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**EAI 6000**

**Module 1:**

**Assignment**

In the healthcare sector the effects of agents being developed and used are profound with how they can reduce costs and aid in helping an aging population with healthcare matters. The recent technologies being created with the multi-agent system allow physicians to provide better care for their patients and change the current healthcare infrastructure (Shakshuki & Reid, 2015).

The different types of agents used in healthcare can also have an impact in other areas like with the examples provided in the article of the worst coal mining disasters in world history. The implementation of multi-agent systems can detect hazards in coal mining areas or for any other potential issues that would allow for preventative measures to be put in place before a disaster occurs. Using robotic agent solutions can also be prevalent in rescue efforts after a disaster happens and are looking for survivors (Mining Technology, 2014).

The process of early detections with multi-agent systems in healthcare is in one way like the usage of robotic agent solutions in coal mining areas. The agents can collectively help find problems in patient care and use the data that has been gathered to find solutions. The implementation of sensors on human bodies is valuable as well for its ability to compile information and then communicate its findings (Shakshuki & Reid, 2015). This comparison with robotic agent solutions is evident in how it can prevent dangerous outcomes and be able to see things in real-time that can lead to better long-term solutions.

Another similarity between the two different industries is the usage of monitoring systems on a continual basis. An example of this is multi-agent systems in how it is applied to sensors worn that check a patient's vital signs and with data collection can be valuable for receiving the necessary preventative care (Shakshuki & Reid, 2015).

Looking ahead at the future of healthcare, the usage of predictive modeling can be an effective method that will lead to better outcomes for the industry. Whether these will result in new and improved systems or functions, they will overall help shape the healthcare industry in the future. An example of this is wireless and body area sensor networks that apply numerous agents that can detect health concerns, notify the patient's physician of these issues, and offer their medical solutions (Shakshuki & Reid, 2015).

One of the six agents used that helps connect the human agent to a real-world situation is the diagnostic agent which has data analysis characteristics. This agent can serve as a valuable tool in predictive modeling because it can analyze the patient's medical information and then provide their future state of health (Shakshuki & Reid, 2015). The collection of patient's medical records will be a key component that can help drive these predictive models.

## **References**

Shakshuki, E. & Reid, M. (2015). *Multi-Agent System Applications in Healthcare: Current Technology and Future Roadmap*. ScienceDirect.

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