

A photograph of two scientists, a woman on the left and a man on the right, both wearing white lab coats and safety glasses. They are focused on a piece of electronic equipment with various colored wires (yellow, blue, black) connected to it. The background is a blurred laboratory setting with industrial equipment.

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Internet of things in medicine

The Internet of Things has inevitably penetrated the healthcare industry, one that accounts for billions of smart devices — and their number keeps growing exponentially. The more progress medical science and technology make, the higher the number and the variety of healthcare devices rockets. The gadgets face constant modernization and enhancement along with evolving consumer needs. As a consequence, the role of these appliances has increased: today, they not only assist in the patient workup and disease treatment but also help prevent health problems and encourage wellness.

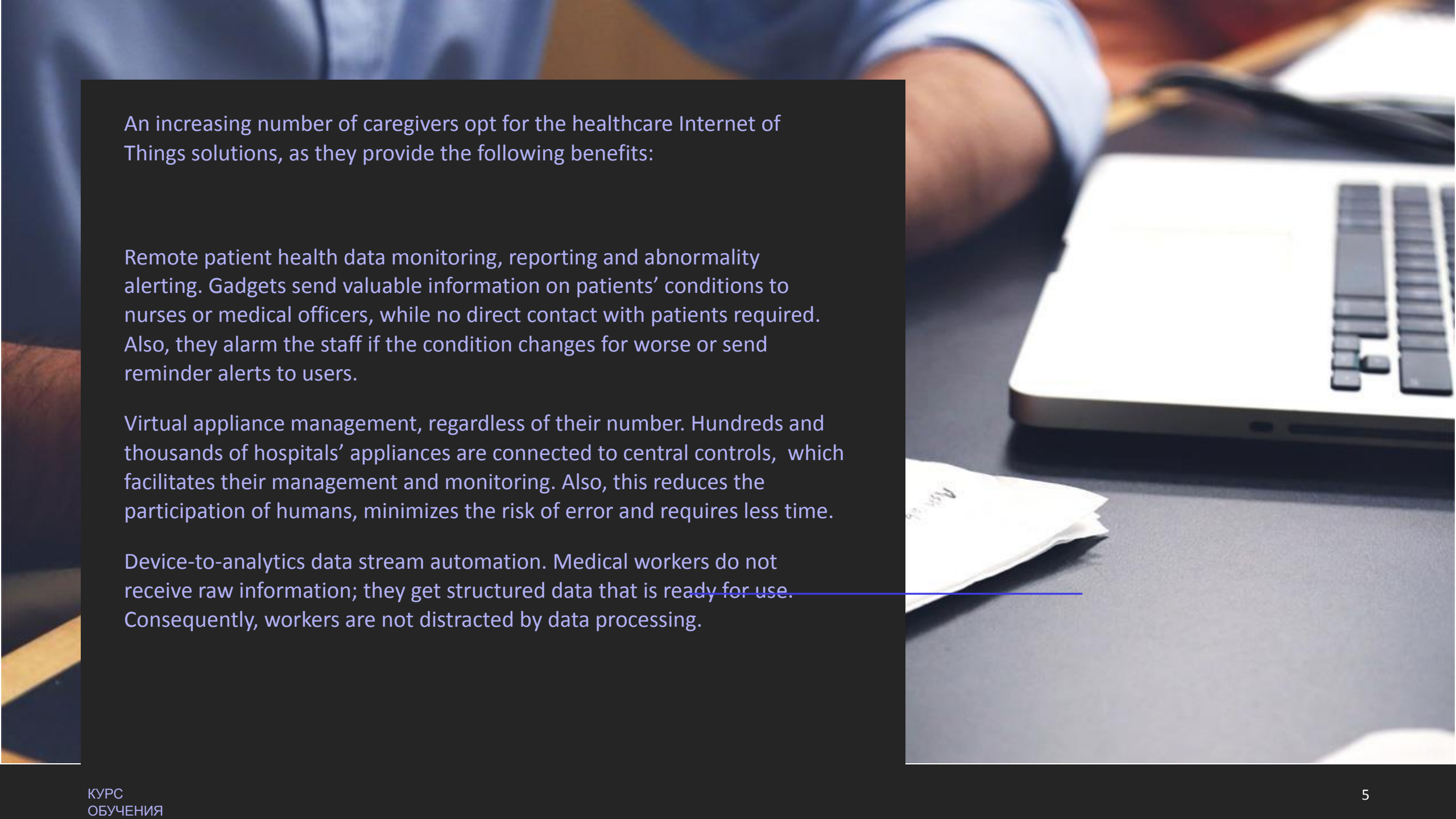


How Healthcare Benefits from IoT



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- Why do healthcare organizations seek to reduce human involvement for paperwork, vital sign monitoring and medical equipment administration, and want machines to perform these functions? In this domain, errors cost too much, and empowering machines to take care of these operations allows the institutions to eliminate the risk of the human factor.





An increasing number of caregivers opt for the healthcare Internet of Things solutions, as they provide the following benefits:

Remote patient health data monitoring, reporting and abnormality alerting. Gadgets send valuable information on patients' conditions to nurses or medical officers, while no direct contact with patients required. Also, they alarm the staff if the condition changes for worse or send reminder alerts to users.

Virtual appliance management, regardless of their number. Hundreds and thousands of hospitals' appliances are connected to central controls, which facilitates their management and monitoring. Also, this reduces the participation of humans, minimizes the risk of error and requires less time.

Device-to-analytics data stream automation. Medical workers do not receive raw information; they get structured data that is ready for use. Consequently, workers are not distracted by data processing.



Caregiver's equipment administration. This feature allows the staff to be aware of the condition and location of their equipment; particularly, of the assets that can be moved from one place to another.

Remote equipment configuration. The staff can tune home health monitoring devices or wearables remotely, eliminating the need for patients to visit the hospital.

Timeous appliance maintenance. The workers can notice any aberrations in the equipment's performance in advance and fix it before it does damage. It is especially important for the gadgets that are installed in intensive care units or with equipment for especially vulnerable patients.

Reduced costs. IoT in the healthcare domain allows remote monitoring of the patients' states, which enables disease treatment at home. Also, medical equipment maintenance costs decrease, while the uptime increases.



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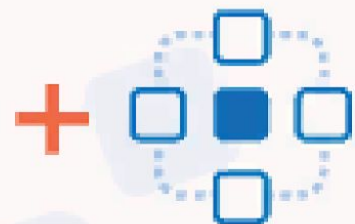
Remote patient
health data monitoring,
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Device-to-analytics
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Remote equipment
configuration



Virtual appliance
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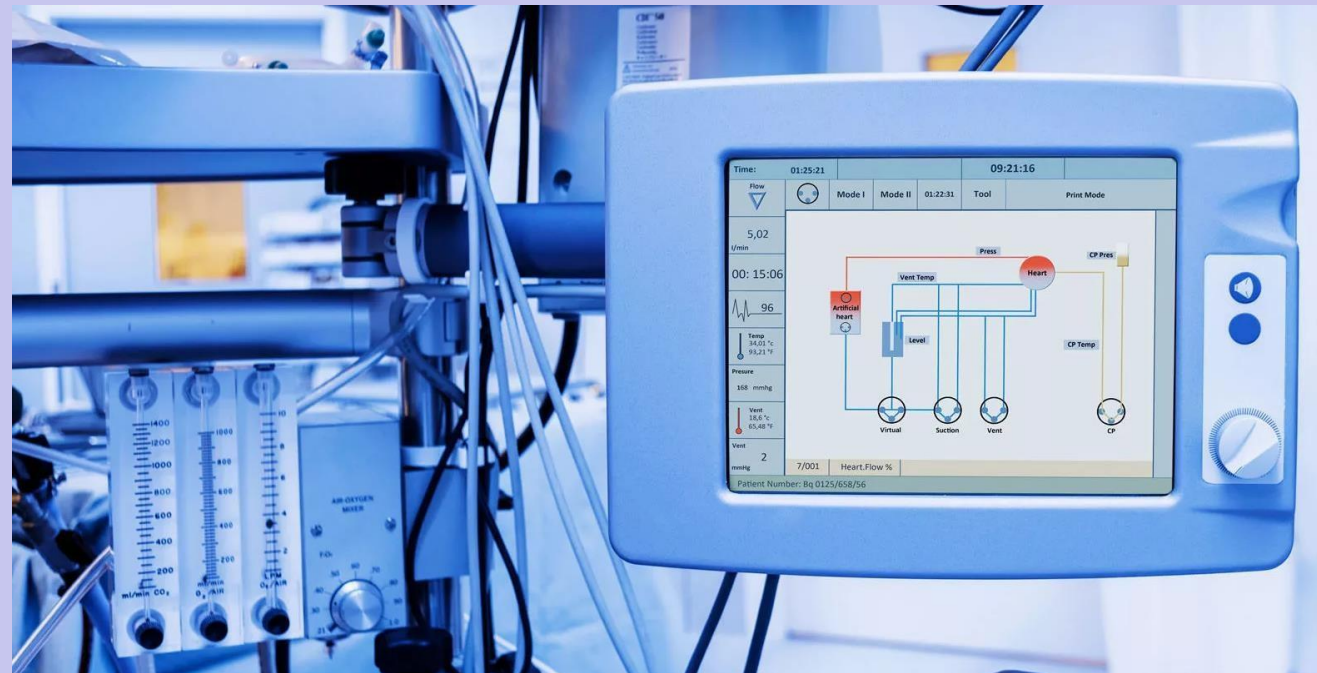


Caregiver's equipment
administration



Timeous appliance
maintenance

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- Depending on the place and the way the devices are applied, medical equipment can be both wearable and fixed. Portable and immovable ones are used in hospital wards, physician's offices, workup rooms, laboratories or in patients' homes. Wearables are even more convenient, as they accompany health consumers in the street or on the road.



- Some tracking devices measure breathing rate, heart rate, body temperature and even body posture and have a fall detection feature. They enable immediate fall detection to allow for an immediate response and reduce the stress and the consequences of the fall.

- Also, behavior tracking is a useful feature if there is a need to check staff or to enforce certain behaviors. For example, special sensors can indicate if the staff wash their hands every time after they visit the restroom.





Thank you for
attention