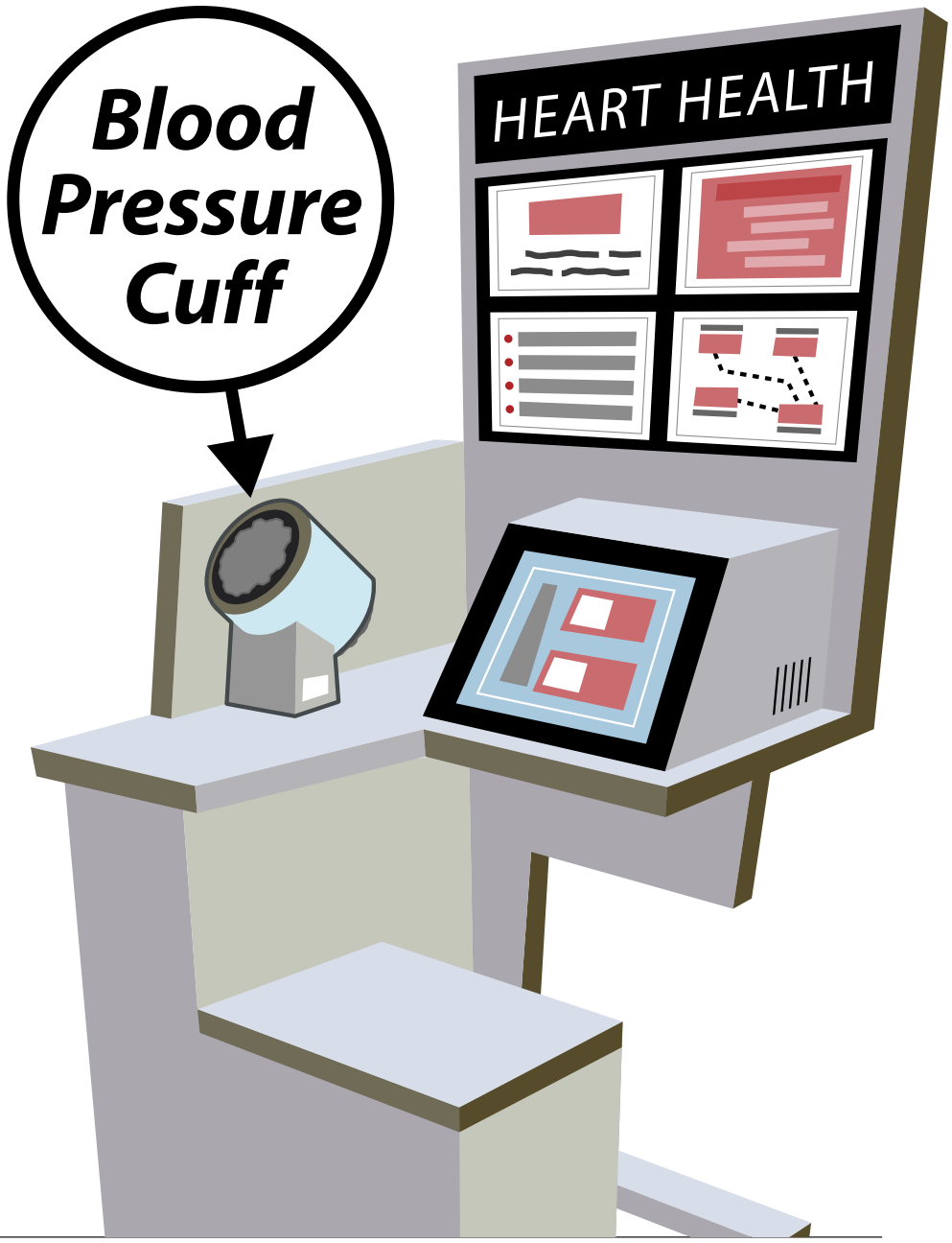
Blood Pressure Monitoring Kiosks Aren't for Everyone

Convenience can come with tradeoffs. The next time you put your arm in the cuff at a kiosk that measures blood pressure, you could get an inaccurate reading unless the cuff is your size.



Correct cuff size is a critical factor in measuring blood pressure. Using a too-small cuff will result in an artificially high blood pressure reading; a too-large cuff may not work at all or result in an inaccurately low blood pressure reading. The Food and Drug Administration (FDA) is advising consumers that blood pressure cuffs on public kiosks don't fit everyone and might not be accurate for every user.

These desk-like kiosks for checking blood pressure are available in many public places—pharmacies, grocery and retail stores, gyms, airports, hair salons and even cafeterias. "They are easily accessible and easy to use. But it's misleading to think that the devices are appropriate for everybody. They are not one-size-fits-all," says Luke Herbertson, PhD, a biomedical engineer at FDA.

Cuff Size Matters

Blood pressure is an important indicator of cardiovascular health. High

"Next time you see your doctor, get his or her opinion about whether blood pressure kiosks are right for you and if so, learn to use them properly—using the right size cuff so you can get accurate readings."

blood pressure (hypertension) is called a "silent killer" because it may not show any symptoms. It increases the risk of stroke, heart attack, heart failure, kidney failure and death. The higher the blood pressure, the greater the risk. Hypertension affects nearly one in three adults in the United States, and in most patients, it is found only when they have their blood pressure checked.

In a clinic or a medical office, this is done by using blood pressure cuffs of various sizes to ensure the reading is accurate. For example, a toddler's blood pressure is checked by using an extra-small children's cuff, but a football lineman's arm may require an extra-large adult cuff.

Not so at kiosks. Most have just one fixed-size cuff that fits arms of only a certain size. The blood pressure reading is reliable only if the user's arm is within the range that has been validated for that cuff size. Moreover, not all kiosks have the same size cuff. There is no such thing as a "standard" cuff to fit a "standard" arm.

Why does that matter? Correct cuff size is a critical factor when measuring blood pressure. If the cuff doesn't fit your arm properly, your reading won't be accurate.

"Different kiosks have different cuff sizes that will fit different people—so it's important to know the circumference of your upper arm because not all devices are alike," says Stephen Browning, a biomedical engineer at FDA. "Many people will be outside the arm size range for a particular kiosk, and the information from that kiosk won't be reliable for them."

Other factors, including how someone uses a device, might cause an inaccurate reading. "The user might not have placed the cuff on his arm properly or might not be sitting properly. These things will affect accuracy," Herbertson says.

That's why people shouldn't overreact to any one reading from a kiosk.

"Hypertension isn't diagnosed solely based on one reading. Inaccurate blood pressure measurements can lead to the misdiagnosis of hypertension or hypotension (low blood pressure), and people who need medical care might not seek it because they are misled by those inaccurate readings," Browning says.

"Next time you see your doctor, get his or her opinion about whether blood pressure kiosks are right for you and if so, learn to use them properly—using the right size cuff so you can get accurate readings," Herbertson advises.

Advice for Consumers

Consumers use kiosks for various reasons. They might have been advised by their doctor to monitor changes to their health. They may be concerned about hypertension. Or they may just be curious about their blood pressure.

Health care providers diagnose hypertension based on several blood pressure measurements over a period of time. Remember that one measurement—from a kiosk or other device—doesn't a diagnosis make.

Like your heart rate, your blood pressure can change quickly. It might be higher during a stressful meeting, after a brisk walk or because you're sick. Those variations are normal. That's why people with hypertension monitor their blood pressure frequently. And health care providers often depend on the patient's own readings to augment the reading in a doctor's office, so kiosks can be useful in many circumstances.

Although blood pressure kiosks have their limitations, they can provide valuable information when used properly and under the guidance of a health care provider.

Find this and other Consumer Updates at *www.fda.gov/ForConsumers/ConsumerUpdates*

Sign up for free e-mail subscriptions at *www.fda.gov/consumer/consumerenews.html*