces the listing of payments.

e. Account settlement. the patient goes to the fee-charging window where the account is settled through the all-purpose medical card.

The Benefits of the All-purpose Medical Card

Since put to use, the all-purpose medical card benefits the patients, hospitals and health administrative departments in Xi’an in the following aspects:

a. The medical card helps reduce medical risks. with medical information stored in the card, the doctor can know the patient’s medical history, medication, drug allergies, and potential repeated medical tests or examinations. In this way, medical accidents, repeated medical expenditure and medical disputes are avoided.

b. The medical card saves costs. after money depositing, the card saves the time that could have been spent on queuing up to pay the money for medical examinations and medicine; the hospital thus saves its human cost, and material cost due to less receipt printing.

c. The medical card enhances the hospital’s informalization and service. as a trend in hospital management, informalization is indispensable to the overall upgrading of the service of a medical establishment. Since put to use, the medical card has enabled the coordinated development of the hospital’s clinical information system and management information system, contributing to the service upgrading and favored by the patients.

d. The management skills of the health administrative departments are upgraded. the medical card ensures more convenient health service for urban and rural residents in Xi’an. It also meets various talents’ needs for health service, increasing the regional competitiveness.

The Existing Problems in the Use of the All-purpose Medical Card

Having been universally used in five hospitals of Xi’an, the all-purpose medical card brings good to the patients, hospitals and health administrative departments in Xi’an. Although the card fulfills its design purpose to some extent, there are some problems that affect its application and function. They are listed as follows.

a. Xi’an residents’ lack of knowledge of the medical card. According to the survey of the patients, most subjects were not aware of the fact that the all-purpose medical card could be used in all five hospitals; of those who were aware, only a small number actually used the same card in different hospitals. Most patients went to the hospital without noticing the information stored in the card and without knowing how many previous medical records could be stored in the card.

b. Some imperfections of the medical card. First, the medical card is not strictly bound to one’s ID number. In some hospitals, the card can be issued without the production of the ID card and strict real name authentication. When a patient fails to bring the card along, he/she can apply for another one. Such repetition is indeed a waste.

Secondly, the medical card can be used in the outpatient department, but not in the in-patient department.

Thirdly, not all medical cards can be universally used in five hospitals. According to the survey, the system in some hospital fails to connect that in the other ones. For example, the card issued by Xi’an Center Hospital cannot be swiped in Xi’an Children’s Hospital.

Fourthly, the medical card lacks certain functions, like the function of a health care card or a bank card. Now, the card is not bound to China’s new rural cooperative medical system (NRCMS). When a patient is in the NRCMS of 9 districts and 4 counties of Xi’an, his/her
medical expenditure can be reimbursed inside the hospital upon production of the NRCMS card. If he/she is not, the medical expenditure has to be reimbursed where his/her NRCMS card is issued. To clarify, the reimbursement depends on the cooperative agreement between the hospital and the NRCM office of a certain place. The agreement enables the reimbursement inside the hospital.

Reasons for the Existing Problems

Weak Publicity of the All-purpose Medical Card in Xi’an

Since put to use, the all-purpose medical card has not been sufficiently publicized by the mainstream media like Xi’an Evening News. Besides, the publicity in those hospitals is not enough. Although the information on the medical card is shown on the hospital’s official website and its posters or boards, the patients seldom pay attention to it, but focus much more on their appointments with the medical experts. The posters and boards are also frequently replaced by new ones, unable to present the medical card to more patients. In addition, most of the patients are too heavy-hearted to notice anything including the publicity inside the hospital.

A lack of Upgrading of the All-purpose Medical Card Against the Background of Fast-developing Information Technology

With the development of IT, the mode of “Internet + medical service” has been applied to major hospitals in China, promoting the hospital informatization. As Alipay and other mobile apps are widely used, the all-purpose medical card no longer enjoys more functional advantages. Its functions need to be increased.

The patients want the card to be universal not only in five hospitals of Xi’an but also in the whole Shaanxi province. Besides, if a medical card is bound to an ID number for lifetime, frequent card-changing resulting from system upgrade and other reasons can be avoided. Additionally, if the card includes the function of the bank card payment, it will be more convenient, making cash and the bank card unnecessary.

Some Barriers to Medical Information Sharing in Xi’an

Since the all-purpose medical card was put to use, there have been sufficient technologies and equipment for coordination in those five hospitals. But some cards still cannot be universally used in these hospitals. According to the survey, there is something wrong with the communication between those five hospitals. In consideration of their information security, some hospitals don’t share the internal information, or only share just a little. Without sufficient information shared, the communication is frustrated.

Measures and Suggestions

On the basis of Several Opinions of the State Council on Expanding Domestic Demand by Promoting Information Consumption, the National Health and Family Planning Commission of the People’s Republic of China is stepping up its efforts on the residents’ health card. The health card allows the recognition of an individual’s identity, as well as information exchanging and sharing across different regions or areas. The card is an information tie connecting residents, medical establishments, and health administrative departments.

Since put to use, the all-purpose medical card for Xi’an residents has benefited hospitals
and patients. But compared to the medical card with limited functions, the health card enjoys more advantages. It can be universally used not only in the hospitals of Xi’an, but also in those of the whole Shaanxi Province and China. When a Chinese citizen applies for the health card, he/she must produce the ID card, and one card is only for one resident’s lifelong use. The health card can be used in both the out-patient department and in-patient department. In view of the above, the all-purpose medical card for Xi’an residents will be inevitably turned into the health card.

**To Change the All-purpose Medical Card into the Residents’ Health Card in Xi’an**

The residents’ health card shows one’s identity and stores information. With financial functions, the health card can settle account through the NRCMS. The card contains more functions, upgraded in line with the country’s policies and with times. Therefore, the all-purpose medical card should be turned into the residents’ health card.

**a. Two principles during the change:**

First, to reduce repeated investment by resource integration.

The residents’ health card facilitates one’s medical consultation and reimbursement with the NRCMS card. With financial functions, it also helps with the health and family planning and other social public services. Accordingly, the health card involves the commission of health and family planning, NRCMS office, health service organizations, center for disease control and prevention, etc. As a result, it is essential to make a comprehensive plan to enable concerted efforts of these establishments and successful data exchanging and sharing. Through resource integration, repeated investment can be avoided.

Secondly, to design a health card that can be in sustainable use.

As health informatization is changing rapidly, an outlook of sustainable use has to be adopted. In consideration of future possible conditions and functions, the residents’ health card ought to retain some potential for improvement. To achieve this, it is necessary to learn from pilot cities for the residents’ health card, like Xianyang City, Tongchuan City and Fengxiang County in Shaanxi Province, or Wuxi City in Jiangsu Province. More functions are to be incorporated into the health card: it can serve as a transportation card, store the governmental subsidies for rural and urban residents, and manage the household health management via the Internet of things. In addition, the health card should be open to more possibilities. With the potential to be conveniently upgraded and functionally enlarged, the residents’ health card doesn’t need to be replaced frequently.

**b. Measures on the change of the all-purpose medical card into the residents’ health card:**

First, to strengthen the publicity of the residents’ health card via various channels and by different organizations. The channels or organizations are composed of media like newspaper and the Internet, medical service establishments like hospitals and community health centers, grassroots administrative organizations like sub-district offices and village committees, as well as the banks in cooperation with relevant hospitals. Posters and boards on the health card’s convenience and functions also need to be made and shown.

Secondly, to gather individual information for the residents’ health card after adequate publicity. The individual information consists of the resident’s name, gender, date of birth, ID number, telephone number, nationality, marital status and mode of payment for medical expenditure. The information gatherers include the sub-district office and village committee, and community health center. In touch with the residents seeking for consultation, healthcare,
and epidemic prevention and other medical services, the community health center is able to supplement the information gathered by the sub-district office and village committee.

Thirdly, to offer banks more incentives so as to quicken the signing of investment agreement and the system upgrading. As the system upgrading for the residents’ health card is costly, many banks are not willing to invest, hindering the promotion of the health card. There are some incentives for them as follows: first, the premiums for NRCMS are to be collected by the banks; secondly, the medical expenses before reimbursement are to be deposited into the bank account for the health card; thirdly, the reimbursement after the medical treatment is to be transferred with the bank system.

To Strengthen the Work on Health Archives in Xi’an

Currently, the health information of a Shaanxi resident has not been gathered into one portfolio, scattered in different health service establishments.

As the health archives vary from person to person, its initial compilation relies much on the sub-district office, neighborhood committee and village committee. After extensive publicity on the health card to the residents, the office and committees can collect various information from door to door.

The information gathering can be divided into two stages: the first stage is the gathering of personal information, and the second stage is the gathering of previous medical records, which needs to be supported by other organizations. If all the previous medical records are wiped out, the records are to be started over.

To Step up the Efforts on Regional Health Information Platform in Xi’an

The regional health information platform is a platform to exchange and share the basic data in the information systems of the medical and health establishments within a certain region. The platform integrates the information from different systems. Supported by the information platform, the residents’ health card becomes a card with health archives and medical records.

By the adoption of the flexible structure, flexible software and hardware system, flexible network protocol and flexible application programming interface, the information exchanging and sharing within the region is guaranteed. The information can flow smoothly between various medical establishments, between medical establishments and the health insurance platform or NRCMS platform, as well as between medical establishments and banks.

The health administrative departments in Xi’an can learn from their counterparts in pilot locations like Foshan. It is essential to work more on civic digital health service, regional business management, health information (card) management, regional business coordination, comprehensive and analytical decision making, standard specification for security, etc. Accordingly, medical service providers, public health establishments and health administrative departments in Xi’an City, Shaanxi Province and China can share users and work concertedly.

As a large computer network entails numerous human, material and financial resources, there must be a design that is advanced enough both in equipment and technology. To avoid waste, the equipment and technology also must be in compliance with the international standards: the interoperability, compatibility and maintainability of various pieces of equipment are ensured, and so are the provision and interoperability of network maintenance and spare pieces.
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References


