




A day in the life of a patient and clinician

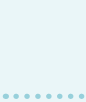
Impact of water quality on health care in developing countries





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Before sunrise, a cancer patient awakes and instead of going to work, he walks to a bus for his monthly chemotherapy appointment.
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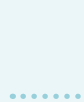
Mid-morning, after more than three hours of travel, the patient arrives at a clinic to await treatment.
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Noon, the patient receives his blood test, and awaits confirmation that chemotherapy can begin. Since chemotherapy is only offered once a week in this region, the waiting room is crowded and there is a queue out the door.
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Late afternoon, chemotherapy treatments begin, and patients in the waiting room are told that not everyone will be treated today and many will need to return next week. Queued patients begin leaving.
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Before sunrise, the clinician arrives at work. It's chemo day and she expects that up to 400 samples will need to be run to keep up with demand.
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Mid-morning, the clinician begins drawing blood from patients, placing filled test tubes in racks next to the analyzer for testing, moving quickly through the process.
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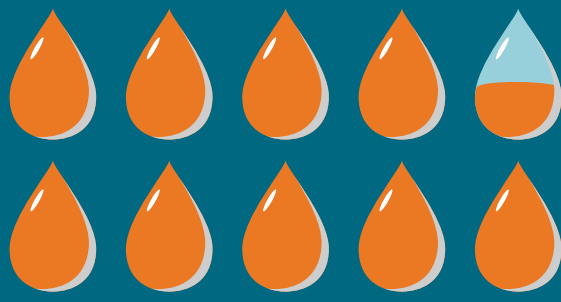
Noon, test tubes pile up because water has been coming out of the tap muddy all morning. The technician has called maintenance to see if they can change the filters but none are available. Blood testing has stopped.
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Late afternoon, a maintenance team turns up with large containers of deionized water purchased from the local garage. Testing continues after running new QC and cleaning protocol on the analyzer. The clinician is now free to begin chemotherapy treatments – many hours late.

This story is all too common across the globe.



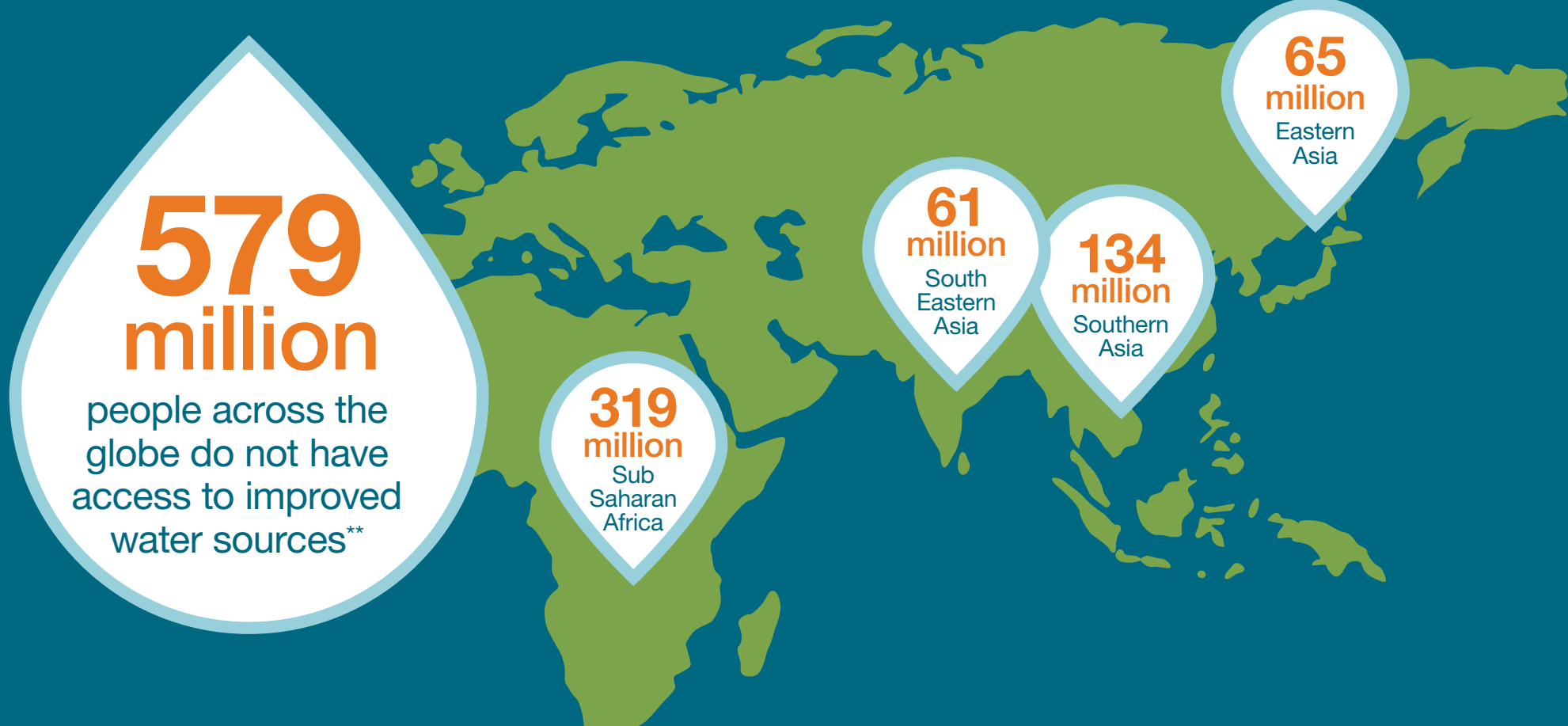
Only 61% of population in rural areas of developing countries use an improved water source*



In some developing countries **over 95%** of wastewater is released into the environment without treatment*

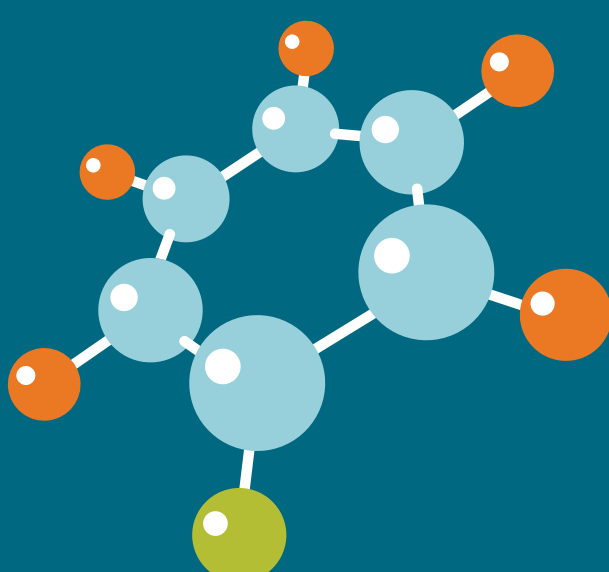


Only 84% of the global rural population has access to improved drinking water sources**



Why is pure water in the lab so critical to this scenario?

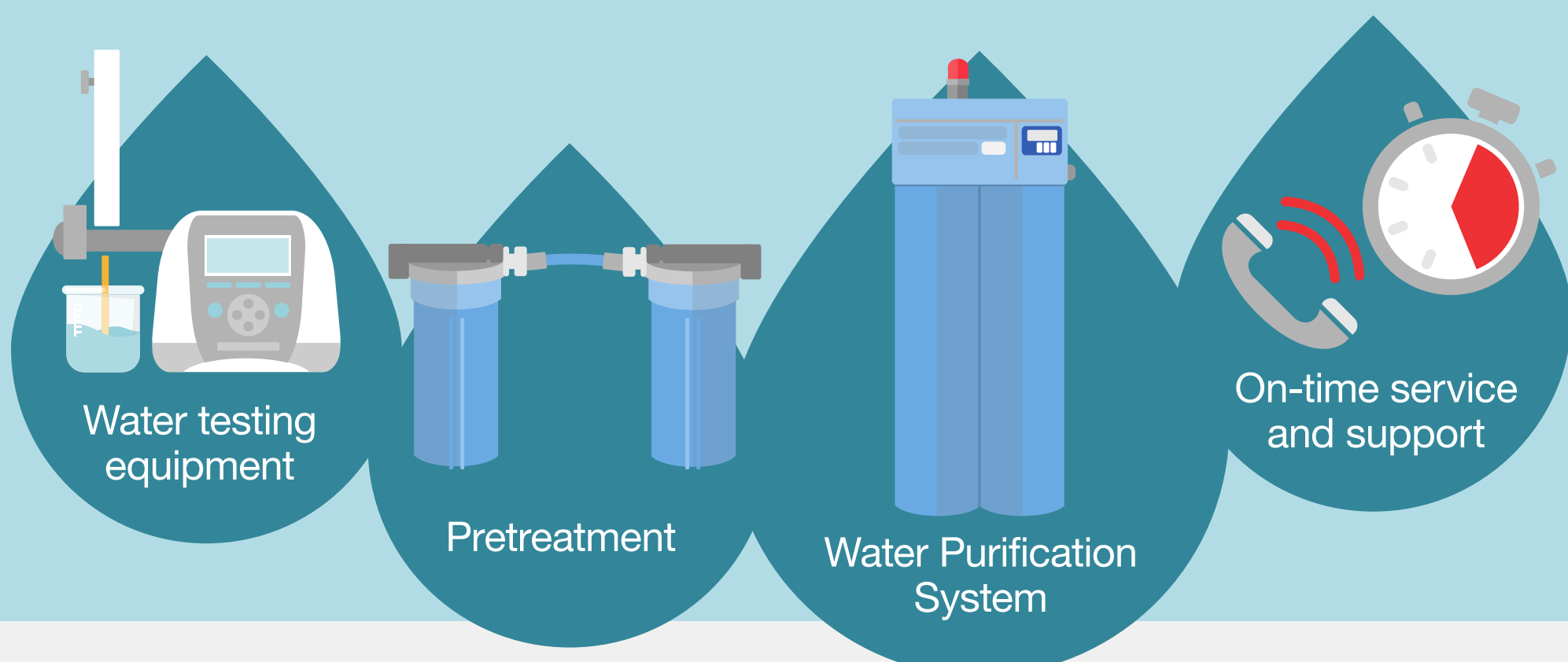
Particles or bacteria found in water can cause interference in lab readings. If the quality of tap water frequently changes, it may become difficult to ensure consistent purified water.



Purified water supports patient health. If impure water is used, patients may either receive the wrong diagnosis, leading to improper treatment, or no diagnosis at all.

What can be done?

There are several recommended technologies to help ensure that purified water is accessible in your lab, regardless of external conditions.



System uptime is the most critical aspect of a water system when treating patients.

Thermo Scientific™ Barnstead™ Water Purification Systems are designed with these requirements in mind and includes system redundancies to help ensure maximum uptime while delivering consistent water.

Learn more about how pure water contributes to life changing therapies at thermofisher.com/waterquality

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*UN OFFICE OF THE HIGH REPRESENTATIVE FOR THE LEAST DEVELOPED COUNTRIES, LANDLOCKED DEVELOPING COUNTRIES AND SMALL ISLAND DEVELOPING STATES <http://unohrls.org/about-ldcs/facts-and-figures-2/>, accessed on May 15, 2019.

**WORLD HEALTH ORGANIZATION: Water Sanitation Hygiene https://www.who.int/water_sanitation_health/monitoring/jmp-2015-key-facts/en/, accessed on May 15, 2019.

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