Executive summary

Amazon Simple Email Service (SES) puts protected health information (PHI) at risk by default. SES documentation tells developers the service "requires TLS 1.2 and recommends TLS 1.3."[1]

Three problems surfaced in testing. SES sometimes sends PHI in plaintext. Other times, it encrypts using outdated protocols that standards bodies retired in 2021.[2] SES also accepts invalid security certificates from the receiving server, which means it could deliver an email to an impersonator instead of the intended recipient.

AWS offers a setting called "Require TLS" that sounds like it would fix all of this. It only fixes one of the three problems: the plaintext case. The outdated-protocol and bad-certificate gaps stay open.

This matters for healthcare because HIPAA's encryption rules are about to tighten.[4]

BY THE NUMBERS

14
controlled tests run by Paubox against Amazon SES sending infrastructure.

0 of 4
invalid security certificates were blocked by Amazon SES.

2021
was the year IETF retired TLS 1.0 and 1.1. SES still delivers over both.

Only 1 of 3
gaps closed by Amazon SES's "Require TLS" setting. The other two stay open.

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