Getting self-driving cars on the road soon might save lives

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(HealthDay)—The sooner driverless cars make their way onto American

roadways, the sooner thousands of lives will be saved each year, a new report suggests.

For that reason, the RAND Corporation research team that did the analysis is cautioning against delaying the introduction of driverless cars —which they call "highly automated vehicles" (HAVs)—under any misplaced premise that current technology might be somewhat less than "perfectly" safe.

"We were surprised by the magnitude of life savings by the introduction of HAVs," said Nidhi Kalra. She is senior information scientist and director of RAND's San Francisco office.

The RAND report, released online Tuesday, warns of the cost of forgoing somewhat safer self-driving cars in favor of waiting for hugely safer cars that might take many more years to develop.

The safety record would improve even more by getting self-driving cars on the roadways "so that technology that was only just better than humans when introduced could become much better, much faster," Kalra said.

Specifically, the introduction of self-driving cars that are just 10 percent safer than cars driven by humans would save perhaps hundreds of thousands of lives over a 15- to 30-year period. Those are lives that would otherwise be lost if such cars were kept off the road in anticipation of ones that are as much as 75 to 90 percent safer than human drivers, the researchers said.

At issue is the fact that driverless cars will probably never be perfectly safe, experts acknowledge. Weather, traffic and cyber security issues are vulnerabilities that will endure, even if risks currently linked to human error get reduced or eliminated.

But when considering when to actually launch self-driving cars on U.S. roads, the question remains: How safe is safe enough?

"Nearly perfect autonomous vehicles may be extremely difficult to achieve without widespread deployment," Groves said. "Fortunately, the industry and observers are quite confident that autonomous vehicles that are safer on average than humans can be achieved through current development procedures."

Still, "it may be a very long time before these vehicles can operate in all possible conditions at a performance that is many times better than human drivers," he stressed. "And yet, they may offer huge benefits in some conditions, even when the improvement over human drivers is modest."

That's because human driving can be deeply flawed, undermined by a variety of factors such as fatigue, distraction and drunk driving. The U.S. National Highway Traffic Safety Administration says that more than 90 percent of car crashes are the result of driver-related errors.

However, unbridled enthusiasm for driverless cars is somewhat premature, argued Russ Martin, director of government relations for the Governors Highway Safety Association in Washington, D.C.

"Even though we expect that autonomous vehicles will significantly reduce crashes and injuries, RAND's new analysis is deeply speculative," Martin said.

"As the report notes, we still lack consensus on how to measure the safety of [automated vehicles] or how to compare them to human drivers," he explained.

"Higher-level automation still faces a number of technical challenges,

and it is too early to generalize about when such technology might come into common use," Martin said. "Rather, the best available evidence suggests that we are likely looking at a mix of vehicles on the road, with traditional vehicles and vehicles across the spectrum of automation, probably for many decades."

And within this mix, he cautioned, "human error will continue to be the biggest driver of risk on the road."

On the other hand, injury expert Christopher Morrison thinks that RAND's "statistical arguments make good sense."

But, Morrison said, "as the authors note, statistical arguments are not the only consideration here. And the judgments about the best way forward will be based on many other factors, including people's tolerance for machine error versus human error."

Morrison is a postdoctoral fellow in the department of biostatistics, epidemiology and informatics at the University of Pennsylvania's Injury Science Center.

The RAND Corporation, a nonprofit institution, works to improve policy and decision-making through research and analysis.

Kalra co-authored the new report with David Groves, a senior policy researcher and co-director of RAND's Water and Climate Resilience Center.

More information: There's more on self-driving cars and safety at Safer America.