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## The Fourth Industrial Revolution: Will it change pharmacy practice?

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### **Abstract**

The industrial world is at the beginning of a Fourth Industrial Revolution (4IR). This era will radically change the human use of technology, with major implications for the ways people live and work. This commentary asks: will 4IR change pharmacy practice? The first three revolutions created the pharmaceutical industry and gave pharmacists a near-monopoly over drug supply. 4IR could do the opposite and create alternative, non-pharmaceutical means of treating patients as well reducing the involvement in medicines supply. If the pharmacy sector becomes stuck in traditional, linear thinking that assumes the future will be an extension of the past, then the fourth revolution may be less of an opportunity and more of a threat. The sector faces the "innovator's dilemma" when responding to 4IR. Should the pharmacy profession disrupt their current activities in order to: (i) do things better, (ii) do new things, and (iii) deter competition? To maintain its position in the medical marketplace, pharmacy needs to discover how to work with AI, robotics, IoT, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing. If the new game is understood, pharmacists may become the playmaster of tomorrow. If not, then the practice of pharmacy may be replaced by innovative new ways of meeting patient pharmaceutical needs.

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