

Special Communication

Hyposkillia: A sign of sagging medical profession-A pediatric perspective

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ABSTRACT

The practice of medicine since Hippocrates, the father of medicine (460-377 BC) had the care of the patient in the core of its ideals which included scholarship; confidentiality, altruism and no harm doing. These ideals evolved from individual physician adoption to professional organization adoption. The medical profession used to have autonomy, prestige, and values centered on patient care. With societal changing values and the appearance of managed care and bioethics the medical profession lost its autonomy, prestige and self regulation. This led to widespread dissatisfaction among the profession members and reflected in deficiency in education and training of medical students and young physicians and resulted in deficiency of clinical skills required to deliver health care. This situation has been referred to as hyposkillia. This sagging has been reported in many countries worldwide and brought concern to many medical education authorities and societies. In this paper nine cases are reported to demonstrate that hyposkillia is also prevalent in our part of the world and show some deficiencies in the clinical skills that are avoidable. Inadequacies in: accurate history taking, complete appropriate physical examination,

pertinent investigation and sound critical reasoning in management planning, all precluded optimum health care delivery initially in these cases. Many professional and education authorities have suggested that the process of redemption of the medical profession should start before admission to medical school by change in admission requirements to include behavioral and social sciences, and that the curricula in the medical schools should be redesigned to meet the changing societal values and priorities. Teaching clinical skills should be a continuous lifelong learning process from the medical school through training and into practice. Modern technology is to complement and not to replace bedside teaching and the patient should remain the best teacher for the physician.

Key words:

Hyposkillia; Clinical skills; Idiopathic pulmonary hemosiderosis; Phlyctenular conjunctivitis; Pulmonary tuberculosis; Foreign body; Perthes disease; Posterior fossa tumor; Pulmonary hydatid disease; Common variable immunodeficiency syndrome; Severe combined immunodeficiency (SCID).

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INTRODUCTION

At the dawn of the history of the medical profession, the patient care was on its core, as explicitly expressed in the Hippocratic Oath (460-377 B.C.) [1,2]. Hippocratic Oath is the result of respect for human rights and dignity. The ideals of the Hippocratic Oath were also found in ancient Indian Code of Conduct that stated: “he who practices neither for money nor caprice but out of compassion for living beings is the best among physicians”. Equally, a Chinese ethicist, Sun Simiao, stressed compassion, piety, equal treatment of patients and avoidance of greed in the practice of healing [2]. As the medical profession evolves the issues and challenges change. These ideals evolved from personal oath to professional standards. History forms the basis of all knowledge and the past supplies the key to the present and future. Sir Winston Churchill in his address to the Royal College of Physicians in London in March 1944 said, “The longer you can look back, the further you can look forward.” This permits justification to look briefly at the history of the medical profession.

“Medical Ethics” on professional conduct of physicians and surgeons, was written by Percival in England in 1803 and created standards for professional practice. It influenced the medical society in USA and

consequently the American Medical Association Code of Medical Ethics was formulated outlining the duties of physicians to patients, colleagues and community; and also outlined the duties of the profession to the community [2]. The medical profession milestones included: (a) Golden age in mid-1900s when it had respect, autonomy and appreciation by society; (b) then doubt crept in, in the 1960s-1970s. The community started to express doubt about the profession’s sincerity; (c) Bioethics appeared on the stage in the 1970. These focused on the rights of the patients, (d) managed care was adopted in 1990s, and it gave opportunity to economics to influence health care. Managed care deleteriously affects practice, medical services available to patients and quality of health care. Financial and legal pressures blurred the line of professional conduct.

The American Board of Internal Medicine (ABIM) produced a charter that became modern bench mark for the medical profession. It defines the principles of professionalism and professional responsibilities. The principles include mainly the primacy of the patient welfare and autonomy and social justice which means fair distribution of health care resources [1]. The responsibility of the profession is shown in Table 1.

Table 1: Commitments to professionalism from the ABIM physician charter

- Patient confidentiality
- Maintaining appropriate relations with patients
- Professional competence
- Scientific knowledge
- Improving quality of care
- Professional responsibilities
- Just distribution of finite resources
- Maintaining trust by managing conflicts of interest
- Improving access to care
- Honesty with patients

ABIM - The American Board of Internal Medicine

Teaching medical professionalism is universally agreed to be as important as medical knowledge and patient care needs the comprehensive training of competent physicians. The medical profession is now in retreat from its glorious climb after the Second World War, and has been suffering from ailments in the last two decades or so. It lost its prestige and autonomy and surrendered to bureaucracy and external powers, and dissatisfaction pervaded its arena and the society. There has been change in the society's values and priorities. Hard work, devotion to duty and pursuit of excellence are replaced by limited work hours, personal and financial gains. This was compounded further by managed care, law suits and human weaknesses e.g. greed, fear and aggrandizement. The most important impact of this is the sagging of the medical profession and particularly the deficiencies in the clinical skills which constitute the main tool to deliver appropriate patient health care. The medical profession came under criticism in the social media for long time, mainly on inadequate patient health care. Deficiencies in clinical skills were found prevalent in almost all countries and at all levels of physicians. The necessary skills of adequate and accurate history taking, pertinent and complete physical examinations, and critical assessment of the information obtained, sound reasoning power, management plan and communication were observed by many authorities and researchers to be inadequate and unreliable [3-5]. The cause was thought to be faulty training of physicians and due to changes in the society values and priorities and the replacement of high-touch teachers by high-tech teachers [6-9]. High-tech medicine leads to mental laziness. The teaching is mostly done by residents and instructors who are "fact-filled" but "experience-thin", a situation that has been described as "the blind leading the blind" [10]. The advanced medical technology has

tended to replace the basic clinical skills instead of complementing them. The practice of medicine is more than mere technical accomplishment. Some studies demonstrated that technology has not necessarily improved the quality of patient care but contributed to spiraling health care cost [5,11]. Teaching clinical skills was noticed to receive less attention in recent years. By 1980, bedside teaching decreased to 16% [6,11,12] and medical schools did little to improve the way clinical skills were taught, and there is persistent decrease of student-receptor contact time. Teaching took place in the corridors and conference rooms instead of the bedside. Sir William Osler said; "it is a safe rule to have no teaching without a patient for a text, and the best teaching is that taught by the patient himself." [7,12,13]

Deficiencies in medical schools teaching continued through residency and into practice. It has also been found that correct performance in the Objective, Structured Clinical Examination (OSCE) does not translate into appropriate use of those skills in patient care [5]. New teaching technologies cannot replace patient interactions supervised by a faculty [5].

The Health Management Organizations (HMO) unfortunately require physicians to see maximum number of patients in the minimum number of minutes at the lowest cost. The loss of clinical skills as a manifestation of the sagging of the medical profession seems to be worldwide and our local practice is not immune. Dissatisfaction which is prevalent among physicians breeds poor clinical management [11]. As we are adopting systems operating in other parts of the world, one expects similar problems in our practice. As history forms the basis of all knowledge and is a good avenue to approach any subject of study [1], looking back over one's practice may be revealing on the concerns about the loss of clinical skills.

CASES

The following cases demonstrate and support the notions and claims that the medical profession is suffering from ailment that precludes the achievement of its goals and performing its duties, towards the patients and its members. This ailment, described as a sagging, has affected the clinical skills that are critical to the provision of optimum health care.

Case 1

A 10-year-old girl was referred from Albaha, Saudi Arabia (2,500m above sea level) with the diagnosis of high altitude pulmonary edema. She was admitted twice to Pediatric Intensive Care Unit (PICU) with respiratory failure and had complete recovery. Reviewing her history revealed that she had episodes of similar acute respiratory distress at her village in Tihama and Jeddah, and both places are at sea level, voting against the diagnosis of high altitude pulmonary edema. Physical examination was normal except for pallor. Her sputum showed hemosiderin laden macrophages (after struggle with the laboratory technician in hematology who was first scared, thinking of tuberculosis.) Pertinent investigations including electron microscopy of lung biopsy revealed no cause and she was labelled to have idiopathic pulmonary hemosiderosis (Figure 1).

The lesson from this case is that inquisitiveness and critical evaluation of complete and accurate history was the key to the appropriate diagnosis.

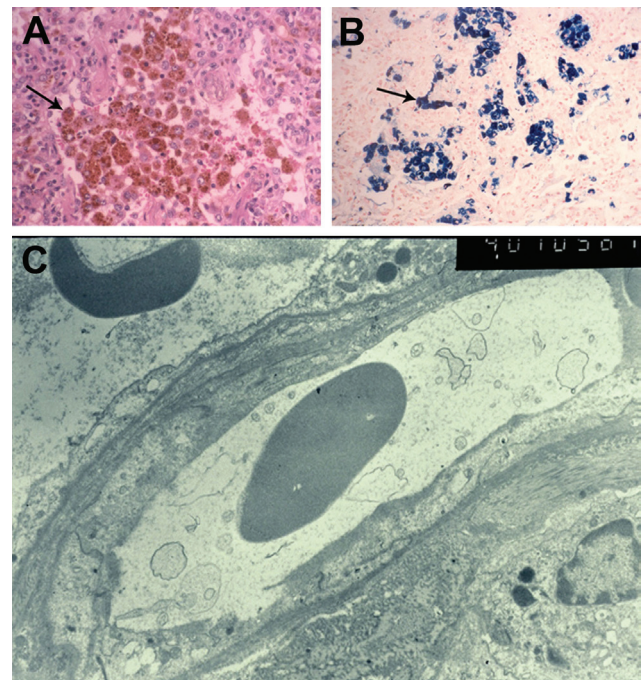


Figure 1 – Lung biopsy. (A) The alveolar spaces are filled by hemosiderin-laden macrophages (arrow). (B) Perl's Prussian blue stain highlights the iron within the alveolar macrophages cytoplasm (arrow). (C) Electron microscopy of lung biopsy showing normal endothelial basement membrane of capillary and no immune deposits (x4000).

Case 2: The challenging Staff Nurse

One day at the end of our ward round, a staff nurse asked me to see her eye for which she was using eye drops prescribed for her from Employee Health Clinic for 2 weeks without improvement. I examined her eye and asked whether she had other complaints. She had bronchitis that did not go away for few weeks. Further questions revealed that her roommate was ill with chest infection and died of tuberculosis after returning home. (She had pulmonary tuberculosis). The eye lesion was phlyctenular conjunctivitis (Figure 2A). The tuberculin PPD test (Mantoux) was positive (Figure 2B). She was referred to adult medicine and showed satisfactory improvement few weeks later on antituberculosis therapy.

Lesson:

Accurate history and clinical evaluation with appropriate tests led to proper diagnosis and management.

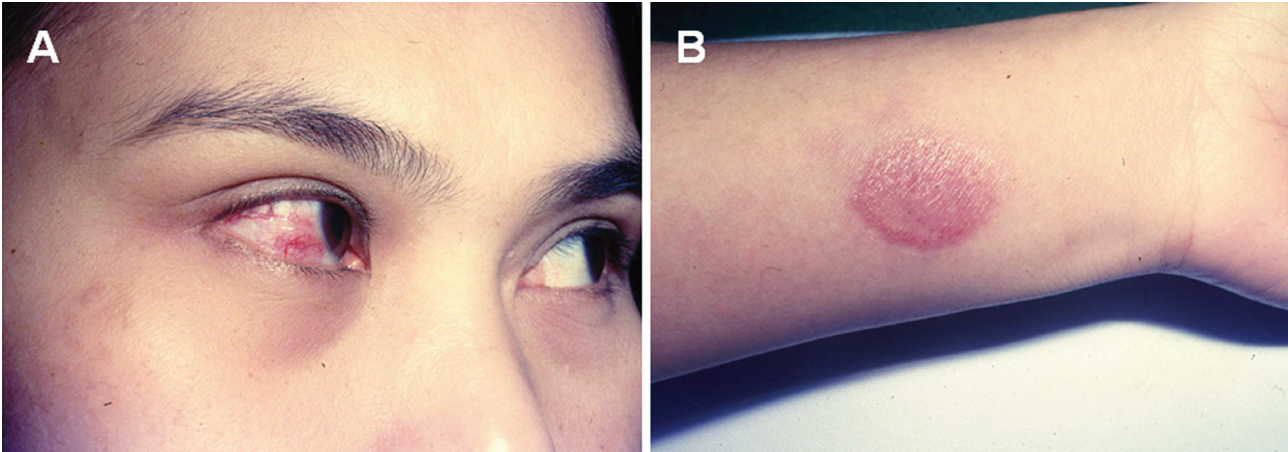


Figure 2 – (A) Phlyctenular conjunctivitis. (B) Positive PPD test (Mantoux).

Case 3

A 5-year-old-girl was admitted for the second time with the diagnosis of bronchial asthma within two weeks. Her medical history was not contributory to the diagnosis of bronchial asthma. Physical assessment was indicative of predominant upper airway obstruction despite little improvement with conventional asthma treatment. Bronchoscopy was reported normal initially, but after discussion and taking in consideration bedside signs of upper airway obstruction, a repeat bronchoscopy was agreed upon. Ultimately, a foreign body was found stuck to the tracheal wall just below the vocal cords and was removed with difficulty (Figure 3).

Lesson:

Critical and analytical evaluation of medical history and physical examination findings were crucial to the diagnosis and management.



Figure 3 – Shell of a nut removed from tracheal wall with difficulty, about 2 cm. in length.

Case 4

A 6-year-old boy was admitted with diagnosis of bronchial asthma. His response to treatment was inadequate and the physical examination was indicative of upper airway obstruction. The X-ray of upper airways was reported normal. After debate with ENT, bronchoscopy was agreed upon. A plastic (toy anchor) was found saddling the vocal cords. Reviewing the X-ray, the foreign body could be visualized after the X-ray was subjected to thinning (Figure 4).

Lesson:

Stick to bedside. Technology does not replace sound clinical evaluation.

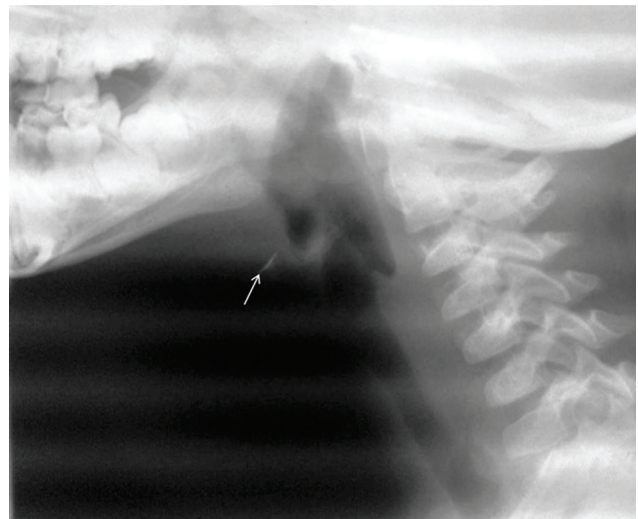


Figure 4 - X-ray of neck soft tissue showing the plastic foreign body (arrow) after the X-ray thinning (washed).

Case 5

A 5-year-old boy was brought by his father carrying a jacket with multiple knee X-rays of his son who was complaining of knee pain for long time and for which he visited many health care facilities. The history was noncontributory, but the physical examination showed wasted gluteal muscles on the affected side with limitation of hip joint movement. Both knees were normal on examination. X-rays of the affected hip showed Perthes Disease and consequently it was discussed with the father for appropriate referral which was happily accepted.

Lesson:

Complete physical examination could have avoided the agony of this child and his family. Investigation should be pertinent to clinical evaluation. The basic fact that pain could be referred was not called into play as a skill on physical examination.

Case 6

An 8-year-old boy was admitted with the common diagnosis of gastroenteritis. On greeting and shaking hands with him, his hand was noticed to be unsteady. Further examinations revealed cerebellar dysfunction and papilloedema. Cranial computed tomography (CT) scan showed space occupying tumor in posterior fossa which was the cause of his vomiting. He was transferred to tertiary care center the same day.

Lesson:

1. Vomiting in an 8-year-old child should add a question mark to the diagnosis of gastroenteritis. Curiosity is called into play.
2. Physical examination when complete would guide to proper investigation of diagnosis, as this case demonstrates.

Case 7

A 7-year-old Sudanese girl was treated for pulmonary tuberculosis on chest X-ray diagnosis for about 6 months but she remained symptomatic. Her chest

X-ray (Figure 5) showed parenchymal lesion without regional lymphadenopathy which incited a revision of her history, physical examination and investigations. She came from a village in a rural agricultural area and the CT scan of her chest (Figure 6) and serology were suggestive of hydatid disease. She underwent successful surgery.

Lesson:

The environment history and considering the basics of pathology played significant role in proper diagnosis and management.

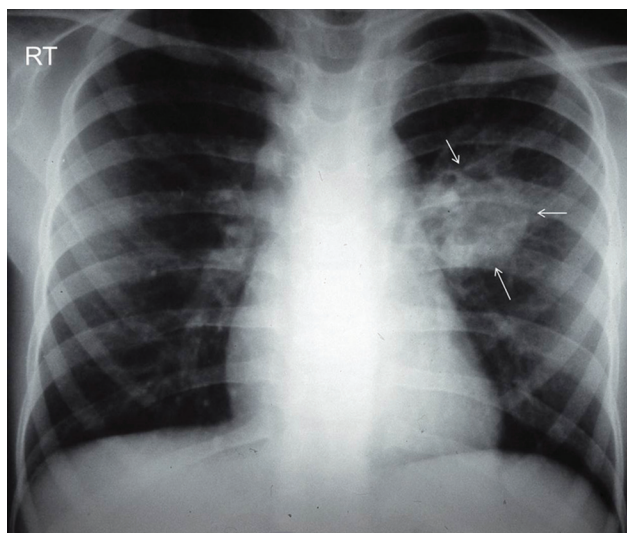


Figure 5 - Chest X-ray showing a mass on the left side without hilar lymphadenopathy.

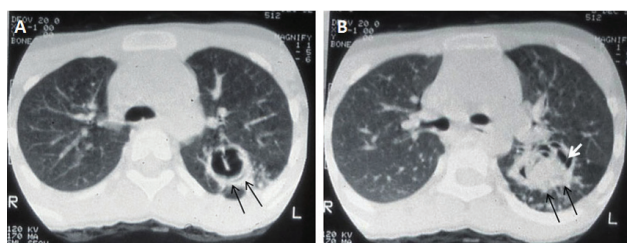


Figure 6 - Chest computed tomography (CT) scans showing the mass (black arrows in A and B) with air bubbles (white arrow in B).

Case 8

A boy, 8-year-old was admitted with recurrent pneumonia diagnosed clinically and radiologically. Of the investigations, his white blood count (WBC) was normal despite his severe illness. This triggered the investigation of his immune status which showed low immunoglobulins. The diagnosis of common variable immunodeficiency syndrome was ultimately reached.

Lesson:

Critical review of laboratory results is important and contributory.

Case 9

A 3-month-old boy was admitted with bronchiolitis that did not improve as was expected in a tertiary care center, and his parents discharged him against medical advice and self-referred him to our hospital. The physical examination and the chest X-ray were compatible with the diagnosis of bronchiolitis. The complete blood count showed a white blood cell count at the lower range of normal for his age. An immune disorder was suspected and the flowcytometry and immunoglobulin assay led to the diagnosis of severe combined immunodeficiency (SCID).

Lesson:

Critical evaluation of laboratory results is significant. Under abnormal health conditions, normal laboratory results like WBC should be critically evaluated. Adequate history, proper and accurate physical examination, pertinent planned investigations and critical review of laboratory results are not replaceable by technology. Above all technology, however modern, is not infallible and human brain is better than a machine.

DISCUSSION AND CONCLUSION

The problem of clinical skills deficiencies seems to be worldwide spread, and has been observed long time

ago. This has often been attributed to unavailability of skilled teachers, shortage of time of contact of student with teacher, manage care impact and modern technology [5,7,9,10]. Above all, dissatisfaction among physicians plays a negative role.

Individual physicians, medical schools, medical associations and other bodies in the medical profession were concerned and took steps to address the situation [7-9]. To cite some, the Association of American Medical Colleges formed a Task Force on the clinical skills education of medical students and produced recommendations. Deficiencies and inadequacies in clinical skills are prevalent and have been cited worldwide [3-5,10,17].

First, clinical skills teaching starts in medical school and education should be longitudinal throughout medical school, residency training and postgraduate work. Clinical skills need to be taught, not shown, maintained and improved with observations and practice.

Medical curricula have been criticized for being fragmented and overloaded and encourage passive acquisition of knowledge rather than by exploration and curiosity. In USA, the Medical College Admission Test has been redesigned to include a section on behavioral and social sciences and section on critical analysis and reasoning. Fundamental knowledge about behavioral and social sciences is critical to the effective practice of medicine. In the UK, the General Medical Council (GMC) recommends that medical courses should develop practical skills for professional competence and build successful relationship with patients and share collective responsibility with colleagues [11,13-17]. Medical school curricula should be designed to meet present society values and priorities as they have evolved. Curricula are expected to include behavioral and social sciences. Future physicians need broader skills and knowledge than previous generations. Behavioral and social sciences would include Psychology, Sociology, Anthropology,

Geography, Economics and Cognitive Science. rather than “surface approach” that leads students to Curricula should adopt “deep-learning” approach learn by rote (Tables 2 and 3).

Table 2: Characteristics of students with a deep-learning approach

Students with a deep-learning approach

- Intend to understand and actively seek meaning to satisfy curiosity
- Understand the relationship between facts or concepts
- Relate new ideas to their previous knowledge and personal experiences
- Can analyze a professional situation and focus on the critical aspects
- Question and are able to explain topics by reconstructing knowledge
- Enjoy and are interested in their work
- Are prepared to spend more time in independent study than those with a surface approach
- Are motivated by an interest in the subject and/or recognition of relevance to vocation
- Retain facts some weeks later

Table 3: Characteristics of students with a surface-learning approach

Students with a surface-learning approach:

- Memorize facts for assessments without attempting to understand meaning
- Accumulate unrelated facts and treat related parts separately
- Reproduce essentials as accurately as possible
- Show no evidence of reflection on purpose or strategy
- Find an answer to a problem without grasping the underlying issues or principles illustrated by the problem
- Meet demands of task with minimum of effort
- Are motivated by a desire to complete task or fear for failure

Deep-learning approach prepares students for life-long learning. Study of humanities should be included in curricula to improve and enhance empathy, communication skills and ethics. Molecular reductionism, cell and molecular biology may leave the whole patient behind, and physicians may be in danger of becoming technocrats and dehumanized. The GMC recommends that clinical and basic sciences should be integrated. The good physician treats the disease; the great physician treats the patient who has the disease.

Second, the faculty must take primary role of teaching. Bedside teaching remains invaluable learning tool.

Sir William Osler said: “it is a safe rule to have no teaching without a patient for a text, and the best teaching is that taught by the patient himself.” [5] High quality medical care requires strong clinical skills and reasoning. It is necessary to work with patients if we will to learn about disease.

Third, the teaching must be patient-centered. Simulators and computerized technology should be adjunct to teaching. Faculty members must have support from the medical school and hospital leadership and individual departments. Medical schools and teaching hospitals must instill value in teaching basic clinical skills. The faculty spends

more time on research for promotion purposes and more time on patient care to satisfy the managers, and therefore less time is spent with the physicians in the making. This leads to the teaching being done by the juniors who are “fact-filled” and “experience-thin”, a situation described as the “blind leading the blind” which may lead to both falling in the ditch [10]. Health Management Organization (HMO) should reconsider the demands on physicians and review health care delivery systems.

The clinical skills of accurate history taking and relevant inquisitiveness, exploration, complete appropriate physical examination, wise critical interpretation and evaluation of the gathered information and thoughtful planning of initial investigations would pave the way for logical further actions and management plans conducive to satisfactory health care.

Modern technology is not infallible and its indiscriminate use will only spiral health care cost. The main function of the teacher is to educate and not placate the student. Medicine is a calling, not a business. Therefore, commitment, compassion and candor should be upheld. A physician should look at the patient, listen to the patient and talk to the patient. One must stay current, but we must not forget the lessons of the past. If we do, we will lose our footing on the path. Clinical expertise should be integrated with best available evidence from research.

Bela Schick (1877 – 1967), a Hungarian Pediatrician

and Bacteriologist is reported to have said: “First the patient, second the patient, third the patient, fourth the patient, fifth the patient, and then maybe comes science. We first do everything for the patient.” [4,18] Misconduct observed and described as dishonesty in the medical schools, in the training and practice should be a priority in the profession’s endeavor to redeem itself and should uphold its principles and commitments to primacy of patient welfare, patient autonomy and social justice. Physicians should be committed to patient confidentiality and develop appropriate relationship, and be honest with patients. Competence, scientific knowledge and humility will improve access and quality of health care.

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