

Equity and Efficiency in Technology Adoption: Evidence from Digital Health *

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Abstract: Digital technologies are bringing vast improvements to modern society but also carry the risk of exacerbating pre-existing disparities if adopted at lower rates by underserved communities. We investigate the efficiency and equity aspects of technological advancement in digital health by studying an intervention of remote patient monitoring that enabled patients to transmit real-time clinical data for timely treatment. The program was deployed at the Academic Medical Center UC San Diego Health among a diverse population of patients and targeted hypertension management to reduce the risk of cardiovascular disease. From an efficiency standpoint, we find significant and persistent reductions in cardiovascular risk, which are notable across all subgroups of gender, age, race/ethnicity, and geographic affluence. The program additionally generated large financial value in the form of a 40 percent reduction in healthcare utilization costs. From an equity standpoint, however, we find that the new technology is systematically adopted at lower rates by Black/Hispanic patients and by patients from disadvantaged geographic communities, who are less likely to either take up or to adhere to the program. Our analysis highlights the simultaneous promise and hazards of digital technologies, as it places across-the-board improvements in health against the drawback of uneven adoption that can deepen relative health disparities. Evidence strongly suggests that physicians and the nature of their relationship with patients can have a promising role in promoting more equitable adoption of new technologies in digital health.

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