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Supply and demand

Amazon's global workforce has changed the genetic makeup of Seattle's blood supply

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Amazon.com's urban campus in South Lake Union has changed traffic patterns, contributed to rising housing costs and led dozens of other tech companies to open offices in Seattle.

That influx of high-tech workers from all over the world has also rewired the genetic fabric of the region, and that has big implications for the blood supply.

"It's a story of a diverse community experiencing rapid growth and the growing need for blood for transfusion on a daily basis, whether that's for trauma situations like car accidents or even regularly scheduled surgeries and births," said Tresa Thomas Massiongale, chief investment and partnership officer at Bloodworks Northwest.

Genetic diversity becomes a medical issue when someone needs blood transfusions, the most frequently provided medical procedure, according to Dr. Kirsten Alcorn, medical director of transfusion services at Swedish Hospitals.

"When we give a transfusion, we are most interested in matching blood types, but that does not take into consideration all of the other markers on the cells," she said. "Once you're exposed to markers that come from cells that are different than your own, you might become sensitized to them ... and have an immune reaction to those foreign cells."

If that happens, your next transfusion needs to come from someone in your ethnic group with the same pattern of cell markers.

"We don't have much hope of getting the close matches they need unless we can have people from their own ethnic group that share the same genetic makeup," said Dr. Rebecca Haley, Bloodworks Northwest's medical director of blood services and cord blood services.

Companies like Amazon, Microsoft and Google are doing "tons of blood drives all the time," said Massiongale, but "the pace of growth is outstripping the supply."



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Tresa Thomas Massiongale is Bloodworks Northwest's chief investment and partnership officer.

FDA regulations prevent blood donation for a period of time after some international travel to guard against the transmission of malaria and other bloodborne diseases, she said. Frequent travel to countries that are home to employees from Amazon and other tech companies, like India and China, may limit Seattle's diverse workforce from donating blood at rates that match the growing need.

"That's why partnering with the tech sector to get a blood supply that matches what they need and what the community is so important," Massiongale said. "Because they are the community now, together with everyone else."

Bloodworks Northwest estimates that Seattle-area blood donations from Microsoft, Amazon and Google since July 2016 have saved nearly 20,000 lives:

Microsoft

Blood drives: 206

Units collected: 4147

Lives saved: approximately 12,400

Amazon

Blood drives: 61

Units collected: 1109

Lives saved: approximately 3,300

Google

Blood drives: 54

Units collected: 1316

Lives saved: approximately 3,900

Source: Bloodworks Northwest

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