

113 學年度第 1 學期資訊管理研究所博士班資格考

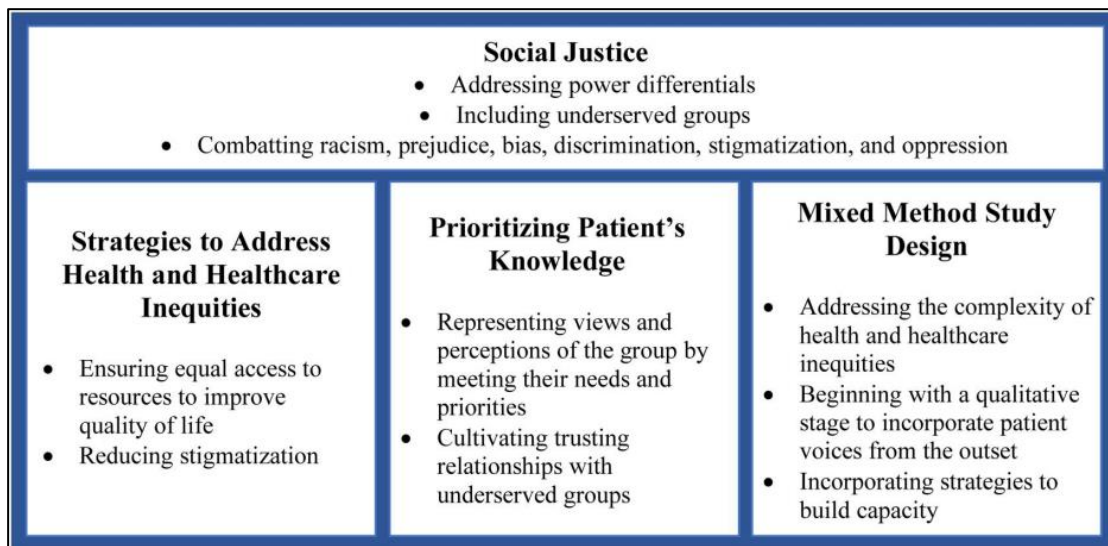
科目:高等健康資訊學

Time : 2024/11/01 13:00-16:00

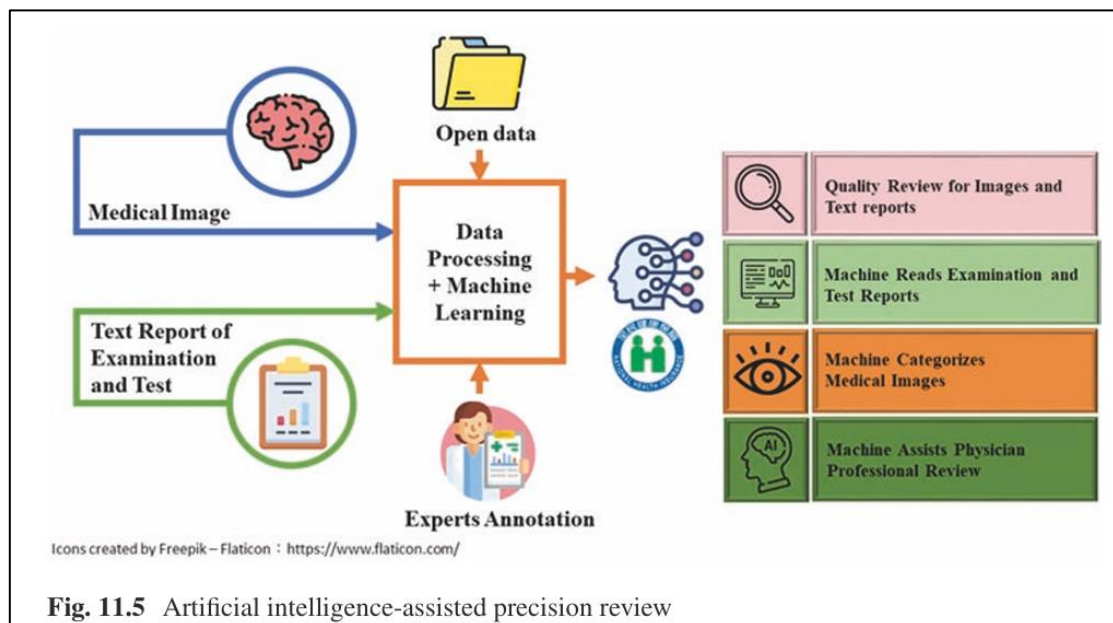
備註：請用原子筆，勿用鉛筆作答。

Format : ☐ OPEN BOOK ☒ CLOSED BOOK

1. **(33%)** Please explain how Taiwan's national health insurance applies big data and artificial intelligence?
2. **(20%)** In 2024, the World Health Organization updated and published the “Support tool to strengthen health information systems: guidance for health information system assessment and strategy development,” which provides a guideline to assess the current health information systems (HIS). HIS approaches can roughly be categorized according to two axes: comprehensive versus partial, and self-evaluation versus external evaluation. Please compare the different HIS assessment approaches, provide the advantages and disadvantages, and use specific examples to illustrate your points.
3. **(13%)** From illness management to quality of life: rethinking consumer health informatics opportunities for progressive, potentially fatal illnesses” is an article which published on the Journal of the American Medical Informatics Association (2021-2024)中 health informatic, 2014. This article is mainly to investigate how people with chronic obstructive pulmonary disease (COPD) use digital technologies. Authors applied the transformative approach rooted in social justice and equity, and the conceptualized theoretical foundations as following figure. Please applied it as an example to develop another new health informatics strategies to asthma patients.



4. **(17%)** In the book ‘Digital Healthcare in Taiwan--Innovations of National Health Insurance’, there is a subsection to talk about the work of ‘Artificial intelligence-assisted precision review’ and the profile of the work is listed below.



Question 1: In the figure, the expert can add annotation to the intelligent system, please list at least two annotations or rules to facilitate the intelligent system;

Question 2: One of the output of the intelligent system is “Quality review for images and text report”, please list at least one possible result for each of image and text reports, which are generated by the intelligent system.

5. **(16%)** In the book ‘Digital Healthcare in Taiwan--Innovations of National Health Insurance’, there is a subsection to talk about the work of ‘Digital Transformation of Big Data’ and some achievement is the virtual insurance card shown in the below.



Question 1: In the figure, the user can browse their treated history including the administrative and clinical data easily. Please list at least two individual sets of data provided to user in terms of administrative and clinical aspects and list the reasons why the data (four sets of data, totally) is helpful to the user.

Question 2: In the platform, users can view their claimed diseases and medication. How the government can provide the mechanism to protect the leak of confidential information to the public?