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Unit 1

Healing with code and care

Learning objectives

After studying this unit, you will be able to:

- describe how artificial intelligence (AI) has changed doctors' professional development and their ways of practicing medicine;
- explain the opportunities and challenges of applying AI in health care;
- write a medical commentary on a chosen topic;
- analyze the medical terms related to the body and properly use medical language in context;
- discuss the application of AI in health care from different perspectives in a panel discussion.

Unlocking the topic

Setting the scene

Medicine is significantly influenced by the arts, humanities, and engineering. Recently, the rapid development of AI has further pushed back the frontiers of medicine. Notably, interdisciplinary endeavors to integrate AI with health care have revolutionized the industry. Conditions that were previously difficult to detect, such as hypertrophic cardiomyopathy, can now be diagnosed more effectively and efficiently. Such pioneering advancements present both opportunities and challenges for the medical profession and the general public. How can we embrace this integration to maximize its benefits while addressing the associated challenges?

Unit orientation

Activating subject knowledge

Scan the code and complete the knowledge activation exercise on Ucampus.

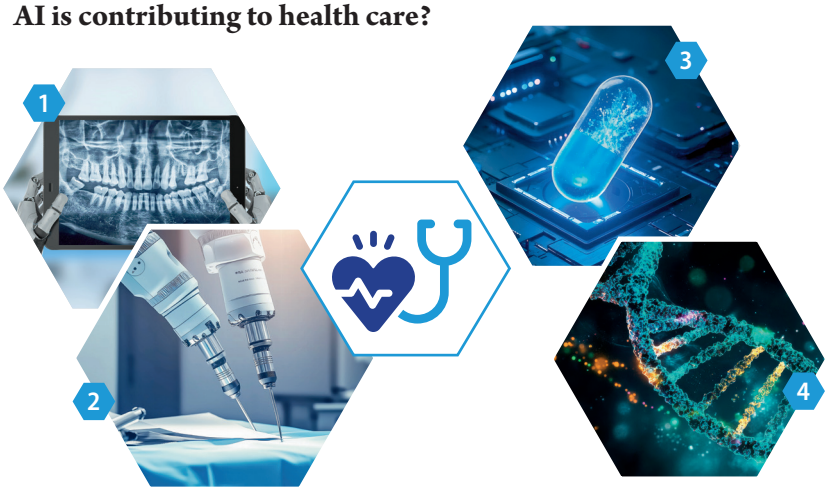
Viewing through the lens

Word bank

distance vision impairment /ɪmˈpeəmənt/ *n.* 远视障碍
replica /ˈreplɪkə/ *n.* 复制品
anatomy /əˈnætəmi/ *n.* 解剖构造
physiology /ˌfɪziˈɒlədʒi/ *n.* 生理机能
hypertensive /ˌhaɪpəˈtensɪv/ *a.* 高血压的
normotensive /ˌnɔːməʊˈtensɪv/ *a.* 血压正常的

Pre-viewing

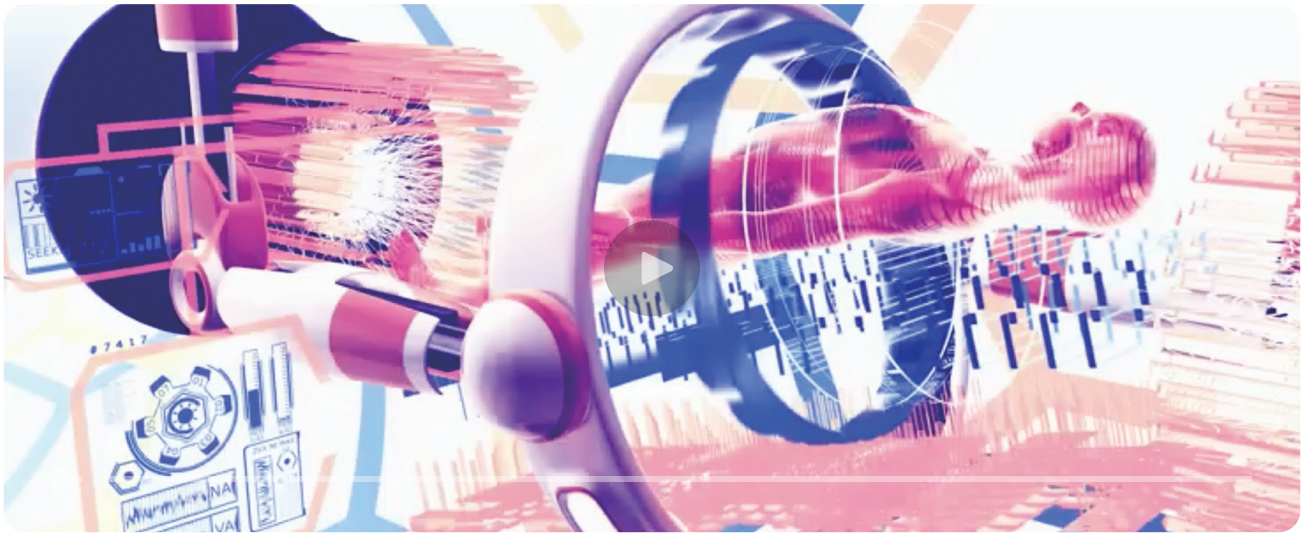
AI has a wide array of applications in health care, significantly transforming various aspects of the industry. The following pictures illustrate some key areas where AI is having a profound impact. Can you identify these areas and think of more areas where AI is contributing to health care?

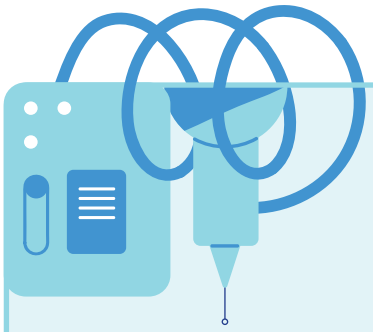


Viewing and synthesizing

Video clip

Have you ever wondered how AI could make health care better? Scan the code. Watch the video clip and complete the outline with what you hear.





How can AI make health care better?

Introduction

AI could address the global shortage of medical resources through transforming the ways patients are 1) _____, as well as improving the efficiency and effectiveness of testing new medical procedures.

Using AI in disease diagnosis

Advantages

Improving efficiency in diagnosing diseases, such as distance vision impairment, through 2) _____ patient data far more quickly

Concerns

- Threats to the 3) _____ of patients
- Clinicians' 4) _____ on coders

Using AI in medical procedure testing

- AI could enable virtual trials that speed up the time and reduce the money required for identifying the 5) _____ to test.
- These trials could produce the same results as 6) _____, but with greater efficiency.

Conclusion

Some doctors believe that more 7) _____ and capable AI would bring a bright future for health care.

Viewing and discussing

Work in groups and discuss the questions.

1. AI has shown great potential in health care. In which aspects do you think AI could outperform human doctors? Are there any aspects of medical practice that you think should remain exclusively human, and why?
2. As AI becomes more integrated into health care, some people argue that patients may feel less connected to their health-care providers. What impacts do you think AI will have on the doctor-patient relationship?

Exploring the frontier

Reading 1

Log on to Ucampus for interactive learning.

round /raʊnd/ *n.* 巡诊；查房

1 When faced with a particularly tough question on **rounds** during my **intern** year, I would run straight to the bathroom. There, I would **flip** through the medical **reference book** I **habitually** carried in my pocket, find the answer, and return to the group, ready to respond.

2 At the time, I believed that my job was to know the most **elusive** of medical terms by heart. Surely an excellent clinician would not need to consult a book or a computer to diagnose a patient. Or so I thought then.

3 Not even two decades later, we find ourselves at the dawn of what many believe to be a new era in medicine, one in which AI promises to write our notes, to communicate with patients, and to offer diagnoses. The potential is **dazzling**. But as the AI-driven tools and systems improve and are integrated into our practice in the coming years, we will face some hard questions: Where does **specialized** expertise live? If the thought process to arrive at a diagnosis can be performed by a computer "**co-pilot**," how will that change health care, for doctors and for patients?

diagnostician /ˌdaɪəgnɒsˈtɪʃn/ *n.* 诊断医师

4 The idea of a computer **diagnostician** has long been **compelling**. people have tried to develop machines that can "think" like a doctor and

diagnose patients for decades. But early models were **time-consuming** to employ and ultimately not particularly useful in practice. They were limited in their utility until advances in natural language processing and deep learning made **Generative** AI – a machine-learning model capable of creating new content in the style of a human – a reality.

5 To date, Generative AI has not yet been integrated into our work in the **intensive care unit**. But it seems clear it inevitably will. The power of AI is most evident in tasks that require pattern **recognition**, such as reading X-rays. Even the best doctor may be less **adept** than a machine when it comes to recognizing complex patterns without bias. There is also a good deal of excitement about the possibility for AI programs to write daily patient notes for us as a sort of electronic **scribe**, saving us considerable time. Some medical **professionals** claim that this technology could liberate doctors from the burden of **paperwork**, so that they can have deep and personal communication with patients, thus providing a path to restore the **humanity** in health care.

intensive care unit *n.* 重症监护室

6 Beyond saving us time, AI – if used well – could make us better at our jobs. Experts have been studying the use of AI to read **electrocardiograms**, or ECGs, which are a simple recording of the heart's electrical activity. An expert **cardiologist** can **glean** all sorts of information about the heart from an ECG, but AI can glean more, including information about other diseases the patient might have, which could help doctors make more informed decisions.

electrocardiogram /ɪˌlektrəʊˈkɑːdiəˌgræm/ *n.* 心电图
cardiologist /ˌkɑːdiˈɒlədʒɪst/ *n.* 心脏病专家

7 And this is just the start. Researchers promote the capabilities of AI to speed drug discovery. But as an intensive care unit doctor, I am most **captivated** by the ability of Generative AI programs to diagnose a patient. **Envision** this: a pocket expert on rounds with the ability to **plumb** the existing knowledge in seconds.

8 An **internist** at the Beth Israel Deaconess Medical Center in Boston found that the **majority** of his medical students were using AI already, to help them on their rounds. Curious about how AI would perform in tough medical cases, some researchers evaluated the technology using the **notoriously** challenging *New England Journal of Medicine* cases. **Remarkably**, AI offered the correct diagnosis over 60% of the time – a performance most likely better than any individual could accomplish.

internist /ˈɪntɜːnɪst/ *n.* 内科医生

9 How those abilities translate to the real world remains to be seen. Even as doctors prepare to embrace this new technology, some wonder if something will be lost. A number of doctors are concerned that in the very near future, the new generation coming up would probably fail to develop some essential thought processes and clinical skills. Even when it comes to AI writing notes for us, there is a **trade-off**. After all, writing notes is not simply **drudgery**; it also represents a time to take stock, to review the data and reflect on what will come next for our patients. If we **offload** that work, we surely gain time, but maybe we lose something, too.

10 Yet, a balance can surely be struck. Maybe the diagnosis offered by AI will become an **adjunct** to our own thought process, not replacing us but allowing us all the tools to become better. Particularly for those working in settings with limited specialists for **consultation**, AI could bring everyone up to the same standard. At the same time, patients will be using this technology, asking questions and coming to us with potential answers. This **democratizing** of information is already **underway** and will only **intensify**.

11 Perhaps being an expert doesn't mean being a **fount** of information, but being adept at **synthesizing**, communicating, and using judgment to make hard decisions. AI can be part of that process – just one more tool that we use, but it will never replace a hand at the bedside, eye contact, and understanding – what it is to be a doctor.

12 A few weeks ago, I downloaded an AI app. I've asked it all sorts of questions, from the medical to the personal. And when I am next working in the intensive care unit and faced with a question on rounds, I just might open the app and see what AI has to say.

Reading and synthesizing

Global understanding

Read the passage and complete the outline with information from the passage.

Hard questions to answer in the new era of medicine

- What role does 1) _____ play in medical practice?
- How will computer diagnosticians change 2) _____?

Applications of AI in health care

Examples

- Reading X-rays
- Writing daily 3) _____

Advantages

- Saving doctors' time
- Helping doctors make more informed decisions
- Speeding 4) _____
- Assisting doctors in 5) _____ patients

Concern about applying AI in health care

The new generation of doctors would possibly lack some necessary thought processes and 6) _____ if they offload much of their work onto AI.

Response to the concern

Using AI as 7)_____ to doctors' thought processes

Conclusion

AI can be one more tool to help doctors 8) _____, communicate, and use judgment to make hard decisions, but it will never replace the human touch that defines what it is to be a doctor.

Detailed understanding

Read the passage again and decide whether the statements are true (T) or false (F). Then correct the false ones.

_____ 1. The author used to believe that the excellence of doctors lies in their abilities to deal with challenging medical cases.

_____ 2. It is believed that AI could help restore the humanity in health care by leaving doctors time to communicate with patients.

_____ 3. To the author, an intensive care unit doctor, the application of AI in diagnosing diseases is most exciting.

_____ 4. In a test involving the diagnosis of the challenging *New England Journal of Medicine* cases, AI performed equally well as human doctors.

_____ 5. AI can promote the democratization of information, benefiting both doctors and patients.

Cultivating medical thinking

The passage delves into the complicated relationship between AI and health care, raising some critical issues that lie at the heart of this technological integration. Work in groups and discuss the questions.

1. It is mentioned in the passage that using AI to write patient notes has both pros and cons. Can you think of any other specific applications of AI in medicine that also have such dual impacts?
2. Considering the dual impacts of AI, how can doctors balance the benefits of AI-assisted medical practice with the need to maintain their own expertise and judgment?
3. The author of the passage argues that AI will never replace "what it is to be a doctor." What do you think it means to be a doctor in the era of AI? How might the role of doctors evolve with the times?

Language in use

Scan the code and complete the language exercises on Ucampus.

Log on to Ucampus to get guidance from your AI tutor.

Enhancing medical writing

More about the skill

The passage is a typical example of medical commentaries – articles in which an author makes a point or takes a stance on an issue in the field of medicine. There are different types of commentaries. Some commentaries are on published articles or research. Others, like Reading 1, focus on current events or hot topics and mainly address the general public. Writing a medical commentary is one of the best ways for authors to establish their voice on a particular medical topic.

Medical commentaries, which share some similarities with scientific writing, should aim to be coherent, credible, and convincing. To achieve this, you need to:

- construct a well-organized framework, with a central idea backed up by reasons and examples;
- include information that stands up to verification;
- provide an in-depth critical analysis of the topic under discussion.

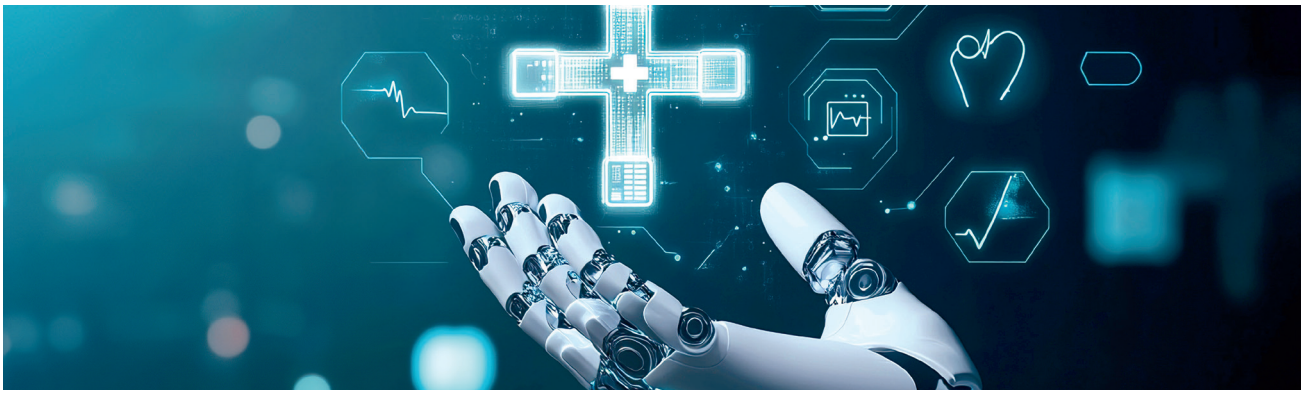
Moreover, good commentaries are usually engaging because of the author's personal perspective, which relies much on their extensive experience or expertise. Bear in mind the following to capture and hold your readers' attention and interest.

- Write in plain language to tailor to the general public.
- Address your audience on emotional as well as intellectual level. This could involve sharing real-life experiences, or appealing to values such as empathy, justice, or progress.

Task 1 Reread the passage and analyze how the author builds a coherent, credible, and convincing argument regarding the integration of AI into health care.

Task 2 Reread the passage and explore how the author makes the passage engaging when discussing a complex medical topic.

Task 3 Write a medical commentary of no more than 300 words on a medical topic that interests you. You may refer to the tips above for guidance.



Reading 2

Log on to Ucampus for interactive learning.

AI in medical diagnosis is not just hype

urinary /ˈjʊərɪn(ə)ri/ **tract infection** *n.* 尿路感染

palpation /pælˈpeɪʃn/ *n.* 触诊
percussion /pəˈkʌʃn/ *n.* 叩诊

imaging /ˈɪmɪdʒɪŋ/ *n.* （体内器官）成像
genomic /dʒiːˈnəʊmɪk/ *a.* 基因组的

1 The history of medical diagnosis is a march through painstaking observation. Ancient Egyptian doctors diagnosed **urinary tract infections** by observing patterns in patients' **urine**. Throughout subsequent centuries, techniques like pulse-taking, **palpation**, and **percussion** were developed and refined, serving as invaluable tools for doctors to identify and understand diseases. The 20th century transformed medical diagnosis with standardized laboratory tests and sophisticated **imaging** technologies. In the 21st century, advancements in **genomic** science have opened new frontiers, enabling personalized diagnosis and treatment.

2 Despite advances, however, diagnosis has largely remained a human **endeavor**, with doctors relying on the so-called illness scripts, which include **clusters** of signs, symptoms, and diagnostic findings that are **hallmarks** of a disease. Medical students spend years memorizing such scripts, training themselves to, for example, identify the subtle changes in ECGs that might alert them to a heart attack.

3 But human beings, of course, err. Sometimes, misdiagnosis occurs because the doctor overlooks something – when the patterns of the disease fit the scripts, but the scripts are misread. Other times, misdiagnosis occurs because the disease has features that do not match known patterns, such as when a heart attack occurs without **telltale** symptoms or ECG findings.

4 AI can help solve these two fundamental problems – if it's given enough financial support and **deployed** properly.

5 First, AI is less **susceptible** to common factors that lead doctors to make diagnostic errors: heavy workload, lack of sufficient time and **cognitive**

bandwidth, gaps of knowledge, etc. Even when diseases conform to scripts, computers will sometimes be better than humans at identifying details buried within **voluminous** data.

6 Using AI to improve the accuracy and **timeliness** with which doctors recognize diseases can mean the difference between life and death. **Ischemic stroke**, for example, is a life-threatening emergency where a blocked **artery** **impedes** blood flow to the brain. Brain imaging **clinches** the diagnosis, but that imaging must be performed and interpreted by a **radiologist** quickly and accurately. Studies show that AI, through superb pattern matching abilities, can identify strokes seconds after the imaging is performed – much sooner than human radiologists. Similar capabilities have been demonstrated in diagnosing **pneumonia**, **blood clot** in the lungs (**pulmonary embolism**), acute **kidney** injury, and other diseases.

ischemic stroke /ɪˈskiːmɪk strəʊk/ *n.* 缺血性卒中
artery /ˈɑːtəri/ *n.* 动脉

radiologist /ˌreɪdiˈɒlədʒɪst/ *n.* 放射科医生

pneumonia /njuːˈməʊniə/ *n.* 肺炎
blood clot /klɒt/ *n.* 血凝块
pulmonary embolism /ˈpʌlmən(ə)ri ˈembəˌlɪz(ə)m/ *n.* 肺栓塞

7 Second, computers can be useful in diagnosing diseases for which we haven't developed right scripts. AI can, in fact, diagnose diseases by identifying new patterns too **subtle** for the human eye. Consider, for example, **hypertrophic cardiomyopathy**, a genetic disorder in which the heart muscle grows thicker than it should, leading to eventual **heart failure** and sometimes death. Experts estimate that only about 20% of those affected are diagnosed through a process that requires consultation with a cardiologist, heart **ultrasound**, and often genetic testing. What, then, about the remaining 80%?

hypertrophic cardiomyopathy /ˌhaɪpəˈtrɒfɪk ˌkɑːdiəʊmaɪˈɒpəθi/ *n.* 肥厚型心肌病
heart failure *n.* 心力衰竭

ultrasound /ˈʌltrəˌsaʊnd/ *n.* 超声波检查

8 Research has demonstrated that AI can detect complex, previously unrecognized patterns to identify patients likely to have hypertrophic cardiomyopathy, meaning AI-driven **algorithms** will screen for the disease in routine ECGs.

9 AI was able to recognize these patterns after examining the ECGs of many people with and without the disease. The rapid growth in health-care data, including detailed electronic health records, imaging, genomic data, **biometric** data, and behavioral data – combined with advancements in AI technology – has created a major opportunity. Because of its unique ability to identify patterns from the data, AI has helped radiologists find hidden cancers, **pathologists** characterize liver **fibrosis**, and **ophthalmologists** detect **retinal** diseases.

biometric /ˌbaɪəʊˈmetrɪk/ *a.* 生物特征识别的
pathologist /pəˈθɒlədʒɪst/ *n.* 病理学医生
fibrosis /faɪˈbrəʊsɪs/ *n.* 纤维化
ophthalmologist /ˌɒfθælˈmɒlədʒɪst/ *n.* 眼科医生
retinal /ˈretɪn(ə)l/ *a.* 视网膜的

10 However, along with opportunities also come challenges and risks. One challenge is that AI is expensive, requiring large-scale data to train computer algorithms. As these resources become more **accessible**, protecting the associated intellectual property will be increasingly difficult, discouraging public and private investment. Although the use of AI may improve the quality of care and long-term outcomes in patients, without financial incentives, its development and thus **adoption** may be slow.

11 Experts are also concerned that AI could be susceptible to misinformation. Its algorithms predict the next word based on its likelihood in the online text on which they were trained. This can potentially grant equal weight to, for example, information from the World Health Organization and a **random** thread on the Internet. Many studies and user experiences have shown that AI can **fabricate** sources that do not exist and present them as if they were reliable ones. To address these potential risks, governments should implement **surveillance** and **supervision**, establishing regulatory bodies to oversee data collection, deployment, and protection. Furthermore, developers and users should work together to assess AI applications in a continuous and transparent way.

12 Then there's the question of how AI would be interpreted and deployed by patients and doctors. A recent survey found that around 60% of patients would feel uncomfortable if their own health-care providers relied on AI to diagnose diseases and recommend treatments. Although users trusted AI to answer simple questions, the more complex the question became – and the higher the risk involved was – the less willing they were to trust AI's diagnosis.

13 Doctors also need to develop new skills to better interpret AI-generated information. According to an article published on the *New England Journal of Medicine*, at least three skills are essential: to think in terms of **probability**, to be aware of what information AI has to employ, and to understand how to integrate AI into clinical care. Doctors need these skills to help them effectively use AI to enhance their work, while at the same time holding onto their unique gifts of **humanism** and **empathetic** care for patients.

14 AI should **complement**, rather than replace, the human expertise that has already saved so many lives. The future of medical diagnosis doesn't mean handing over the keys to AI , but rather making use of what it can do that we can't. This could be a special moment for diagnosis, but only if we invest enough and do it right.

Reading and synthesizing

Global understanding

Read the passage and complete the diagram with information from the passage.

AI-powered diagnostic revolution

AI doctors

Advantages

- Improving the 3) _____ of diagnosis
- Spotting unrecognized diseases by identifying patterns 4) _____ for humans to detect

Challenges

- Great expenses to train 5) _____
- Susceptibility to 6) _____
- The way AI would be 7) _____ by patients and doctors

Human doctors

Limitations

- Misreading 1) _____
- Encountering diseases with features that do not 2) _____

Conclusion

AI doctors complement, rather than 8) _____ human doctors.

Detailed understanding

Read the passage again and identify the paragraphs from which the following statements are derived. You may choose a paragraph more than once. Each statement is marked with a letter.

_____ A. Doctors need to develop new skills to effectively utilize AI in their practice while preserving their unique qualities of humanism and empathy.

_____ B. Computers can sometimes outperform humans in identifying detailed information hidden within a great amount of data.

_____ C. While AI has the potential to enhance the quality of care and long-term patient outcomes, lacking financial incentives may hinder its development and adoption.

_____ D. Research has found that AI may use unreliable sources in training its algorithms.

_____ E. Research has shown that AI can screen for patients running a risk of hypertrophic cardiomyopathy in routine ECGs.

_____ F. Many patients were found to feel uneasy if their doctors depended on AI in diagnosis and treatment.

_____ G. Supervision and assessment from governments, developers, and users should be implemented to better address the possible risks of AI.

_____ H. AI could diagnose diseases accurately and quickly, which would be life-saving in critical conditions like ischemic stroke.

_____ I. It was found that patients tended to be skeptical of AI's diagnosis in highly risky or complex cases.

_____ J. Advances in medical diagnosis have been driven by improvements in observation techniques.

Language in use

Scan the code and complete the language exercises on Ucampus.

Sharpening medical language skills

Word building

Medical terms are primarily formed by combining roots with affixes which include prefixes and suffixes. This word-forming strategy, known as affixation, is the most commonly used method of word formation in medical terminology. A root serves as the fundamental unit, establishing the basic meaning of the word. Prefixes and suffixes are added to the roots to modify their meanings. A prefix is placed before a root, while a suffix is added at the end.

In this unit, we have encountered some roots for describing body organs and body parts, as well as prefixes and suffixes that can add more meanings to these roots.

Roots	Meanings
cardi/o	heart
pulm/o, pulmon/o	lung
fibr/o	fiber
my/o	muscle
bi/o	life
ophthalm/o	eye
urin/o	urine

Affixes	Meanings
electro-	relating to electricity
-logist	expert in a particular field
-an	specialist
-osis	abnormal or diseased condition
-pathy	disease
-ary	pertaining to; connected with
-gram	record; something written or drawn
-metric	relating to measurement

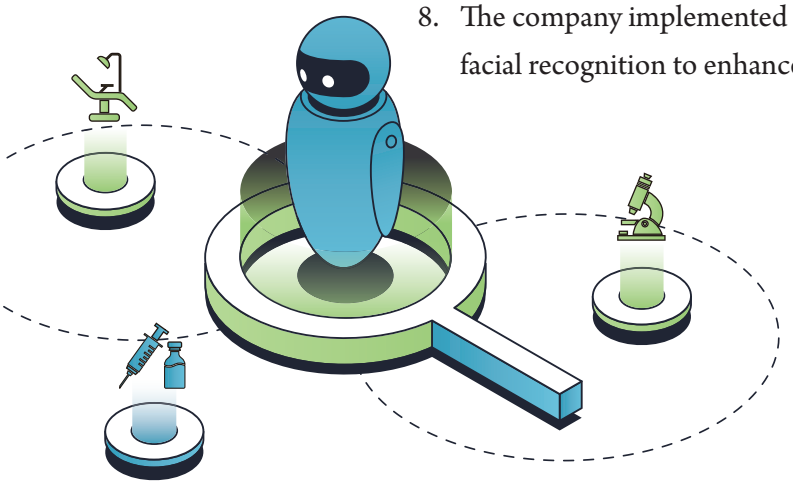
1 Write down the medical terms according to the given explanations.

1. a disease of the eye
2. a specialist in lung diseases
3. a condition affecting the fibrous tissue
4. a record of the electrical activity of the heart
5. a disease of the heart muscle

2 Complete the sentences with the medical terms given below. Change the form if necessary.

cardiologist fibrosis urinary pulmonary biometric
ophthalmologist cardiomyopathy electrocardiogram

1. If a general practitioner suspects a heart condition, they might refer the patient to a(n) _____ for further diagnosis and specialized treatment.
2. During a routine checkup, a doctor may order a(n) _____ to ensure that the patient's heart is functioning properly, especially when they have symptoms like chest pain or palpitations (心悸).
3. A person with vision problems would consult a(n) _____ for diagnosis and management of their conditions.
4. The patient was advised to take a(n) _____ test to assess kidney function and detect potential abnormalities.
5. The _____ circulation refers to the flow of blood from the right side of the heart to the lungs for oxygenation and then back to the left side of the heart.
6. Patients with pulmonary _____ may experience shortness of breath even when performing light duties.
7. The diagnosis of _____ often involves various tests, such as an echocardiogram and a chest X-ray.
8. The company implemented a(n) _____ system, utilizing fingerprint and facial recognition to enhance access control.



Medical terms

Complete the sentences with the medical terms you have learned in this unit. Change the form if necessary.

ischemic stroke　ultrasound　pulmonary embolism　imaging
physiology　intensive care unit　blood clot　internist

1. In the _____, patients receive continuous monitoring of vital signs and treatment.
2. Understanding human _____ is essential for medical professionals to diagnose and treat diseases effectively.
3. The _____ conducted a thorough physical examination and ordered a series of laboratory tests to evaluate potential causes of the patient's chest pain.
4. Timely intervention is crucial for patients suffering from _____, as it helps minimize brain damage and ensure better outcomes.
5. The pregnant woman felt relieved when the _____ confirmed that her baby was growing perfectly.
6. A(n) _____ is a clump of blood that can stop the bleeding by plugging the injured blood vessel.
7. Brain _____ refers to the usually non-invasive or minimally invasive techniques that reflect the structure or function of the brain.
8. A(n) _____ occurs when a blood clot gets stuck in an artery in the lungs. It is life-threatening and requires immediate medical attention.

Medical translation

Translate the paragraph into English.

全球首家人工智能医院 Agent Hospital 问世，标志着医疗智能化迈入新阶段。该医院由清华大学研发，配备有 AI 医护人员和虚拟病人，它们能模拟从分诊、诊断、治疗到随访的医疗全流程。患者就诊时，人工智能医生能够分析其症状和病史，从庞大的数据库中整合信息，进而提供权威诊疗方案。尤为突出的是，它们还能自主更新专业知识，为患者提供前沿方案。这一尖端科技展示了中国在人工智能与医疗融合领域的领先地位。

Navigating medical discourse

Having a panel discussion on the role of AI in health care

Your university is going to host a simulated international conference on "The future of health care" to cultivate students' ability to engage in academic exchanges on the international stage. One of the sessions of the conference is a panel discussion on the theme of "AI in health care: Opportunities and challenges." You and your classmates would like to participate in it.

Log on to Ucampus to get guidance from your AI tutor.

Step 1 Decide on the role

Form groups of six. Each member of the group chooses one of the following roles:

- A moderator
- A doctor
- A patient
- A medical educator
- An official from the government health-care department
- An expert in AI

Step 2 Conduct research and prepare for the discussion

Each member of the group conducts in-depth research based on their role.

- The moderator: Familiarize yourself with the overall topic, anticipate the key points from each panelist's perspective, and prepare a series of guiding questions to keep the discussion going smoothly.
- The panelists: Explore the latest trends, achievements, and challenges that concern you. Gather real-world examples and cases, as well as first-hand experiences from people around you. Anticipate potential questions from the moderator, other panelists, and the audience, and think of well-considered responses.

Step 3 Rehearse the discussion

Rehearse the panel discussion in class following the procedure below. The rest of the class will be the audience and raise questions to the panelists.

Tips

Procedure of a typical panel discussion

1. Welcome: The moderator extends welcoming remarks to the participants.
2. Introduction: The moderator introduces themself, the panelists, and the topic to be discussed.
3. Panel presentations: Each panelist expresses their own ideas on the topic in no more than three minutes.
4. Questions from the moderator: The moderator poses prepared or spontaneous questions to the panelists.
5. Questions from the audience: The moderator invites questions from the audience for the panelists to answer.
6. Summary: The moderator provides a closing summary of the key points discussed and possibly invites a final remark from the panelists.

Step 4 Improve the discussion

Reflect on your performance during the discussion, and think of how to get better prepared for the simulated international conference. You can:

- dive deeper into the topic and fill knowledge gaps related to your role in particular;
- practice your delivery, including the tone and body language;
- practice time-bound discussions to manage time better;

…

Scan the code. Watch the micro course recorded by industry experts to help you better complete the project.