

# Trump's claim that a U.S. interceptor can knock out ICBMs '97 percent of the time'

By Glenn Kessler

Staff writer

October 13, 2017

*"We have missiles that can knock out a missile in the air 97 percent of the time, and if you send two of them, it's going to get knocked down."*

— **President Trump, interview with Sean Hannity on Fox News, Oct. 11, 2017**

In discussing the threat posed by North Korea and its rush to perfect an intercontinental ballistic missile (ICBM), President Trump offered a reassuring image: a missile defense so robust that a single interceptor had a 97-percent success rate — and two interceptors would assuredly knock the ICBM out of the sky.

Is this anything close to reality?

## The Facts

The White House did not respond to a request for comment, but the president appears to be referring to the Ground-Based Midcourse Defense (GMD) in Alaska and California, which is administered by the Missile Defense Agency. Some \$40 billion has been spent on developing the project, which is supposed to prevent ballistic missiles from attacking the homeland.

MDA officials have been optimistic about the program's effectiveness, tossing around statistics that sound a bit like Trump's 97-percent figure.

For instance, in March 2011, then-MDA Director Lt. Gen. Patrick O'Reilly told Congress: "Due to the number of interceptors . . . we have, the probability will be well in the high-90s today of the GMD system being able to intercept [a missile] today."

This statement was based on seven simultaneously attacking missiles and suggested an effectiveness rate of firing four interceptors per target, arms control experts said.

In other words, it would take four interceptors to reach 97 percent, not one. So Trump is totally off base with that number.

There are 36 interceptors in place, so if more than nine ballistic missiles were launched at once, the number of available interceptors per missile would be less than four.

But there's an even bigger problem than that. Several experts said the high-90s claim appears to be based on faulty math.

The interceptor system has been tested 18 times since 1999, with a success rate of about 56 percent. The most recent test, on May 30, 2017, was a success, but the three of four before that failed. It's worth noting that the tests are done under ideal conditions — during the day, not at night, and without having to deal with an adversary's countermeasures, such as decoy warheads or technology that confuses the interceptors.

MDA appears to be rounding up to 60 percent. Under its logic, four interceptors with a 60-percent success rate yields a 97-percent rate (The math equation is  $1-(1-0.6)^4$ ).

Similarly, imagine a coin toss, which has a 50-50 chance of heads or tails. Given four tries, you have nearly a 94 percent chance of getting heads at least once.

"I think this reasoning is flawed," said James M. Acton, co-director of the Nuclear Policy Program at the Carnegie Endowment for International Peace. "It assumes that the failure modes of the interceptors are independent of one another. But, in practice, if one interceptor fails because of a design flaw, say, it's much more likely that others will do so too for the same reason."

Acton offered a compelling analogy. Suppose a family of four showed up at a hospital with the same illness. A doctor treated the first patient with antibiotics that had a 60 percent chance of working. If the antibiotic does not work, then the chances of success actually decline with the next patient; unlike a coin toss, the potential success rate don't increase.

Other experts agreed with this analysis, since the same flaw might defeat all four interceptors — whether countermeasures or a faulty divert thruster, which steer interceptors in the path of enemy missiles.

Asked to respond to the president's remarks, Capt. Scott Miller, a spokesman at the U.S. Northern Command, said, "While we won't comment on specific operational tactics, we are confident that we could defeat a North Korean ICBM threatening the homeland."

However, internal government reports on GMD have cast doubt on the MDA's claims for the program.

"GMD flight testing, to date, was insufficient to demonstrate that an operationally useful defense capability exists; and a quantitative assessment of GMD's operational effectiveness is not possible," the Government Accountability Office said in a 2016 report.

Similarly, the Operational Test and Evaluation Office of the secretary of defense has been deeply skeptical, warning in its 2016 annual report that "GMD demonstrates a limited capability to defend the U.S. Homeland from small numbers of simple intermediate-range or intercontinental ballistic missile threats launched from North Korea or Iran." The report added that the "reliability and availability of the operational [interceptors] are low."

"The confidence with which [Trump] made the statement indicates a lack of understanding of the complexities or perhaps a lack of interest in those complexities," said Alexandra Bell, senior policy director at the Center for Arms Control and Non-Proliferation.

# The Pinocchio Test

The president speaks with confidence but descends into hyperbole. No single interceptor for ICBMs has demonstrated a 97-percent success rate, and there is no guarantee using two interceptors has a 100-percent success rate. Moreover, the military's suggestion that it could achieve a 97-percent success rate with four interceptors appears based on faulty assumptions and overenthusiastic math. The odds of success under the most ideal conditions are no better than 50-50, and likely worse, as documented in detailed government assessments.

Trump earns Four Pinocchios.

## Four Pinocchios

([About our rating scale](#))

**Send us facts to check by filling out [this form](#)**

**Keep tabs on Trump's promises with our [Trump Promise Tracker](#)**

**Sign up for The Fact Checker [weekly newsletter](#)**

### Share The Facts

**Donald Trump**

President



"We have missiles that can knock out a missile in the air 97 percent of the time, and if you send two of them, it's going to get knocked down."

*The Washington Post*

in an interview with Sean Hannity on Fox News – Wednesday, October 11, 2017

[SHARE](#)

[READ MORE](#)

