Improvement needed for controversial full-body scanners

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Recent developments have put into question the true capabilities and benefits of full-body scanners, the controversial devices that use what the Transportation Security Administration calls [1] “advanced imaging technology.” One wonders if officials in Washington, having adamantly defended the scanners for years, might just be too stubborn to concede the equipment’s ineffectiveness.

Costing about $150,000 a piece, the screening units today can be found at courthouses, correctional facilities, and more than 160 airports around the U.S.—and they might soon be coming to a security checkpoint near you. First deployed in 2007, they gained new demand in late 2009 after Umar Farouk Abdulmutallab, a Nigerian national, came close to detonating a bomb hidden in his underwear [2] while onboard a Northwest flight headed to Detroit.

The TSA currently utilizes two types of advanced imaging machines: millimeter wave and backscatter. Both screen for concealed metallic and non-metallic objects.

Backscatter units, which project x-ray beams to scan individuals, have been heavily criticized since their initial launch for posing potential health risks caused by radiation emitted during screenings. Other detractors claim the machines violate personal privacy rights by creating detailed images of unclothed travelers. To make the public more comfortable with the process, backscatter operators work from remote locations, so they do not see the individuals they are screening.

Millimeter wave scanners (built by L-3 Communications [3] in the U.S.) do not cause potentially harmful radiation and have recently started utilizing more sophisticated software for threat-detection. Instead of showing images of bare bodies, monitors only display locations of objects as yellow squares on generic human figures. If nothing is identified, a simple “OK” message is relayed to the operator. The TSA anticipates backscatter machines will begin operating with similar software in the coming months.

But regardless of these health and privacy concerns, the TSA must start facing new questions regarding the efficacy of its expensive security equipment.

In September, government officials in Germany, after testing American-made millimeter wave devices for nearly a year, chose not to continue with plans [4] to use the machines at checkpoints throughout the large European nation. They cited too many false alarms as a major deciding factor.

And just last month, a video posted by a blogger named Jonathan Corbett shows the engineer allegedly sneaking a small metal case through full-body scanners [5] by sewing a pocket to the side of his shirt. According to Corbett, the scanning monitors show white to represent the bodies of travelers and black to represent concealed objects, but because the backgrounds on monitors are also black, anything to the side of the body can avoid detection during screenings.

Whether or not one believes the machines can be as easily fooled as Corbett claims, it is clear Washington (having invested political capital and millions of dollars on the equipment) will not let the still-developing technology go to waste.

In late March, the Government Accountability Office, the investigative arm of Congress, published a report [6] charging that full-body scanners are not being used enough nationwide. The main findings were that the machines were poorly located in transportation hubs and that there was a lack of trained staffing to operate the scanners by the TSA. The GAO, having analyzed 12 airports from March 2010 to February 2011, found that some machines were used less than 30% of the time since being installed. The TSA claims it is improving its scanning procedures.

It should be noted that full-body scans are not mandatory for travelers in the U.S., and those who opt to avoid them receive alternative screenings that include physical pat-downs.

Optional or not, the technology still needs a few years to fully mature. With improved, more finely tuned software, the scanners can become efficient, superior alternatives to personal pat-downs. If the TSA truly believes full-body scanners are capable of ensuring our future security, it must better use its pool of resources to ensure its technology keeps up with the times.

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