

编号: YY005-20221226001

标题: Telehealth Use Among Medicare Beneficiaries Drops to 15% in Q2 2022

简介: In the second quarter of 2022, about 15 percent of Medicare beneficiaries used telehealth, down from 48 percent in Q2 2020, according to a new data analysis from the Centers for Medicare and Medicaid Services (CMS). CMS recently released its Medicare Telehealth Trends Report, which includes information from Medicare Fee-for-Service (FFS) Part B claims and Medicare enrollment data. The data is from Jan. 1, 2020, to June 30, 2022.

全文链接: <https://mhealthintelligence.com/news/telehealth-use-among-medicare-beneficiaries-drops-to-15-in-q2-2022>

编号: YY005-20221226002

标题: Current and emerging artificial intelligence applications for pediatric abdominal imaging

简介: Abstract Artificial intelligence (AI) uses computers to mimic cognitive functions of the human brain, allowing inferences to be made from generally large datasets. Traditional machine learning (e.g., decision tree analysis, support vector machines) and deep learning (e.g., convolutional neural networks) are two commonly employed AI approaches both outside and within the field of medicine. Such techniques can be used to evaluate medical images for the purposes of automated detection and segmentation, classification tasks (including diagnosis, lesion or tissue characterization, and prediction), and image reconstruction. In this review article we highlight recent literature describing current and emerging AI methods applied to abdominal imaging (e.g., CT, MRI and US) and suggest potential future applications of AI in the pediatric population.

全文链接: https://pan.ckcest.cn/rcservice//doc?doc_id=108571

编号: YY005-20221226003

标题: The emerging role of artificial intelligence in multiple sclerosis imaging

简介: Background: Computer-aided diagnosis can facilitate the early detection and diagnosis of multiple sclerosis (MS) thus enabling earlier interventions and a reduction in long-term MS-related disability. Recent advancements in the field of artificial intelligence (AI) have led to the improvements in the classification, quantification and identification of diagnostic patterns in medical images for a range of diseases, in particular, for MS. Importantly, data generated using AI techniques are analyzed automatically, which compares favourably with labour-intensive and time-consuming manual methods. Objective: The aim of this review is to assist MS researchers to understand current and future developments in the AI-based diagnosis and prognosis of MS. Methods: We will investigate a variety of AI approaches and various classifiers and compare the current state-of-the-art techniques in relation to lesion segmentation/detection and prognosis of disease. After briefly describing the magnetic resonance imaging (MRI) techniques commonly used, we will describe AI techniques used for the detection of lesions and MS prognosis. Results: We then evaluate the clinical maturity of these AI techniques in relation to MS. Conclusion: Finally, future research challenges are identified in a bid to encourage further improvements of the methods.

全文链接: https://pan.ckcest.cn/rcservice//doc?doc_id=108569

编号: YY005-20221226004

标题: Recent Applications of Artificial Intelligence in Early Cancer Detection

简介: Cancer is a deadly disease that is often caused by the accumulation of various genetic mutations and pathological alterations. The death rate can only be reduced when it is detected in the early stages, because cancer treatment when the tumor has not metastasized in many regions of the body is more effective. However, early cancer detection is fraught with difficulties. Advances in artificial intelligence (AI) have developed a new scope for efficient and early detection of such a fatal disease. AI algorithms have a remarkable ability to perform well on a variety of tasks that are presented or fed to the system. Numerous studies have produced machine learning and deep learning-assisted cancer prediction models to detect cancer from previously accessible data with better accuracy, sensitivity, and specificity. It has been observed that the accuracy of prediction models in classifying fed data as benign, malignant, or normal is improved by implementing efficient image processing techniques and data segmentation augmentation methodologies, along with advanced algorithms. In this review, recent AI-based models for the diagnosis of the most prevalent cancers in the breast, lung, brain, and skin have been analysed. Available AI techniques, data preparation, modeling processes, and performance assessments have been included in the review.

全文链接: https://pan.ckcest.cn/rcservice//doc?doc_id=108570

编号: YY005-20221226005

标题: Automated Endotracheal Tube Placement Check Using Semantically Embedded Deep Neural Networks

简介: Rationale and objectives: To develop artificial intelligence (AI) system that assists in checking endotracheal tube (ETT) placement on chest X-rays (CXRs) and evaluate whether it can move into clinical validation as a quality improvement tool. Materials and methods: A retrospective data set including 2000 de-identified images from intensive care unit patients was split into 1488 for training and 512 for testing. AI was developed to automatically identify the ETT, trachea, and carina using semantically embedded neural networks that combine a declarative knowledge base with deep neural networks. To check the ETT tip placement, a "safe zone" was computed as the region inside the trachea and 3-7 cm above the carina. Two AI outputs were evaluated: (1) ETT overlay, (2) ETT misplacement alert messages. Clinically relevant performance metrics were compared against prespecified thresholds of >85% overlay accuracy and positive predictive value (PPV) > 30% and negative predictive value NPV > 95% for alerts to move into clinical validation. Results: An ETT was present in 285 of 512 test cases. The AI detected 95% (271/285) of ETTs, 233 (86%) of these with accurate tip localization. The system (correctly) did not generate an ETT overlay in 221/227 CXRs where the tube was absent for an overall overlay accuracy of 89% (454/512). The alert messages indicating that either the ETT was misplaced or not detected had a PPV of 83% (265/320) and NPV of 98% (188/192). Conclusion: The chest X-ray AI met prespecified performance thresholds to move into clinical validation.

全文链接: https://pan.ckcest.cn/rcservice//doc?doc_id=108572

编号: YY005-20221226006

标题: Harnessing artificial intelligence in cardiac rehabilitation, a systematic review

简介: Aim: This systematic review aims to evaluate the current body of research surrounding the efficacy of artificial intelligence (AI) in cardiac rehabilitation. Presently, AI can be incorporated

into personal devices such as smart watches and smartphones, in diagnostic and home monitoring devices, as well as in certain inpatient care settings. Materials & methods: The PRISMA?guidelines were followed in this review. Inclusion and exclusion criteria were set using the Population, Intervention, Comparison and Outcomes (PICO) tool. Results: Eight studies meeting the inclusion criteria were found. Conclusion: Incorporation of AI into healthcare, cardiac rehabilitation delivery, and monitoring holds great potential for early detection of cardiac events, allowing for home-based monitoring, and improved clinician decision making.Lay abstractArtificial intelligence (AI) involves the use of technologies capable of making decisions based on data provided. AI can be used in healthcare to provide actionable data for a clinician by analyzing patterns in patient data to predict outcomes and guide treatment. Cardiovascular disease is the leading cause of death worldwide. Cardiac rehabilitation is a therapy proven to reduce mortality and morbidity from cardiovascular disease. This study outlines three cases of AI based healthcare tools in cardiac rehabilitation. This includes the provision of personalized, home-based cardiac rehabilitation, the early detection of cardiac events through smart watch monitoring and by providing clinician decision making support in cardiac failure rehabilitation.

全文链接: https://pan.ckcest.cn/rcservice//doc?doc_id=108574