



EMPOWERING HEALTH AND WELLNESS WITH HP TECHNOLOGIES

Supporting health and wellbeing means developing the right strategies to address some of healthcare’s greatest challenges, including infectious diseases, health equity and climate change.



The field of healthcare, as a whole, is facing unprecedented challenges across the globe. The World Health Organization (WHO) has urged countries, non-governmental organizations and industries to work together to address a multitude of global health threats - including infectious diseases, health inequities and climate change.¹

To that end, HP has committed to developing new technologies to not only mitigate the risk of infectious diseases, but also to develop a variety of health inequity and sustainable development initiatives to improve the wellbeing of patients in the United States and abroad.

Helping mitigate risk of infectious diseases transmission

The COVID-19 pandemic has demonstrated the vital importance of being able to mitigate disease spread. But even absent the pandemic, healthcare organizations were already facing significant challenges in trying to control healthcare-associated infections (HAIs).²

As recently reported:



5 million people have died as the result of the novel coronavirus, according to Johns Hopkins University & Medicine COVID-19 Dashboard.⁶



More than 1.7 million patients acquire an HAI each year that can extend beyond acute-care environments including long-term care facilities, ambulatory settings and home care, resulting in more than 98,000 deaths and \$5.4 billion in avoidable hospital costs, according to the U.S. Center for Disease Control and Prevention (CDC).⁷

To help address this formidable challenge, HP has implemented unique standards to better support infection prevention protocols. To ensure technology surfaces can be routinely disinfected with non-alcohol-based, EPA-registered hospital-grade disinfectants for repeated cleaning and disinfection of environmental surfaces, per CDC guidelines, HP has designed disinfectable³ and autoclave-sterilizable technologies,⁴ including HP HEALTHCARE Edition Printers, HP Engage touchscreens, HP Commercial Computing and Displays and as an exclusive services offering Zebra healthcare devices⁵ - all with the aim of assisting organization’s initiatives in helping prevent the spread of the spread of pathogens.

“With our healthcare focus, portfolio and practice, we are very serious about combating healthcare-associated infections at both a local and a global level,” said Daniel Colling, BSN, RN, Global Leader of HP Healthcare Industry Solutions. “We’ve partnered with APIC Consulting Services, for example, a wholly owned subsidiary of the Association for Professionals in Infection Control and Epidemiology (APIC), to write a white paper with recommendations and cleaning protocols. The paper outlines healthcare setting gaps that focus on electronic devices as a major source of environmental surface pathogen transmission.”



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Still, it's up to healthcare professionals to adhere to disinfection protocols. “We put a lot on our clinical staff members,” said Graham Snyder, MD, Director of Infection Prevention and Epidemiology, University of Pittsburgh School of Medicine. “They understand the potential consequences when it [disinfection protocols] doesn't happen. But, for infection prevention strategies to work, we need to make it as simple as possible, or nothing will change.”

As such, HP has developed Infection Prevention apps like HP Easy Clean⁸ and HP Workpath Clorox Healthcare⁹ that can increase adherence for healthcare teams to follow through with enhanced infection prevention protocols.

Reducing antibiotic resistance

The United Nations (UN) declared that antibiotic resistance has now become one of the largest global public health challenges of our time that could lead to 10 million deaths annually and force hundreds of millions of people into extreme poverty by 2050.¹⁰ “Bacteria continuously develop new ways to resist antibiotics. Once a drug is approved for use, the countdown begins until resistance emerges. In fact, resistance has even been detected before FDA approval,” said Jean Patel, PhD D(ABMM), Science Team Lead, Antibiotic Resistance Coordination and Strategy Unit, CDC.

To address this global health challenge, HP HEALTHCARE is playing a pivotal role in vaccine and antibiotic research. The HP D300e Digital Dispenser, a bioprinter platform, is accelerating this research by automating serial dilutions in laboratories across the globe.¹¹

Working together to save lives and protect people, the CDC and HP are making the D300e technology accessible to hospital labs nationwide. “This pilot with HP has helped ensure our newest drugs last longer and put gold-standard lab results in healthcare providers' hands faster,” said Patel.



HP and its partners have already 3D-printed more than **2.4 million** critical COVID-19 containment parts.



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As digital technology transforms seemingly every aspect of our lives, there's a real danger of more and more people getting left behind.”

Enrique Lores, HP Inc. President and CEO



owners.¹³ Leveraging digital health tools requires more than just affordable access. It requires digital literacy, or the knowledge and ability to successfully use these technologies. HP has committed to accelerate digital equity for 150 million people by 2030 through the HP Partnership and Technology for Humanity (PATH), a digital equity accelerator program.¹⁴

“As digital technology transforms seemingly every aspect of our lives, there's a real danger of more and more people getting left behind,” said Enrique Lores, HP Inc. President and CEO. “We cannot allow that to happen, and HP will work to break down the digital divide that prevents too many from accessing the education, jobs, and healthcare they need to thrive.”

To that end, HP is working to not only bring new technologies to marginalized groups but also ensure they have the access, quality, relevant content and digital literacy to fully embrace these solutions - and see their overall health and well being improve in the process.

Supporting digital health equity

Digital innovations are changing the face of healthcare. Yet, there remains a stark digital divide. Too many patients living in rural, socioeconomically challenged or marginalized communities lack the required technology and connectivity to benefit from engaging in their own healthcare.¹²

According to PEW research, nearly 25% of adults with household incomes under \$30,000 a year don't own a smartphone. More than 40% of adults with lower incomes do not have home broadband services, a desktop or laptop computer. And most with lower incomes are not tablet

Combatting climate change

Climate change has a profound impact on health and well being - it affects a variety of social and environmental determinants of health that many of us take for granted.

HP has an ambitious global health mission:

Create digital equity for 150 million people around the world by 2030 through the HP Partnership and Technology for Humanity, a digital equity accelerator program



The goal:

Support disenfranchised communities by activating innovative solutions and services



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Achieving absolute emissions reductions is aligned with HP’s overall corporate strategy to move away from a transactional business model to an emphasis on service.”



Ellen Jackowski, Chief Sustainability and Social Impact Officer at HP

One of the 17 UN 2030 Sustainable Development Goals of the 17 UN 2030 Sustainable Development Goals is to ensure good health and well being through substantially reducing the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.¹⁵ To ensure

future generations can rely on safe drinking water, clean air and dependable shelter, HP is taking important steps to reduce its product emissions across the board. To date, HP offers 664 ENERGY STAR®-certified personal systems products – more than any other manufacturer.¹⁶

In addition, HP original ink and toner cartridges are designed to follow strict indoor air quality criteria, its Elite Personal Systems portfolio is contains recycled materials and 99% of the company’s paper and paper-based product packaging are made with zero deforestation. The company also plans to continue to work with its partners to find new ways to achieve net zero emissions across its entire value chain by 2040.

“We need to take care of our own house first,” said Ellen Jackowski, Chief Sustainability and Social Impact Officer at HP. “Achieving absolute emissions reductions is aligned with HP’s overall corporate strategy to move away from a transactional business model to an emphasis on service. Solutions and ideas exist everywhere. We have the ability to take things to scale with what we learn. With one of the IT industry’s largest supply chains, when we learn something from our partners, we can have a significant impact.”



HP offers 664 ENERGY STAR®-certified personal systems products – more than any other manufacturer to date.¹⁶



Lead the way to a healthier world. Learn more at [HP.com](https://www.hp.com).

Sources

- 1 World Health Organization. Sustainable Development Goals. Accessed 9 December 2021. https://www.who.int/health-topics/sustainable-development-goals#tab=tab_1.
- 2 HealthyPeople.gov. 2020. Healthcare-associated infections. <https://www.healthypeople.gov/2020/topics-objectives/topic/healthcare-associated-infections#1>.
- 3 HP offers a variety of PC and Print Solutions and Services with features such as; EN/IEC 60601-1-2 compliance, Sanitization, Disinfection, and Sterilization capabilities. See wipe manufacturer's instructions for disinfecting and the HP cleaning guide for HP tested wipe solutions for Personal Systems *How to Clean your HP Device With Approved Disinfecting Wipes*. <https://h20195.www2.hp.com/v2/getpdf.aspx/4AA7-7610ENW.pdf>.
- 4 HP HEALTHCARE Edition for Print devices are equipped with at least one set of sterilizable, disinfectable drapes (made of VMO silicone). In addition to the cleaning and disinfection guidance previously detailed, these drapes can be removed, immersed in soap and water or a recommended disinfectant solution (please refer to recommended Healthcare Edition for Print cleaning formulas in the user guide). For further sterilization purposes, these drapes can be exposed to Hydrogen Peroxide Vapour (HPV). Also, the drapes are sterilizable in an autoclave or thermo disinfectant at temperatures up to 134 oC (270 oF). HP recommends that the drapes be replaced after 200 sterilization cycles in an autoclave. Please contact your HP representative for replacement drapes when necessary. Approved and tested cleaning and disinfectant formulas for VMO silicone-based drapes covering surfaces for HP HEALTHCARE Edition for Print include: Chlorine based, up to 100,000 ppm (10%) bleach content; Formaldehyde based, up to 370,000 ppm (37%) formaldehyde content; Oxidizing, such as Hydrogen Peroxide, up to 30,000 (3%) ppm content; Quaternary Ammonium, up to 20,000 ppm (2%) content. Customers may experience some visible changes to cosmetic finishes over time as a result of these cleaning techniques.
- 5 Zebra's healthcare mobile computers (TC52-HC, TC21-HC, TC26-HC), hand-held healthcare scanners (DS4308-HC, DS6878-HC, CS4070-HC) and healthcare printers (HC100, GK420 Healthcare) are engineered and tested to handle the constant disinfecting required to reduce the risk of spreading healthcare associated infections (HAIs) with EPA registered CDC recommended disinfecting agents. See complete list of approved and tested cleaning and disinfection agents https://www.zebra.com/content/dam/zebra_new_ia/en-us/solutions-verticals/product/Mobile_Computers/fact-sheet/mobile-computers-hc-fact-sheet-cleaning-disinfecting-en-us.pdf.
- 6 Johns Hopkins University & Medicine. Coronavirus Resource Center. Accessed 9 December 2021.
- 7 Centers for Disease Control and Prevention. Healthcare-Associated Infections. Accessed 9 December 2021. <https://www.cdc.gov/hai/data/index.html>
- 8 Features available on select HP commercial PCs.
- 9 HP HC Education & Tools App available on HP Healthcare Print Solutions portfolio with HP Workpath.
- 10 UN News. UN, global health agencies sound alarm on drug-resistant infections; new recommendations to reduce 'staggering number' of future deaths. Accessed 24 March 2022. <https://news.un.org/en/story/2019/04/1037471>.
- 11 The HP D300e BioPrinter enables labs to eliminate serial dilution from dose response workflows, miniaturize qPCR reaction volumes, and easily dispense any volume in any well for a broad array of low-volume dispensing applications in drug discovery, genomics, and proteomics research and is not intended for use in diagnosis or other medical conditions.
- 12 U.S. House of Representatives Committee on Ways and Means Majority. July 2020. Left Out: Barriers to Health Equity for Rural and Underserved Communities. https://waysandmeans.house.gov/sites/democrats.waysandmeans.house.gov/files/documents/WMD%20Health%20Equity%20Report_07.2020_FINAL.pdf.
- 13 Pew Research Center. June 2021. Digital divide persists even as Americans with lower incomes make gains in tech adoption. <https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/>.
- 14 HP. Sustainable Impact Report 2020. <https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c07539064>.
- 15 UNDP.org. What are the Sustainable Development Goals? Accessed March 15, 2022. https://www.undp.org/sustainable-development-goals?utm_source=EN&utm_medium=GSR&utm_content=US_UNDP_PaidSearch_Brand_English&utm_campaign=CENTRAL&c_src=CENTRAL&c_src2=GSR&gclid=EAlaQobChMlUvnc2rvH9gVL_LjBx3g_wFqEAAYAiAAEgINwPD_BwE.
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