Artificial Intelligence, the Evolution of the Healthcare Value Chain, and the Future of the Physician

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Artificial intelligence (AI) is transforming production across all sectors of the economy, with the potential to both complement and substitute for traditional labor inputs. Healthcare is no exception. Dozens of recent academic studies demonstrate that AI can contribute to the healthcare value chain, by improving both diagnostic accuracy and treatment recommendations. In these ways, AI may wither complement or substitute for physicians. We argue that AI represents the culmination of decades of efforts to enhance medical decision making. Using an historical lens that considers long-standing institutional features of healthcare markets, we identify numerous obstacles to the implementation of AI in medical care, and identify which specialties are most at risk for substitution by AI.

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