

Privacy Protection in the Medicare Plus AI industry

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ABSTRACT. *the romantic period is a core period in the history of piano art. It inherits the classical period at the same time. In addition, they rebelled against the tradition, the classical model and the authority of binding force. In this period, the piano music paid more attention to the free expression and expression of personality, subjectivity and emotion. The differences of individuals and nationalities made the music present a colorful state. In addition, the perfection of piano and the unlimited pursuit of piano skills make this century the peak age of piano music development.*

Keywords: Romanticism, piano music, style feature

1. Development of Medicare Plus AI industry with the “Healthy China” plan

Ever since the implementation of “building a well-off society in an all-round way in China”, the income of Chinese residents has increased significantly on average and the consumption structure has been upgraded accordingly. In 2013, “Guidelines on Promoting the Development of Health Services” was issued by the State Council, which gave social capital access to the health-care market, encouraged eligible health service institutions get listed and issue bonds, and encouraged capital to boost health services and to enlarge institutes' capacity for R&D expenditure.

In October 2015, the construction of a “Healthy China” was upgraded into a national strategy in the Fifth Plenary Session of the Eighteenth Central Committee of the CPC. In October 2016, the Central Committee of the CPC and the State Council of the PRC issued the Outline of the “Healthy China 2030” Plan, clearly pointing out that China will face important strategic opportunities for promoting the construction of a healthy China in the coming 15 years.

“Medicare Plus AI” is an innovative application of artificial intelligence in the medical industry, including the intelligent transformation of every link of medical treatment with AI as a technical means. According to the statistics of Prospective Industry Research Institute, the market of Medicare Plus AI reached 13.65 billion yuan in 2017 and 21 billion yuan in 2018, an increase of 54% over the same period of last year.

However, the infrastructure of AI industry ecosystem, such as computing,

medical data resources, algorithms, frameworks and general technology, is basically supported by technology giants. In addition, the project of “Medicare Plus AI” are still in the early stage, mainly distributed in Beijing, Shanghai, Zhejiang, Jiangsu and Guangdong. In terms of Medicare Plus AI products research and development, sarcoidosis and diabetic retinopathy screening account for 30.6%, while others are scattered and in a budding stage.

2. Privacy Protection in the Medicare Plus AI industry

In 2017 Tianchi Medical AI Competition sponsored by Alibaba Cloud, Intel and LinkDoc aroused widespread concern with the aim to assist in the diagnosis of medical diseases through AI. The competition intended to draw on the wisdom all over the world, hoping to solve various medical problems by the application of AI technology. The competition requires participants to build algorithm models to make intellectual judgements by analyzing real data of patients.

The competition attracted medical entrepreneurial teams and experts from different fields of biology, healthcare and AI all over the world. The data are from thousands copies of real chest CT scans authorized by Alibaba Cloud cooperative hospitals, and the organizer made it clear on its official website that all CT image data are desensitized in strict accordance with the international medical information desensitization standards in order to ensure data security.

It shows that in the competition, issues concerning the legal boundary and limitation of big data and privacy protection are involved. Information and data sharing can improve the diagnostic efficiency of medical care as well as the service quality, relieving the shortage of medical resources. However, medical institutions should be required to operate with pertinency in data collection and take proper measures in handling and storing the collected medical health data.

For example, in 2014, a patient with the surname of Cun had a dispute with an anorectal hospital. The patient’s medical record, together with the names and records of 889 patients were leaked and posted on the Baidu website, which caused great and irretrievable mental stress to the patients involved. In the case of disclosure of medical data privacy information and disclosure of patient privacy information, staff concerned should employ technical means to find out the source of the infringement, clarify the responsibility, repair the security loopholes, and punish the person liable.

In another case, Mr. Fu, who took legal action against the hospital responsible which sent the ultrasonic image to a foreign expert without his permission, thought the hospital had violated the rules for case management by sending the privacy to a third party without his authentication, and had caused great mental stress to him.

Although the court did not determine that the hospital had infringed on Fu in the case, the hospital may have violated the principle of informed consent in similar cases. The “informed consent principle” means that the patients should have absolute right to know and choose during the process of information being collected and utilized; unless there is an emergency, such as during the rescue when the

patient cannot make decision rationally, the doctor can judge independently according to specific situation.

In this case, despite the patient's ability to make a decision, the hospital sent the ultrasound images to the foreign medical experts, without telling the patient how, why and by whom the data containing personal privacy are used. Consequently, the patient's informed consent right is unfortunately ignored and the patient was imposed a kind of uncertainty. The essential ethical code should be strictly applied in the field of doctor-patient relationship, as well as the data information processing procedure of patients, thus rendering unconditional protection of the patient's privacy.

3. The protection of personal information by comprehensive health industry

In 2018, Beijing Health and Family Planning Commission launched a project to share electronic medical records with 30 hospitals, which helped patients who visited any of the 30 pilot hospitals to review their previous diagnosis, medication and surgery in the other 29 hospitals. The practice involves the protection of personal information in the process of electronic medical record retrieval. The solution proposed by BHFPC to protect personal information is that doctors must have the written or electronic authorization from the patient concerning before retrieving and sharing the patient's personal information and medical record.

The initiative is in line with the informed consent principle. Accordingly, when collecting customer information, health institutions should respect the patient's right of informed consent and ask the one who offers the information for his or her opinion and explain the purpose, manner, user and storage of the collected information.

Secondly, health institutions should comply with the principle of limited collection and utilization of data. On the one hand, the collected medical data should be the information with certain collection purpose, limitation and medical value. On the other hand, health institutions should make different protection plans in the process of analyzing, utilizing and preserving the data and information. In the process of data flow, health institutions should clarify the specific responsible person and management mechanism and strictly restrict the flow of patients' personal health data. Prior to the data transferred to the user or the keeper, a check of the use qualification, use situation and the storage shall be initiated; Only when the examined receiver has the corresponding utilization and storage capacity, can the personal health data be transmitted to him.

References

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