
November 2021

BORDER SECURITY METRICS

Progress Made, but
DHS Should Take
Additional Steps to
Improve Information
Quality

GAO@100 Highlights

Highlights of [GAO-22-104651](#), a report to congressional committees

Why GAO Did This Study

The United States has approximately 6,000 miles of land borders, 95,000 miles of coastline, and more than 300 ports of entry where travelers and cargo are inspected. Securing U.S. border areas is a key part of DHS's mission, and its ability to measure border security activities is essential to managing its responsibilities effectively and efficiently.

The 2017 NDAA requires DHS to report annually on 43 border security metrics. The act also includes a provision for GAO, within 270 days of receipt of the first report and biennially for the following 10 years, to review and report on the data and methodology in DHS's report.

GAO issued its initial report in March 2019. This second report evaluates the report DHS issued in August 2020, which is known as the fiscal year 2019 report and contains data through fiscal year 2018. This report addresses the extent to which DHS (1) reported metrics outlined in the 2017 NDAA using quality information and (2) has taken steps to determine and convey the sensitivity of key assumptions and the statistical uncertainty of its unlawful entry metrics. GAO assessed the methodology and data in DHS's report, analyzed DHS's use of statistical modeling, and interviewed officials from DHS offices and components.

What GAO Recommends

In its March 2019 report, GAO made four recommendations, including that DHS develop and implement a process to systematically review the reliability of metric data. DHS has implemented one of these recommendations and is working to implement the other three.

View [GAO-22-104651](#). For more information, contact Rebecca Gambler at (202) 512-8777 or GamblerR@gao.gov.

November 2021

BORDER SECURITY METRICS

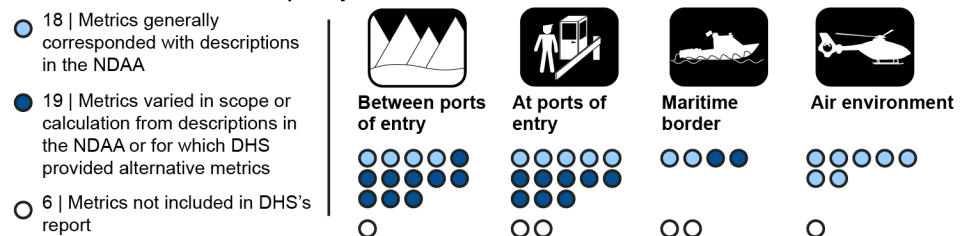
Progress Made, but DHS Should Take Additional Steps to Improve Information Quality

What GAO Found

In its fiscal year 2019 *Border Security Metrics Report*, the Department of Homeland Security (DHS) reported information on 37 of the 43 metrics required by the National Defense Authorization Act for Fiscal Year 2017 (NDAA). As shown below, GAO found that 18 of the 37 metrics in the fiscal year 2019 report generally corresponded with their descriptions in the NDAA, while 19 metrics differed, such as in scope or calculation.

How the Department of Homeland Security (DHS) Reported on the 43 Metrics Required by the National Defense Authorization Act for Fiscal Year 2017 (NDAA)

Metrics included in the DHS's report by domain in the 2017 NDAA



Source: GAO analysis of DHS's fiscal year 2019 *Border Security Metrics Report*. | [GAO-22-104651](#)

DHS improved the quality of information in several metrics in the fiscal year 2019 report compared with earlier versions. However, data reliability issues remain—such as DHS not fully disclosing limitations of some metrics—because DHS does not have a process to systematically review the data. Implementing GAO's prior recommendations to develop and implement a process to systematically review the reliability of data—and communicate limitations identified through this process—would position DHS to maximize the quality of information and provide Congress and the public with contextual information needed to evaluate the metrics.

DHS used a statistical model to estimate four metrics, including the estimated number of undetected unlawful entries between ports of entry. In response to one of GAO's prior recommendations, DHS, in its fiscal year 2019 *Border Security Metrics Report*, showed how the sensitivity of three assumptions affected the precision of the model's estimates. For example, the model assumed that DHS apprehends all families unlawfully crossing the border, and the fiscal year 2019 report outlined how this assumption affected the model-based metrics in 2018. This sensitivity analysis will allow Congress and the public to better understand the limitations of DHS's model and better evaluate the validity of border security metrics derived from it.

In response to another GAO recommendation, DHS conveyed statistical uncertainty for one of the unlawful entry metrics in its fiscal year 2019 report. In particular, DHS outlined how this uncertainty might affect the model-based apprehension rate. However, DHS did not report how uncertainty would affect the other three metrics that rely on its statistical model. As GAO previously recommended, including measures of statistical uncertainty for all relevant metrics in future reports would allow Congress, policy makers, and the public to more fully evaluate the extent to which the metrics are valid.

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Abbreviations

AMO	Air and Marine Operations
CBP	U.S. Customs and Border Protection
DHS	Department of Homeland Security
NDAA	National Defense Authorization Act for Fiscal Year 2017
OIS	Office of Immigration Statistics
OMB	Office of Management and Budget

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November 16, 2021

The Honorable Gary C. Peters
Chairman
The Honorable Rob Portman
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Bennie G. Thompson
Chairman
The Honorable John Katko
Ranking Member
Committee on Homeland Security
House of Representatives

Securing the nation's borders against illegal entries, smuggling of drugs and contraband, and terrorist activities is a key part of the Department of Homeland Security's (DHS) mission. According to DHS, the United States has approximately 6,000 miles of land borders, 95,000 miles of coastline, and 328 ports of entry.¹ DHS's ability to measure the effectiveness of border security activities is essential for the department to make evidence-based decisions about resource allocations and investments and efficiently manage its border security responsibilities. In our prior work, we have reported on the need for DHS to improve its measures for assessing its border security efforts.²

¹Ports of entry are facilities that provide for the controlled entry into or departure from the United States. Specifically, a port of entry is any officially designated location (seaport, airport, or land border location) where DHS officers or employees are assigned to clear passengers and merchandise, collect duties, and enforce customs laws and where DHS officers inspect persons entering or applying for admission into, or departing the United States pursuant to U.S. immigration and travel controls.

²For example, in June 2019, we recommended that DHS develop and implement performance measures to assess its effectiveness at securing the northern border between ports of entry. DHS agreed, and in an April 2021 update, Border Patrol stated that it was coordinating with northern border sectors and stations, as well as subject matter experts, to collect data that are relevant to the northern border operational environment to better measure performance. See GAO, *Northern Border Security: CBP Identified Resource Challenges but Needs Performance Measures to Assess Security Between Ports of Entry*, [GAO-19-470](#) (Washington, D.C.: June 26, 2019).

The National Defense Authorization Act for Fiscal Year 2017 (NDAA) requires DHS to provide an annual report to appropriate congressional committees, the Comptroller General, and certain other entities, containing 43 specific metrics to measure the effectiveness of border security.³ DHS issued its first four *Border Security Metrics Reports* in response to the NDAA requirement in May 2018 (the fiscal year 2017 report), February 2019 (the fiscal year 2018 report), August 2020 (the fiscal year 2019 report), and September 2021 (the fiscal year 2020 report).⁴

The 2017 NDAA also includes a provision for us, within 270 days of receipt of the first report, and biennially for the following 10 years, to review and report to Congress on every other DHS report. Specifically, the provision directs us to analyze the suitability and statistical validity of the data and methodology contained in the report under review and, as appropriate, include recommendations on improvements needed to the metrics and the feasibility of other suitable metrics. We met the requirement to issue our assessment of DHS's first report in March 2019. We found that DHS reported on 35 of 43 metrics called for by the NDAA and generally used quality information in those metrics but did not identify some data limitations.⁵ We recommended ways DHS could improve the quality of the data presented in the *Border Security Metrics Report*. DHS agreed with our recommendations and has taken some actions to address them, which we discuss later in this report.

This report addresses (1) the extent to which DHS has reported metrics outlined in the 2017 NDAA using quality information and (2) the extent to which DHS has taken steps to determine and convey the sensitivity of key assumptions and the statistical uncertainty of its unlawful entry metrics. This report also provides information on other metrics we have identified in our reports that may be useful in measuring the effectiveness of border security, as presented in appendix I. This report focuses on DHS's fiscal year 2019 report and how it compares with earlier versions. This report

³Pub. L. No. 114-328, div. A, title X, subtitle G, § 1092(g), 130 Stat. 2000, 2435 (2016) (classified at 6 U.S.C. § 223(g)).

⁴Department of Homeland Security, *Border Security Metrics Report* (Washington, D.C.: May 1, 2018); *Border Security Metrics Report* (Washington, D.C.: Feb. 26, 2019); *Border Security Metrics Report* (Washington, D.C.: Aug. 5, 2020); and *Border Security Metrics Report* (Washington, D.C.: Sept. 16, 2021).

⁵GAO, *Border Security: DHS Should Improve the Quality of Unlawful Border Entry Information and Other Metric Reporting*, [GAO-19-305](#) (Washington, D.C.: Mar. 21, 2019).

does not analyze DHS's fiscal year 2020 report, which the department issued toward the end of our review in September 2021.

To determine the extent to which DHS reported metrics outlined in the 2017 NDAA using quality information, we reviewed all three *Border Security Metrics Reports* that DHS issued as of August 2021. We identified the metrics that DHS included and omitted from each report and how they had changed since the fiscal year 2017 report. We also identified metrics for which DHS included new information, such as by expanding the scope of the metric or providing additional context about the data, which DHS had omitted from the fiscal year 2017 report. Further, we assessed how the metrics DHS presented were similar to, or different from, the metrics as described in the NDAA. Where we identified clear differences between the metrics DHS reported and those described in the NDAA, we obtained perspectives from DHS officials to determine the reasons for the differences.

To determine the quality of the information used for the metrics, we updated the assessments about the quality of information that we made in our March 2019 report. Specifically, we identified the metrics for which DHS used different methodologies or data sources in the fiscal year 2019 *Border Security Metrics Report* compared with the fiscal year 2017 report. For metrics that used different methodologies or data sources, we collected information from DHS to determine what processes are in place to ensure the overall reliability and quality of the information reported. Additionally, we conducted interviews with DHS headquarters officials from the Office of Immigration Statistics (OIS) and DHS component officials from the U.S. Customs and Border Protection (CBP)—including the U.S. Border Patrol, the Office of Field Operations, and the Air and Marine Operations (AMO)—as well as the U.S. Coast Guard. In these interviews, we obtained information about the methodologies DHS components used to develop the metrics, as well as any changes made to the methodology or data collection that would affect how DHS reported the metrics.

We reviewed this information to determine the extent to which DHS's processes are consistent with DHS's directive on information quality and guidance implementing that directive.⁶ We also determined that the information and communication component of *Standards for Internal*

⁶Department of Homeland Security, *Information Quality*, Directive 139-02 (Washington, D.C.: Nov. 21, 2019); and *Information Quality Implementation*, Instruction 139-02-001 (Washington, D.C.: Nov. 27, 2019).

Control in the Federal Government was significant to this objective, along with the underlying principle that management should use quality information to achieve the entity's objectives. We assessed DHS's policies and procedures for evaluating information to ensure that it is quality information.⁷ Further, we analyzed the information we collected to assess DHS's progress in addressing the recommendations we made in our March 2019 report related to developing and implementing a process to systematically review the reliability of metric data and identify and communicate limitations of the metrics.⁸

To determine the extent to which DHS has taken steps to determine and convey the sensitivity of key assumptions and the statistical uncertainty of its unlawful entry metrics since issuing the fiscal year 2017 *Border Security Metrics Report*, we analyzed the expanded appendix DHS included in its fiscal year 2019 report. The expanded appendix included a new sensitivity analysis of DHS's statistical model. We compared changes to the reporting of the statistical model to the Office of Management and Budget's (OMB) *Standards and Guidelines for Statistical Surveys*.⁹ We reviewed the extent to which changes in DHS's modeling—and the communication of the modeling—were consistent with the principles and practices in the standards and what, if any, improvements could be made.

Additionally, we interviewed OIS officials to obtain information on any changes DHS made to the statistical model used to estimate unlawful border entry metrics. We asked OIS officials about how assumptions and the way DHS determined and communicated statistical uncertainty of unlawful border entry metrics have changed since fiscal year 2017. Further, we collected information from U.S. Border Patrol about the Johns Hopkins University's Applied Physics Lab's alternative to the existing statistical model that the department is piloting. Finally, based on our analysis of DHS's fiscal year 2019 *Border Security Metrics Report* and interviews with OIS officials, we assessed DHS's progress in implementing the recommendations that we made in our March 2019

⁷GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

⁸[GAO-19-305](#).

⁹Office of Management and Budget, *Standards and Guidelines for Statistical Surveys* (Washington, D.C.: September 2006).

report related to DHS's assumptions about the model-based metrics and their statistical uncertainty.¹⁰

To identify other metrics that may be used to measure border-security effectiveness, we reviewed border security-related reports that we and DHS's Office of Inspector General issued from January 2019 through September 2021.¹¹ We identified unimplemented recommendations focused on establishing border security measures in the areas listed in the 2017 NDAA.

We conducted this performance audit from December 2020 to November 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Within DHS, CBP and the Coast Guard have the primary responsibility for border security within the four domains. CBP and its subcomponents are to secure U.S. borders at and between ports of entry by preventing inadmissible people and illicit goods from entering the United States, among other responsibilities. Within CBP, the primary offices and components involved in border security are the Office of Field Operations at ports of entry, Border Patrol between ports of entry, and AMO for air and marine security. The Coast Guard and CBP's AMO share responsibility for security of the nation's maritime borders.

The 2017 NDAA requires DHS to develop and implement 43 border security metrics in four domains—between ports of entry, at ports of entry, the maritime border, and the air environment.¹² Of the 43 metrics the NDAA listed for inclusion in the *Border Security Metrics Report*, 18 were counts or counts that incorporate an estimate. Estimates measure activities that are largely undetected and, therefore, cannot be measured

¹⁰[GAO-19-305](#).

¹¹We selected this period to update the information in our March 2019 report, which identified relevant metrics we and the DHS Office of Inspector General recommended in reports issued from August 2009 through January 2019.

¹²See 6 U.S.C. § 223(b), (c), (d), (e). The 2017 NDAA refers to the fourth domain (air environment) as "Air and Marine security metrics in the land domain," which it describes as aviation assets and operations of AMO. 6 U.S.C. § 223(e).

directly, such as the number of undetected unlawful entries. An example of a count that incorporates an estimate is the number of major infractions at ports of entry, which the NDAA defined as the sum of the number of infractions that were detected—a known number—and the number of infractions that were not interdicted, which is not directly observed and must be estimated.

Additionally, of the 43 metrics in the 2017 NDAA, 22 were rates or rates that require the use of an estimate. Rate metrics compare one value or number against another. For example, the wait time ratio compares the average wait times with total commercial and private vehicular traffic volumes being processed at a land port of entry. An example of a rate metric that uses an estimate is the cocaine seizures effectiveness rate at ports of entry, which divides the amount of cocaine seizures at ports of entry—a known quantity—by an estimate of total cocaine flow through ports of entry, which cannot be directly measured. We refer to metrics that are comprised of a count or a rate and use an estimate as part of their computation as “combination metrics.”

The 2017 NDAA did not specifically define three other metrics. For example, while the NDAA asked for an examination of each of the eight consequences under the Consequence Delivery System, it did not specify how this examination was to be carried out or what it was to include.¹³ We provide descriptions for all of the metrics in appendix II. Table 1 shows examples of border security metrics by domain and responsible DHS components.

¹³6 U.S.C. § 223(b)(1)(I), (J). The Consequence Delivery System refers to the series of consequences applied by Border Patrol in collaboration with other federal agencies to persons unlawfully entering the United States, in order to prevent unlawful border-crossing recidivism. *Id.* at § 223(a)(2).

Table 1: Examples of Border Security Metrics by Domain and Department of Homeland Security (DHS) Component

Domain	Relevant DHS component	Example of a metric
Between ports of entry	U.S. Customs and Border Protection (CBP) U.S. Border Patrol	The number of apprehensions in each U.S. Border Patrol sector ^a
At ports of entry	CBP Office of Field Operations	A secondary examination rate that measures the frequency of secondary examinations at each land port of entry ^b
Maritime border	U.S. Coast Guard and CBP Air and Marine Operations (AMO)	The rate at which illicit drugs are removed by DHS maritime security components
Air environment ^c	CBP AMO	The number of missions cancelled by AMO due to weather compared with the total planned missions

Source: GAO analysis of DHS's fiscal year 2019 *Border Security Metrics Report*. | GAO-22-104651

^aU.S. Border Patrol divides responsibility for border security operations geographically among 20 sectors, each with its own sector headquarters. Each sector is further divided into varying numbers of stations, each with its own area of responsibility. There are nine sectors along the southwest border, eight along the northern border, and three in the Gulf Coast and Caribbean regions.

^bA secondary examination is when a CBP officer at a port of entry refers a traveler to a separate area, outside the primary inspection area, to complete the inspection or examination process without causing delays for other travelers. Reasons why a traveler may be referred for a secondary examination include when the CBP officer cannot verify a traveler's information or a traveler does not have all the required documentation, for example.

^cThe National Defense Authorization Act for Fiscal Year 2017 refers to this domain as "Air and Marine security metrics in the land domain," which it describes as aviation assets and operations of AMO. 6 U.S.C. § 223(e).

DHS's *Border Security Metrics Reports*

As of September 2021, DHS had issued four *Border Security Metrics Reports* pursuant to the 2017 NDAA, as described in table 2.¹⁴

¹⁴Throughout this report, we refer to DHS's *Border Security Metrics Reports* by their reporting year, rather than the year in which they were issued.

Table 2: Department of Homeland Security’s *Border Security Metrics Reports* Issued Pursuant to the National Defense Authorization Act for Fiscal Year 2017, as of September 2021

Reporting year	Date of issuance	Latest data included
Fiscal year (FY) 2017	May 1, 2018	FY 2016
FY 2018	February 26, 2019	FY 2017
FY 2019	August 5, 2020	FY 2018
FY 2020	September 16, 2021	FY 2019
FY 2021	Not yet issued	Not applicable

Source: GAO analysis of the Department of Homeland Security’s fiscal years 2017–2020 *Border Security Metrics Reports*. | GAO-22-104651

OIS, within the DHS Office of Strategy, Policy, and Plans, is responsible for coordinating the development of the annual report.¹⁵ To prepare the report, OIS officials stated that they obtained data and information related to each NDAA metric from the administrative records of the DHS components with primary responsibilities for border security in the four domains. For example, OIS requested data and information on unlawful border crossers counted as “turn backs” and “got aways” from Border Patrol—the lead component for the between ports of entry domain—which records sector estimates of turn backs and got aways based on direct and indirect observations.¹⁶

While DHS can calculate or estimate many of the metrics required by the 2017 NDAA with data from administrative records, certain metrics necessitate the use of alternative methodologies and, in some cases, specialized technical expertise. For example, DHS contracted with the Institute for Defense Analyses to assist with the development of a

¹⁵OIS assumed responsibility for the report in 2017. Consistent with the Immigration and Nationality Act, as amended, OIS is the lead office within DHS for the collection and dissemination to Congress and the public of information useful in evaluating the social, economic, environmental, and demographic impact of immigration laws, to include information on the population of noncitizens in the United States, naturalization rates, and administrative removals, among other statutorily enumerated information. 8 U.S.C. § 1103(d).

¹⁶The 2017 NDAA defines the term “turn back” as an unlawful border crosser who, after making an unlawful entry into the United States, responds to U.S. enforcement efforts by returning promptly to the country from which they entered. 6 U.S.C. § 223(a)(9). The NDAA defines the term “got away” as an unlawful border crosser who is directly or indirectly observed making an unlawful entry into the United States, is not apprehended, and is not a turn back. See *id.* § 223(a)(3).

statistical model for estimating undetected unlawful entries.¹⁷ In our March 2019 report, we provided an overview of DHS’s statistical model for estimating undetected unlawful entries and related metrics.¹⁸

DHS’s Use of Metrics Reports

In addition to satisfying 2017 NDAA requirements, DHS officials use some of the measures reported in the *Border Security Metrics Report*, or conceptually similar measures, as DHS Government Performance and Results Modernization Act performance measures.¹⁹ For example, DHS’s *Annual Performance Report for Fiscal Years 2019–2021* includes a measure of migrant interdiction effectiveness in the maritime environment—a measure that DHS also reported in the *Border Security Metrics Report*. As another example, the DHS *Annual Performance Report for Fiscal Years 2019–2021* presents an interdiction effectiveness rate as a measure of law-enforcement response at and operational control of the border.²⁰ The NDAA requires that DHS report on the unlawful border crossing effectiveness rate, which, according to the fiscal year 2019 *Border Security Metrics Report*, is conceptually similar to Border Patrol’s interdiction effectiveness rate.²¹

Additionally, CBP and Coast Guard officials told us that they use the metrics in the *Border Security Metrics Report* to inform component

¹⁷The Institute for Defense Analyses is a nonprofit corporation that operates three federally funded research and development centers to provide analyses of national security issues, particularly those requiring scientific and technical expertise.

¹⁸[GAO-19-305](#).

¹⁹The Government Performance and Results Act of 1993 (GPRA), as updated and expanded by the GPRA Modernization Act of 2010 (GPRAMA), requires agencies to establish annual performance goals with target levels of performance to measure progress toward those goals. See Pub. L. No. 111-352, 124 Stat. 3866 (2011) (updating Pub. L. No. 103-62, 107 Stat. 285 (1993)).

²⁰Department of Homeland Security, *Annual Performance Report for Fiscal Years 2019–2021* (Washington, D.C.: Feb. 10, 2020). Border Patrol officials told us that the agency has deemphasized “operational control” and has shifted strategic priorities in 2021 to develop and support increased understanding and awareness within operational environments, then using that knowledge to leverage resources in ways that can lead to mission advantage.

²¹As defined by the 2017 NDAA, the unlawful border crossing effectiveness rate is the percentage that results from dividing the number of apprehensions and turn backs by the sum of the number of apprehensions, estimated undetected unlawful entries, turn backs, and got aways. Taken together, got aways, which are observed, and estimated undetected entries, are referred to as “successful unlawful entries.” 6 U.S.C. § 223(a)(10), (b)(1)(C). Border Patrol defines its own interdiction effectiveness rate as the sum of apprehensions and turn backs divided by the sum of apprehensions, turn backs, and got aways.

management and planning. For example, CBP officials from AMO told us that all of the relevant measures are part of AMO's strategic planning, and some measures, such as air mission launch rates, are CBP management performance measures as well. Similarly, according to Coast Guard officials, the service uses several measures reported in the *Border Security Metrics Report* as management measures (such as the number of undocumented migrants attempting to enter the United States by maritime routes interdicted by the Coast Guard and partners) as well as operational measures (such as metric tons of cocaine removed). Border Patrol officials told us that the between-port-of entry metrics derived from OIS's statistical model can be valuable for informing decisions related to the border environment. They said that these data can provide context to observed data.

DHS Reported on Most Metrics but Does Not Have a Process to Review Data Reliability

DHS reported information on 37 of the 43 metrics required by the 2017 NDAA in its fiscal year 2019 *Border Security Metrics Report*. DHS generally improved the quality of information contained in the report compared with earlier versions but does not have a process to systematically review the reliability of data that go into the NDAA metrics.

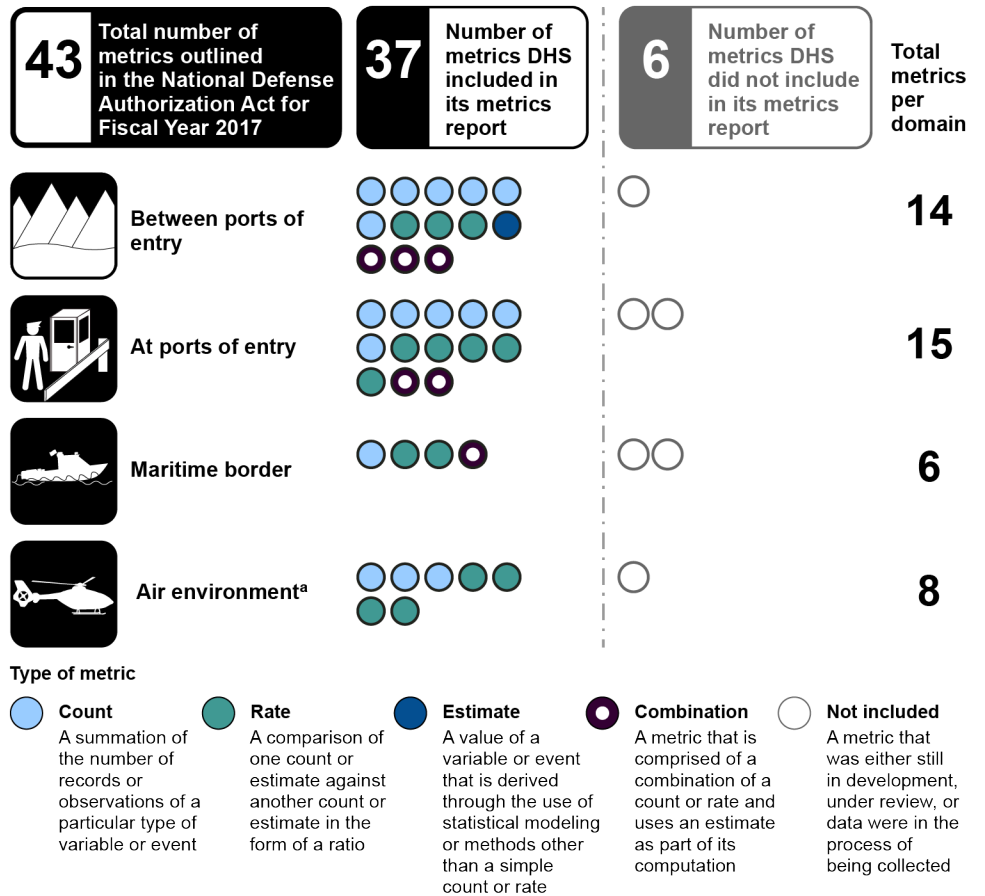
DHS Reported Information on 37 of 43 Required Metrics

In the fiscal year 2019 *Border Security Metrics Report*, DHS reported information on 37 of the 43 metrics called for by the 2017 NDAA, including two additional metrics on which DHS did not report in the fiscal year 2017 report.²² The metrics DHS reported spanned the four domains outlined in the NDAA and included a mix of counts, rates, estimates, or a combination thereof, as shown in figure 1.²³

²²For the purposes of this report, we refer to the 43 metrics enumerated in the 2017 NDAA by the titles provided by DHS in the fiscal year 2019 *Border Security Metrics Report*.

²³For some metrics, the type of metric DHS reported (count, rate, estimate, or combination thereof) differed from the metric as described in the 2017 NDAA. For example, DHS reported counts based on observed data for one metric the NDAA describes as a count comprising both observed data and an estimate. Additionally, for some metrics, the NDAA did not specify a type of metric for DHS to report. Figure 1 presents the type of metric DHS reported for the metrics in the fiscal year 2019 *Border Security Metrics Report*.

Figure 1: Number and Type of Metrics Included in the Department of Homeland Security's (DHS) Fiscal Year 2019 *Border Security Metrics Report*



Source: GAO analysis of DHS's fiscal year 2019 *Border Security Metrics Report*. | GAO-22-104651

^aThe National Defense Authorization Act for Fiscal Year 2017 refers to this domain as "Air and Marine security metrics in the land domain," which it describes as aviation assets and operations of AMO. 6 U.S.C. § 223(e).

We found that 18 of the 37 metrics in the fiscal year 2019 *Border Security Metrics Report* generally correspond with their descriptions in the 2017

NDAAs.²⁴ For example, as mandated by the NDAAs, DHS reported on the amount and type of illicit drugs that CBP’s Office of Field Operations seized at ports of entry during the previous fiscal year for fiscal years 2013 through 2018.²⁵ Additionally, DHS increased the scope of one metric—the number of apprehensions in each Border Patrol sector—so that it generally corresponds with the description in the NDAAs.²⁶ Specifically, the NDAAs require that DHS report on apprehensions from each Border Patrol sector along the southwest, northern, and coastal borders. The fiscal years 2018 and 2019 *Border Security Metrics Reports* included northern and coastal border apprehension data, which DHS did not include in the fiscal year 2017 report. Table 3 lists the metrics that generally correspond with their descriptions in the NDAAs.

Table 3: Department of Homeland Security (DHS) Metrics in the Fiscal Year 2019 *Border Security Metrics Report* That Generally Correspond with Their Descriptions in the National Defense Authorization Act for Fiscal Year 2017 (NDAAs)

Domain	Metric
Between ports of entry	Apprehensions in each U.S. Border Patrol sector
	Between ports of entry illicit drug seizure rate
	Estimates of the impact of the Consequence Delivery System on recidivism ^a
	Examination of each consequence under the Consequence Delivery System
At ports of entry	Illicit drugs seized at ports of entry
	Port of entry illicit drug seizure rate
	Average wait times and traffic volume
	Infrastructure capacity utilization rate
	Number of potentially “high-risk” cargo containers
Maritime border	Known maritime migrant flow rate
	Cocaine removal effectiveness rate

²⁴In our March 2019 report assessing DHS’s fiscal year 2017 *Border Security Metrics Report*, we found that 18 metrics generally corresponded with their descriptions in the 2017 NDAAs. For this review, 17 of the 18 metrics in this category are unchanged. However, we are updating our assessment to classify the detected unlawful entries metric as differing in scope from the description in the NDAAs. This is because DHS did not report data for northern and coastal borders, as required, for some of the elements that make up this metric. Those differences are described in table 4. Additionally, as discussed below, we are updating our March 2019 assessment of one metric—the number of apprehensions in each Border Patrol sector—based on DHS including additional sources of information in the metric.

²⁵6 U.S.C. § 223(c)(1)(B).

²⁶6 U.S.C. § 223(b)(1)(E).

Domain	Metric
Air environment ^b	Flight hour effectiveness rate
	Funded flight hour effectiveness rate
	Air and Marine Operations (AMO) readiness rate
	AMO weather-related cancellation rate
	AMO individuals detected
	AMO apprehensions assisted
	Illicit drug seizures assisted by AMO

Source: GAO analysis of the Department of Homeland Security fiscal year 2019 *Border Security Metrics Report*. | GAO-22-104651

Note: We refer to the 43 metrics enumerated in the 2017 NDAA by the titles provided by DHS in the fiscal year 2019 *Border Security Metrics Report*. See app. II for descriptions and legal citations of all of the mandated metrics.

^aThe Consequence Delivery System is a process by which Border Patrol agents classify individuals they apprehend for crossing the border unlawfully and then apply one or more postapprehension consequences determined to be most effective and efficient to discourage recidivism, that is, further apprehensions for unlawful cross-border activity. For more information on the Consequence Delivery System, see GAO, *Border Patrol: Actions Needed to Improve Oversight of Post-Apprehension Consequences*, [GAO-17-66](#) (Washington, D.C.: Jan. 12, 2107). The NDAA also defines the Consequence Delivery System under 6 U.S.C. § 223(a)(2).

^bThe NDAA refers to this domain as “Air and Marine security metrics in the land domain,” which it describes as aviation assets and operations of AMO. 6 U.S.C. § 223(e).

We identified differences between more than half of the metrics as described in the 2017 NDAA and as reported by DHS. Specifically, 19 of the 37 metrics that DHS included in its fiscal year 2019 *Border Security Metrics Report* had differences in two categories:

- Metric differed in scope or calculation.** We found that 18 of the metrics DHS reported on differed in scope or in their calculation from what the 2017 NDAA described. For example, for the metric on total inadmissible travelers who attempt to, or successfully, enter the United States at ports of entry, DHS reported on the number of known inadmissible travelers—that is, the number of individuals who attempted to enter the United States at ports of entry and whom CBP’s Office of Field Operations found to be inadmissible. However, DHS did not report on the estimated number of unknown inadmissible travelers who successfully enter through ports of entry, which is also a component of the total inadmissible travelers at ports of entry metric. The report explained that DHS is continuing to improve and validate its estimate of successful unlawful entries at ports of entry; therefore, DHS did not include this component of the metric in the report. Additionally, DHS did not present northern or coastal border data for any of the metrics that rely on its statistical model for estimating

unlawful entries.²⁷ DHS officials told us that the statistical model cannot be expanded to the northern and coastal border because the methodology and assumptions are unique to the southwest border.

As another example, DHS reported the interdiction effectiveness rate in the fiscal year 2019 report instead of reporting the unlawful border crossing effectiveness rate in each Border Patrol sector, as required by the 2017 NDAA. According to the report, the unlawful border crossing effectiveness rate differs from the interdiction effectiveness rate. This is because the former includes total estimated successful unlawful entries in its denominator, and the interdiction effectiveness rate only includes known got aways. According to the report, the department reported the interdiction effectiveness rate because it had not yet produced and validated sector-level estimates of unlawful entries required to calculate the unlawful border crossing effectiveness rate at the sector level.

Among the 18 metrics that differed in scope or calculation from their descriptions in the 2017 NDAA, DHS reported on two new metrics in the fiscal year 2019 *Border Security Metrics Report*: potentially high-risk cargo containers scanned upon arrival at a U.S. port of entry and potentially high-risk cargo containers scanned before arrival at a U.S. port of entry.²⁸ The NDAA specified that DHS report on the number of potentially high-risk containers scanned. For these metrics, DHS instead provided the number of potentially high-risk cargo containers that CBP reviewed, assessed, or scanned upon arrival and before arrival, respectively, at U.S. ports of entry.²⁹ DHS's report explained that CBP data systems cannot distinguish between cargo that are reviewed, scanned, or assessed.

²⁷The metrics that rely on this statistical model are the attempted unlawful border crosser apprehension rate, the number of estimated undetected unlawful entries, the unlawful border crossing effectiveness rate, and the probability of detection rate.

²⁸6 U.S.C. § 223(c)(1)(G)(iii), (iv).

²⁹CBP officials explained that the agency only physically scans potentially high-risk containers if CBP has not resolved the high-risk designation by the time the containers reach a U.S. port of entry. According to CBP officials, CBP can review and assess a container flagged as potentially high-risk through one of several mechanisms, and CBP may change its status so that it is no longer considered high-risk when it reaches the U.S. port of entry. Officials stated that only a small number of containers have an unresolved status by the time they reach the U.S. port of entry, and CBP physically scans those few containers upon arrival.

- Alternative measures provided.** In the fiscal year 2019 *Border Security Metrics Report*, DHS reported alternative measures for one metric—situational awareness achieved in the maritime environment—as DHS did in the fiscal year 2017 report.³⁰ Specifically, DHS provided data on Coast Guard and CBP aircraft and vessel operational hours that contributed to maritime domain situational awareness or to interdiction support operations. According to DHS’s report, these measures are to satisfy the 2017 NDAA requirement while DHS develops the ability to analyze and report flight hour data consistently across components. DHS provided a similar explanation for not directly reporting this metric in the fiscal year 2017 and 2018 *Border Security Metrics Reports*. DHS is in a multiyear process to better collect and report data on maritime situational awareness. Table 4 lists the metrics that differed in scope or calculation from the NDAA or for which DHS provided alternative measures.

Table 4: Department of Homeland Security (DHS) Metrics in the Fiscal Year 2019 *Border Security Metrics Report* That Differed from Their Descriptions in the National Defense Authorization Act for Fiscal Year 2017

Domain	Metric	Differences between reported metrics and descriptions in the National Defense Authorization Act for Fiscal Year 2017 (NDAA)
Between ports of entry	Attempted unlawful border crosser apprehension rate	<ul style="list-style-type: none"> DHS omitted rates for the northern and coastal borders. The statistical model on which this metric is based calculates estimates only for the southwest border.
	Detected unlawful entries	<ul style="list-style-type: none"> DHS did not include data from northern and coastal borders for some of the components that make up this metric.
	Estimated undetected unlawful entries	<ul style="list-style-type: none"> DHS omitted data for the northern and coastal borders. The statistical model on which this metric is based calculates estimates only for the southwest border.
	Turn backs	<ul style="list-style-type: none"> DHS stated in its fiscal year 2019 <i>Border Security Metrics Report</i> that this metric did not include data from northern and coastal borders.^a
	Got aways	<ul style="list-style-type: none"> DHS stated in its fiscal year 2019 <i>Border Security Metrics Report</i> that this metric did not include data from northern and coastal borders.^a
	Unlawful border crossing effectiveness rate	<ul style="list-style-type: none"> DHS reported a similar but distinct measure—the interdiction effectiveness rate—because the statistical model on which this metric is based does not produce sector-level estimates, according to DHS officials. DHS did not include data for northern and coastal borders.

³⁰The 2017 NDAA calls for DHS to develop a measure for situational awareness achieved in the maritime environment based on “knowledge and understanding of current unlawful cross-border activity, including the following: (A) threats and trends concerning illicit trafficking and unlawful crossings; (B) the ability to forecast future shifts in such threats and trends; (C) the ability to evaluate such threats and trends at a level sufficient to create actionable plans; and (D) the operational capability to conduct persistent and integrated surveillance of the international borders of the United States.” 6 U.S.C. § 223(a)(7),(d)(1)(A).

Domain	Metric	Differences between reported metrics and descriptions in the National Defense Authorization Act for Fiscal Year 2017 (NDAA)
	Probability of detection rate	<ul style="list-style-type: none"> DHS omitted rates for the northern and coastal borders. The statistical model on which this metric is based calculates estimates only for the southwest border.
	Apprehensions of unaccompanied children ^b	<ul style="list-style-type: none"> DHS did not report on northern border data by sector or categorize unaccompanied children by nationality.
	Apprehensions of family units	<ul style="list-style-type: none"> DHS did not report northern border data by sector or categorize family units by nationality.
At ports of entry	Total inadmissible travelers at ports of entry	<ul style="list-style-type: none"> DHS reported on known inadmissible travelers but did not report on unknown inadmissible travelers.
	Refusal and interdiction rates at ports of entry	<ul style="list-style-type: none"> DHS reported on known inadmissible travelers but did not report on unknown inadmissible travelers.
	Major infractions at ports of entry	<ul style="list-style-type: none"> DHS did not report infractions involving cargo.
	Cocaine seizures effectiveness rate	<ul style="list-style-type: none"> DHS reported a seizure rate for all cocaine seizures, not just seizures at ports of entry along land borders. According to the report, this is because the data source for this metric's denominator cannot separate estimated cocaine flow by land from total estimated flows.
	Secondary examination rate	<ul style="list-style-type: none"> DHS reported data on the secondary examination of passengers but not on cargo or commercial traffic.
	Ratio of potentially high-risk cargo containers scanned relative to high-risk containers entering in previous fiscal year	<ul style="list-style-type: none"> DHS reported data in terms of shipments—not containers—which, according to U.S. Customs and Border Protection (CBP) officials, is how their systems track cargo. DHS did not distinguish between shipments that are reviewed, scanned, or assessed. According to CBP officials, CBP systems do not distinguish between these categories.
	Potentially high-risk cargo containers scanned upon arrival at a U.S. port of entry	<ul style="list-style-type: none"> DHS reported data in terms of shipments—not containers—which, according to CBP officials, is how their systems track cargo. DHS did not distinguish between shipments that are reviewed, scanned, or assessed. According to CBP officials, CBP systems do not distinguish between these categories.
	Potentially high-risk cargo containers scanned before arrival at a U.S. port of entry	<ul style="list-style-type: none"> DHS reported data in terms of shipments—not containers—which, according to CBP officials, is how their systems track cargo. DHS did not distinguish between shipments that are reviewed, scanned, or assessed. According to CBP officials, CBP systems do not distinguish between these categories.
Maritime border	Situational awareness achieved in the maritime environment	<ul style="list-style-type: none"> Instead of presenting data on maritime situational awareness, DHS reported an alternative measure: operational activity metrics contributing to maritime domain situational awareness (such as Coast Guard cutter hours contributing to domain awareness mission).
	Illicit drugs removal rate	<ul style="list-style-type: none"> DHS provided data on the removals by the Coast Guard and not all maritime security components.

Source: GAO analysis of DHS fiscal year 2019 *Border Security Metrics Report*. | GAO-22-104651

Note: We refer to the 43 metrics enumerated in the 2017 NDAA by the titles provided by DHS in the fiscal year 2019 *Border Security Metrics Report*. See app. II for descriptions of the mandated metrics.

^aDHS officials subsequently told us that the fiscal year 2019 *Border Security Metrics Report* misstated the scope of data presented, and these metrics included northern and coastal border data. However,

because the report stated that these metrics only include data from the southwest border, we consider these metrics to differ from their descriptions in the 2017 NDAA.

^bUnaccompanied children are those under 18 years old who do not have lawful immigration status or an available parent or legal guardian in the United States to provide care and physical custody. 6 U.S.C. § 279(g)(2). (The statute refers to these minors using the term “unaccompanied alien child.”)

The six metrics on which DHS did not provide information in the fiscal year 2019 *Border Security Metrics Report* spanned all four domains. For some metrics, DHS officials stated that their data systems and processes do not allow them to report on the measures. For example, the 2017 NDAA requires that DHS maritime security components report on their ability to respond to and resolve known maritime threats relative to the total number of known threats. However, the fiscal year 2019 report stated that data only exist associated with cocaine response activity, not all maritime threats.³¹ For other metrics, such as the number of times that AMO collected actionable intelligence, CBP is working on ways to define and collect data on the measures, according to AMO officials.³²

Overall, according to the fiscal year 2019 *Border Security Metrics Report*, DHS has plans to include five of six of the unreported metrics in future *Border Security Metrics Reports*. The one metric that DHS does not have a plan to report on is the secondary examinations effectiveness rate. The fiscal year 2019 report states that DHS does not characterize secondary examinations as either effective or ineffective and thus cannot report on this metric.³³ In the report, DHS explained that examinations are often fully effective when they find no violations of any kind and that public awareness of CBP secondary inspection capabilities also serves as a deterrent to illegal activity. DHS officials told us that they will continue to consider approaches to developing a secondary examinations effectiveness rate.

³¹As defined by the 2017 NDAA, the DHS maritime threat response rate is a response rate that compares the ability of DHS maritime security components to respond to and resolve known maritime threats, whether inside or outside a transit zone, by placing assets on-scene, with the total number of events with respect to which the department has known threat information. 6 U.S.C § 223(d)(1)(E).

³²The 2017 NDAA mandates that DHS report on the number of times that AMO obtained actionable intelligence related to border security through the use of unmanned aerial systems and manned aircraft. 6 U.S.C. § 223(e)(1)(H).

³³As defined by the 2017 NDAA, the secondary examination effectiveness rate is an enforcement rate that measures the effectiveness of secondary examinations at detecting major violators. 6 U.S.C. § 223(c)(1)(F)(iv).

Additionally, while the report leaves open the possibility of future reporting on the number of unlawful entries at ports of entry, DHS officials told us that they are not able to estimate this metric. According to the officials, a reliable estimation of this metric would require a much higher secondary examination rate, which they believe would disrupt lawful travel and trade. Table 5 lists the six metrics that DHS did not report in its fiscal year 2019 report.³⁴

Table 5: Metrics the Department of Homeland Security (DHS) Omitted from its Fiscal Year (FY) 2019 *Border Security Metrics Report*

Domain	Metric omitted	DHS reported rationale for omitting metric	Planned reporting date
Between ports of entry	A measurement of situational awareness achieved in each U.S. Border Patrol sector	The FY 2019 <i>Border Security Metrics Report</i> states that DHS is in the process of developing a defensible, analytically sound measure for this metric.	Unspecified ^a
At ports of entry	Unlawful entries at ports of entry	The FY 2019 <i>Border Security Metrics Report</i> states that U.S. Customs and Border Protection (CBP) is still working to validate the reliability of the Compliance Examination Program's estimate of successful unlawful entries. ^b However, according to DHS officials, DHS is not currently able to estimate unlawful entries at ports of entry without disrupting travel and trade.	Unspecified
	Secondary examinations effectiveness rate	The FY 2019 <i>Border Security Metrics Report</i> states that DHS does not characterize secondary examinations as either effective or ineffective and does not have a plan to report on this metric. DHS officials told us that they will continue to consider approaches to developing a secondary examinations effectiveness rate.	Not applicable because DHS does not yet have a plan to report on this metric.
Maritime border	DHS maritime threat response rate	The FY 2019 <i>Border Security Metrics Report</i> states that DHS has data on cocaine-response activities but not all maritime threats and that DHS cannot separate DHS activities from intergovernmental data. According to the report, these data limitations prevent DHS from reporting DHS maritime threat responses in a way that meets the intent of the National Defense Authorization Act for Fiscal Year 2017 (NDAA). The report stated that DHS formed a working group to identify how to report on this metric.	Unspecified
	Intergovernmental maritime threat response rate	The FY 2019 <i>Border Security Metrics Report</i> states that DHS has data on cocaine-response activities but not all maritime threats. According to the report, this data limitation prevents DHS from reporting intergovernmental maritime threat responses in a way that meets the intent of the NDAA. The report stated that DHS formed a working group to identify how to report on this metric.	Unspecified

³⁴DHS's fiscal year 2020 *Border Security Metrics Report*, issued in September 2021, also did not include any of these six metrics that the department omitted from its fiscal year 2019 report.

Domain	Metric omitted	DHS reported rationale for omitting metric	Planned reporting date
Air environment ^c	Air and Marine Operations actionable intelligence	The FY 2019 <i>Border Security Metrics Report</i> states that this measure is still under review and will be provided in future versions of the report. According to Air and Marine Operations officials, Air and Marine Operations does not use the term “actionable intelligence” and thus does not have a way to currently measure this metric. The officials stated that they are in the process of defining this metric and determining alternative measures that can best address this requirement in the interim.	Unspecified

Source: GAO analysis of DHS fiscal year 2019 *Border Security Metrics Report* and interviews with DHS officials. | GAO-22-104651

Notes: We refer to the 43 metrics enumerated in the 2017 NDAA by the titles provided by DHS in the fiscal year 2019 *Border Security Metrics Report*.

DHS’s FY 2020 *Border Security Metrics Report*, which the department issued on September 16, 2021, also did not report on the six metrics listed in this table.

^aIn the FY 2019 *Border Security Metrics Report*, DHS reported that it would include this metric in the subsequent report. In the FY 2020 *Border Security Metrics Report*, DHS stated that this metric would be included in future reports.

^bThis program is a statistical survey in which vehicles cleared for entry into the United States by CBP are randomly selected for a comprehensive audit through a computer-generated random sample. CBP is to conduct an audit of the selected vehicles by doing a secondary inspection, using a standardized system of checks to identify any violations that were missed during the routine inspection.

^cThe 2017 NDAA refers to this domain as “Air and Marine security metrics in the land domain,” which it describes as aviation assets and operations of CBP Air and Marine Operations. 6 U.S.C. § 223(e).

DHS Improved Information Quality in Its Fiscal Year 2019 Report but Does Not Yet Have a Systematic Process to Review Data Reliability

DHS Improved Quality of Information by Including Sensitivity Analysis and Better Communicating Limitations

DHS improved the quality of information of several metrics it reported in the fiscal year 2019 *Border Security Metrics Report*, compared with earlier versions of the report. Most notably, DHS included a sensitivity analysis for the statistical model that informs four metrics, including the model-based apprehension rate. The sensitivity analysis allows Congress and the public to better understand potential limitations associated with the model and independently assess the precision of its predictions, as discussed further below.

Metrics with Limitations the Department of Homeland Security (DHS) Did Not Disclose or Clearly Describe in Its Initial Report

We reported in March 2019 that the fiscal year 2017 *Border Security Metrics Report* included 21 metrics that had at least one methodological or reporting limitation that DHS did not disclose or clearly describe.

These limitations included components not consistently or accurately recording data. For example, we reported in February 2017 that Air and Marine Operation's data system did not consistently record certain data fields for some unmanned aircraft systems, such as data related to the aircraft's support for apprehensions and seizure of drugs. DHS's fiscal year 2017 *Border Security Metrics Report* did not mention this data limitation.

Other limitations related to the potential that data were changed over time. For example, during our March 2019 review, Border Patrol officials told us that data on the apprehension of unaccompanied children may change over time because U.S. Immigration and Customs Enforcement staff have, in some instances, updated original apprehension records. For example, if a child was unaccompanied at the time of their apprehension and was recorded as such by Border Patrol in the initial record entry, Immigration and Customs Enforcement may have changed the "unaccompanied" status in the system after they matched the child with a family member or sponsor. As a result, data may not be reconcilable with initial apprehension counts over time.

Source: GAO. | GAO-22-104651

DHS also improved the quality of information in the fiscal year 2019 report by addressing limitations on which we previously reported. We reported in March 2019 that the fiscal year 2017 *Border Security Metrics Report* included 21 metrics that had at least one methodological or reporting limitation—such as limitations related to the reliability of data—that DHS did not disclose or clearly describe. In the fiscal year 2019 report, DHS fully addressed the limitations of four metrics and partially addressed the limitations of four additional metrics among these 21 metrics.³⁵

For example, DHS included additional context about the ratio of potentially high-risk cargo containers scanned relative to high-risk containers entering in the previous fiscal year, so as to inform readers that CBP's data systems cannot distinguish between cargo containers that are assessed, reviewed, and scanned, which are different activities and reflect different levels of inspection or review. As another example, Coast Guard officials told us that they have taken steps to reduce possible errors in data the service uses to calculate the known maritime migrant flow rate by standardizing terminology and creating business rules to reconcile migrant interdiction data collected by Coast Guard districts. Although the fiscal year 2019 *Border Security Metrics Report* did not discuss them, these efforts help to reduce possible errors, which we cited as a limitation of this metric in our March 2019 report.

DHS Does Not Have a Systematic Process to Review Data Reliability

In March 2019, we reported that DHS components responsible for collecting data used in the reported metrics have processes to help ensure the reliability of the data and the quality of the information provided.³⁶ As we reported in March 2019, the specific processes DHS components use to ensure data reliability vary from metric to metric.

³⁵We counted a metric as fully addressing the limitations if the fiscal year 2019 *Border Security Metrics Report* discussed or addressed the underlying issues for all of the limitations that we identified in our March 2019 report for a given metric. We counted a metric as partially addressing the limitations if the report discussed or addressed the underlying issues for some, but not all, of the limitations that we identified in our March 2019 report for a given metric.

³⁶[GAO-19-305](#). Data are considered reliable when they are reasonably free from error and bias. Quality information is derived from relevant and reliable data and is considered to be complete, accurate, and timely. [GAO-14-704G](#).

Examples include issuing guidance and monitoring implementation, using built-in electronic safeguards, and comparing data against other sources. We also reported in March 2019 that DHS did not have a process to systematically review the reliability of operational data used for public reporting, such as the metrics report. DHS officials told us at that time that they largely relied on the DHS components from which they collected the data to assess the data's reliability and communicate identified limitations.

We concluded in our March 2019 report that having a process to systematically review the reliability of the data would help improve the quality of the information available to Congress. We recommended that the Secretary of Homeland Security develop and implement a process to systematically review the reliability of the data used in the department's *Border Security Metrics Report* and comprehensively identify any limitations with the data and methodologies that underlie its metrics. DHS concurred with this recommendation. OIS officials told us in July 2021 that, although they intend to implement this recommendation, they have not yet taken steps to do so, largely because of OIS resource limitations related to staffing.³⁷

Although DHS has improved the quality of information since our March 2019 report, some data-reliability issues that we previously identified continued in the fiscal year 2019 *Border Security Metrics Report*. Specifically, DHS did not disclose or clearly describe some or all of the limitations for 17 of the 21 metrics we identified in our March 2019 review. For example, we reported in March 2019 that data on got aways and turn backs between ports of entry before 2014 were not necessarily comparable with similar data from 2014 and later because Border Patrol implemented a standard, southwest border-wide methodology to improve data reporting in 2014.³⁸ However, the fiscal year 2019 *Border Security Metrics Report* did not introduce this limitation. As another example, we reported in March 2019 that commercial vehicle wait time data—part of the average wait times and traffic volume metric—were unreliable for fiscal years 2012 through 2016. The fiscal year 2019 *Border Security*

³⁷DHS also concurred with our recommendation that DHS should communicate the limitations of the metrics that it identifies through its systematic review of information in the *Border Security Metrics Report*. To implement this recommendation would require that DHS first implement the prior recommendation about developing a systematic process to review the reliability of data. OIS officials indicated that they intend to implement this recommendation as well.

³⁸[GAO-19-305](#).

Metrics Report did not disclose that some of the commercial vehicle wait time data presented in the report were not reliable.

In addition, we identified further data issues that underscore the importance of implementing our recommendation that DHS develop and implement a process for assessing data reliability. For example, DHS did not take steps to assess the reliability or appropriateness of estimates of total cocaine flow provided by other departments and agencies for two metrics related to cocaine seizures. According to the 2017 NDAA, the cocaine seizure effectiveness rate is to be calculated by dividing the total cocaine seizures by CBP's Office of Field Operations by the total estimated cocaine flow. Similarly, the maritime cocaine removal effectiveness rate is to be calculated by dividing DHS maritime security components' total cocaine removals by the total documented cocaine flow rate according to federal drug databases.³⁹ DHS components provided the seizure and removal data, but other agencies provided the total cocaine flows. Specifically, the Office of National Drug Control Policy provided total cocaine flows for the fiscal year 2017 and 2018 *Border Security Metrics Reports*, and the Defense Intelligence Agency provided total cocaine flows for the fiscal year 2019 report.⁴⁰ According to a senior OIS official, OIS did not take steps, such as asking knowledgeable officials questions about these agencies' estimates, to assess their reliability or appropriateness for the purpose of *Border Security Metrics Reports*, identify limitations that affect how the data should be understood, or determine whether the data were comparable across years.

Instead, OIS officials told us that they received the numbers from the agencies and put them directly into their calculations without assessing

³⁹According to the Coast Guard's *Annual Performance Report* for fiscal year 2020, maritime cocaine removals include U.S. Coast Guard's cocaine seizures as well as cocaine shipments jettisoned or destroyed in the course of interdiction efforts. This measure is to include maritime drug removals by all DHS maritime security components, but the fiscal year 2019 report indicates that only Coast Guard data are included.

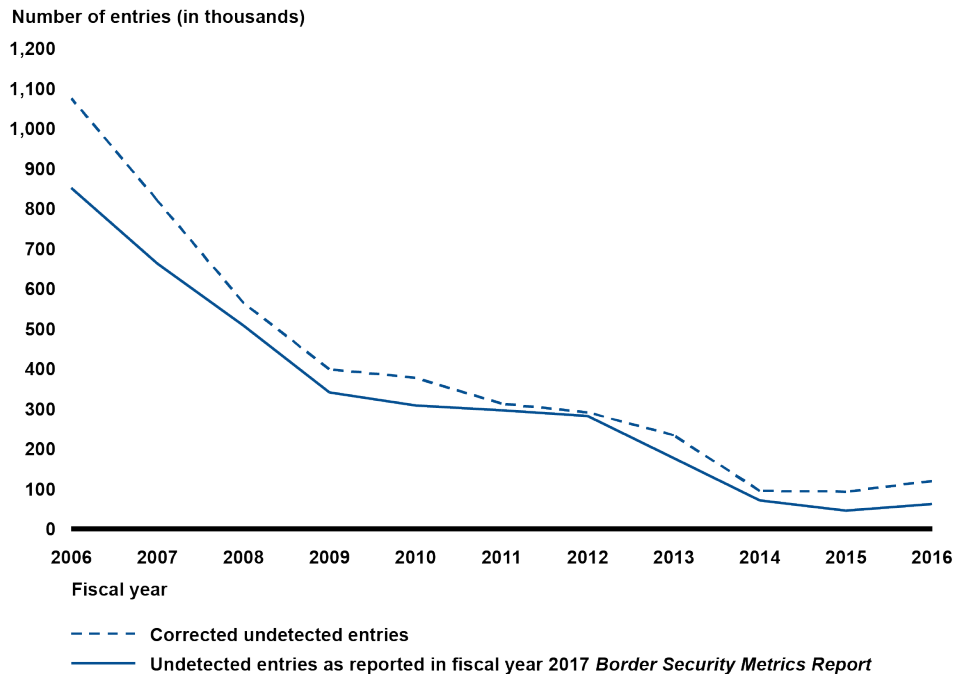
⁴⁰According to a senior OIS official, the Office of National Drug Control Policy stated that the office was no longer estimating the total cocaine flow into the United States and that OIS would need to get this estimate from the Defense Intelligence Agency. Officials told us that the Defense Intelligence Agency provided the total cocaine flow for the fiscal year 2019 *Border Security Metrics Report* and plans to provide the data for future reports as well.

the quality of these data or taking note of any weaknesses.⁴¹ A process to systematically review information used in future versions of the *Border Security Metrics Report* would help to ensure that DHS takes appropriate steps to assess the reliability of data for all metrics and include relevant contextual information—such as limitations—in the report.

In addition, a prior error that DHS disclosed in the fiscal year 2018 *Border Security Metrics Report* further demonstrates the benefits of implementing a systematic process for assessing data reliability. The fiscal year 2018 report noted that DHS officials identified an error in the computer code used to produce some of the unlawful entry metrics for the fiscal year 2017 report. Because of this error, in the fiscal year 2017 report, DHS underestimated the number of unlawful entries from fiscal years 2006 through 2016 by an average of 22 percent compared with the corrected estimates. The differences in the estimates ranged from a low of about 9,300 unlawful entries in fiscal year 2012 to a high of about 224,000 unlawful entries in fiscal year 2006, as shown in figure 2.

⁴¹OIS officials also stated that they do not have expertise in metrics related to law enforcement issues and that it would be improper for OIS to assess data quality outside of its expertise. However, leading practices in assessing data reliability we have identified enumerate various steps that OIS officials could take that do not require law enforcement expertise. These steps include interviewing knowledgeable officials, reviewing data documentation such as user manuals, and testing data for completeness and accuracy. See GAO, *Assessing Data Reliability*, [GAO-20-283G](#) (Washington, D.C.: Dec. 16, 2019).

Figure 2: Department of Homeland Security’s Estimated Undetected Unlawful Entries as Reported in the Fiscal Year 2017 *Border Security Metrics Report* and as Corrected, Fiscal Years 2006–2016



Source: GAO analysis of U.S. Border Patrol information. | GAO-22-104651

OIS officials stated that they did not originally identify this error in the computer code because OIS had received the code from the Institute for Defense Analyses, a DHS contractor. According to OIS officials, staff turnover over the last 4 years may have also contributed to OIS not noticing this error around 2017. OIS eventually detected the error and corrected it in later reports, a positive step consistent with data-quality guidance, including DHS’s instruction on information quality implementation.⁴² OIS officials told us that they review datasets for missing values and to ensure that values are in their expected ranges. They also stated that two analysts run the code separately to check that the results match.

OIS officials described new steps that they take to assess the reliability of the data since we made our recommendation about developing a

⁴²Department of Homeland Security, *Information Quality Implementation*, Instruction 139-02-001.

systematic review process. Specifically, OIS officials stated that they compare new data provided by DHS components with prior years' data and ask relevant DHS components questions about the data if they differ from historic trends. While these are positive steps, OIS has not yet implemented our recommendation to develop a systematic process for reviewing the reliability of data that covers all of the information used to create the *Border Security Metrics Report*.

According to DHS Directive 139-02 on Information Quality, DHS is to ensure and maximize the quality, objectivity, utility, and integrity of the information that it disseminates to the public.⁴³ Guidance implementing that directive states that DHS should have a process for reviewing the quality of information before it is disseminated.⁴⁴ Additionally, *Standards for Internal Control in the Federal Government* state that management should use quality information to achieve an agency's objectives and should internally and externally communicate the necessary quality information to achieve the agency's objectives.⁴⁵ According to these standards, management should evaluate the reliability of sources of data so that the data can be processed into quality information that is appropriate, current, complete, accurate, accessible, and provided on a timely basis. The quality information can then be used by agency management and external stakeholders, such as policy makers, to make informed decisions and evaluate performance. By implementing our recommendation to develop and implement a process to systematically review the reliability of data, DHS would be better positioned to comprehensively identify and fully disclose metrics' limitations, which would provide Congress, policy makers, and the public with important contextual information and would improve their abilities to make informed decisions and evaluate performance.

⁴³Department of Homeland Security, *Information Quality*, Directive 139-02.

⁴⁴Department of Homeland Security, *Information Quality Implementation*, Instruction 139-02-001.

⁴⁵[GAO-14-704G](#).

DHS Assessed Sensitivity of Model Assumptions but Did Not Fully Convey Uncertainty

In its fiscal year 2019 *Border Security Metrics Report*, DHS determined and conveyed the sensitivity of key assumptions for the statistical model it used for calculating some metrics. DHS also conveyed statistical uncertainty for some of its unlawful entries metrics but did not apply the uncertainty to all metrics that rely on its statistical model. Additionally, Border Patrol has made progress in its efforts to develop a model that may better reflect unlawful border entries.

DHS Determined and Conveyed the Sensitivity of Key Assumptions for Its Statistical Model

DHS uses a statistical model to estimate the total number of unlawful border entries between land ports of entry along the southwest border and to calculate four metrics in the *Border Security Metrics Report*: (1) the attempted unlawful border crosser apprehension rate (model-based apprehension rate), (2) the estimated number of undetected unlawful entries, (3) the unlawful border crossing effectiveness rate, and (4) the probability of detection rate.⁴⁶

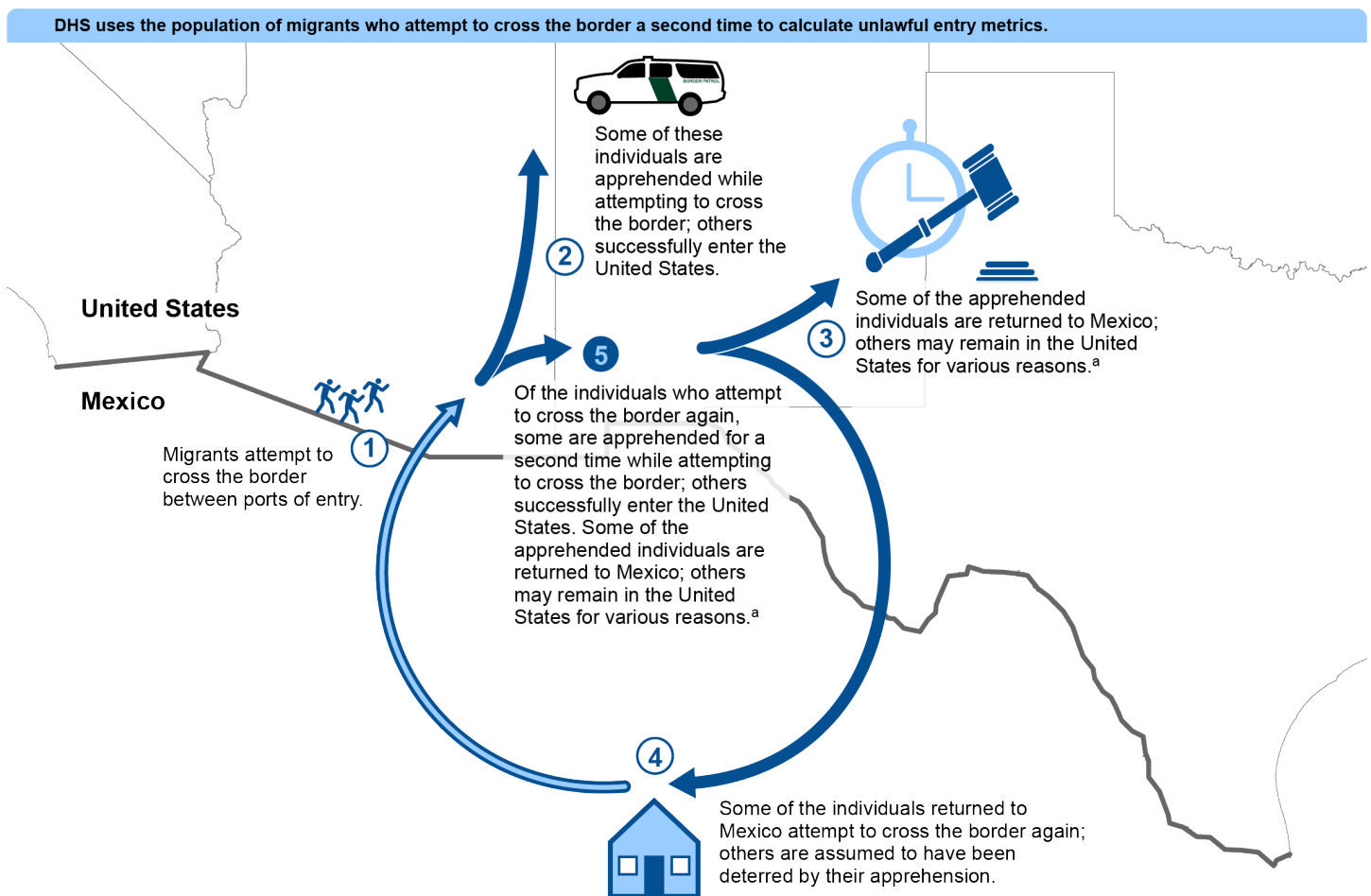
DHS's statistical model focuses on individuals who unlawfully crossed the border between ports of entry, whom Border Patrol apprehended and removed to the U.S.-Mexico border, and who made a subsequent reentry attempt.⁴⁷ Within the model's framework, when an individual's first attempt at unlawfully crossing the border is successful, the individual enters the United States, and no apprehension is made. However, if Border Patrol apprehends an individual, the agency records it in a DHS data system. The apprehended individual is potentially subject to consequences for entering unlawfully, such as administrative enforcement and removal, criminal prosecution, or being barred from

⁴⁶In general, the attempted unlawful border crosser apprehension rate is the rate of apprehension of attempted unlawful border crossers (6 U.S.C. § 223(b)(1)(A)(i)). In the *Border Security Metrics Reports*, DHS presents both observed and modeled apprehension rates. For the purposes of this discussion, we focus on the modeled rates and refer to the metric as the "model-based apprehension rate." Undetected unlawful entries are an estimate of the number of undetected unlawful border crossers who enter the United States and are not apprehended by a DHS border security component (6 U.S.C. § 223(a)(11), (b)(1)(A)(iii)). The probability of detection rate compares the estimated total unlawful border crossing attempts not detected by Border Patrol with the unlawful border crossing effectiveness rate (i.e., the percentage resulting from dividing the number of apprehensions and turn backs by the sum of the number of apprehensions, estimated undetected unlawful entries, turn backs, and got aways). (6 U.S.C. § 223(a)(10), (b)(1)(D)).

⁴⁷This type of statistical model is known as a "repeated trials model" because, in this case, it extrapolates from individuals who unlawfully crossed the border and subsequently attempted to cross again.

legally entering the United States in the future. The individual is then returned to the U.S.-Mexico border. Should the individual make a second attempt to cross unlawfully the border, they may again enter the United States unlawfully or be apprehended by Border Patrol.⁴⁸ Figure 3 provides the framework for DHS’s statistical model.

Figure 3: Framework for the Department of Homeland Security’s (DHS) Statistical Model for Unlawful Entry Metrics



Source: GAO analysis of DHS’s model-based apprehension rate. | GAO-22-104651

Note: Some individuals who cross the border respond to U.S. enforcement efforts by returning promptly to the country from which they entered (called a turn back).

^aThese reasons include awaiting removal to their home country, resolution of immigration proceedings, resolution of criminal proceedings, or serving terms of imprisonment.

⁴⁸If an individual does not make another attempt to unlawfully cross the border, the statistical model makes no further assumption about the individual’s actions.

In March 2019, we reported that DHS made assumptions about individuals crossing the border between ports of entry to develop its statistical model and described these assumptions in its fiscal year 2017 *Border Security Metrics Report*.⁴⁹ More specifically, DHS's model incorporates several assumptions, including that

1. the rate of deterrence used in the model (based on Mexican adults without children) accurately describes the rate at which all individuals in the model's population do not attempt reentry;
2. the apprehension rate of the model's population (Mexican adults without children) is the same as the rate for individuals not included in the model (individuals other than Mexican adults without children); and
3. the apprehension rate for certain individuals (those seeking asylum, family units, and Cuban nationals) is 100 percent because they will not evade apprehension by Border Patrol and will turn themselves in.

However, we found that DHS did not validate some of these assumptions or determine how changing them potentially could affect the accuracy and precision of the model-based apprehension rate—a process known as sensitivity analysis. In March 2019, we recommended that DHS include the results of sensitivity analyses to key assumptions in the statistical model of unlawful entry estimates in its annual *Border Security Metrics Report*, and DHS concurred with our recommendation.⁵⁰

To address our recommendation, DHS conducted a sensitivity analysis to determine how the three key model assumptions described above affected the precision of the model-based apprehension rate and the total estimated number of unlawful entries in fiscal year 2018.⁵¹ DHS found that its assumption about deterrence—the chance of subsequent reentry attempts after apprehension—had the largest effect on the model-based

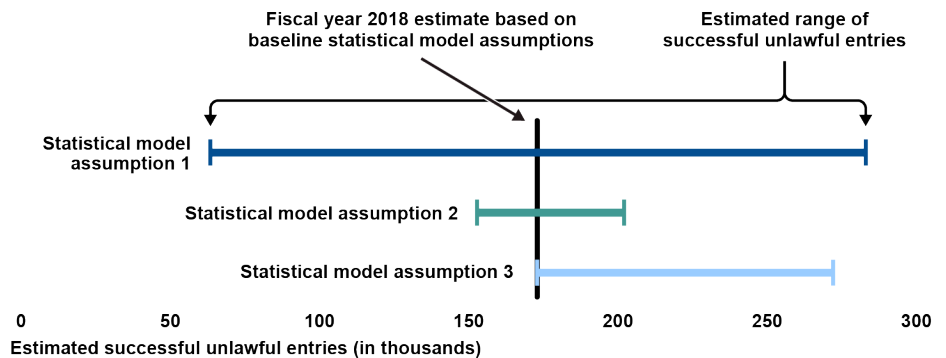
⁴⁹[GAO-19-305](#).

⁵⁰[GAO-19-305](#).

⁵¹These sensitivity analyses estimated how varying the key assumptions by plus or minus 10 percentage points (or minus 20 percentage points in the case of the assumption that the apprehension rate for certain individuals is 100 percent) affected the model-based apprehension rate and estimated number of unlawful entries. The total estimated number of unlawful entries is defined as the number of got aways plus estimated undetected unlawful entries.

apprehension rate and the total estimated number of unlawful entries. The baseline model, which assumed a 61 percent deterrence rate, estimated an apprehension rate of 70 percent and about 173,000 unlawful entries in 2018. However, when the assumed deterrence rate varied from 51 percent to 71 percent, estimated apprehension rates varied from 58 percent to 86 percent. Additionally, the total estimated successful unlawful entries varied from about 282,000 down to about 63,000. According to OIS officials, the sensitivity analysis captures the sampling error, nonsampling error (response bias), and prediction error in the model-based apprehension rate.⁵² Selected results of this analysis are shown below in figure 4.

Figure 4: Range of Estimated Successful Unlawful Entries Based on the Department of Homeland Security’s (DHS) Sensitivity Analysis of Statistical Model Assumptions, as Reported in the Fiscal Year 2019 Border Security Metrics Report



- Range of estimated successful unlawful entries based on the baseline assumed rate (61 percent) at which Mexican adults without children who were apprehended will be deterred from attempting to cross the border again and plus or minus 10 percentage points
- Range of estimated successful unlawful entries based on the baseline assumed rate (55 percent) at which individuals other than Mexican adults without children are apprehended when unlawfully crossing the border and plus or minus 10 percentage points
- Range of estimated successful unlawful entries based on the baseline assumed rate (100 percent) at which certain individuals unlawfully crossing the border, such as those seeking asylum, will not evade apprehension and will turn themselves in to U.S. Border Patrol and minus 20 percentage points

Source: GAO analysis of DHS information. | GAO-22-104651

⁵²Sampling errors are errors associated with survey estimates that are due to sampling some and not all of the units in the sampling frame. Nonsampling errors are errors in sample estimates that do not stem from sampling. Prediction errors reflect the difference between the values observed in a current or future dataset and the values estimated by a statistical model of the dataset.

DHS also estimated how changing the three assumptions at the same time affected the model-based apprehension rate and estimated unlawful entries.⁵³ Where the analyses above focused on the effect of changing one input at a time to the statistical model on the model-based apprehension rate and total estimated unlawful entries, this analysis focused on the interaction of the three assumptions. When DHS allowed for variation across all three core model assumptions simultaneously, the model-based apprehension rate varied by about 20 percentage points (from 58 percent to 78 percent), and the number of total estimated successful unlawful entries varied by about 200,000 (from about 303,000 down to about 110,000).

By including the results of its sensitivity analysis in the fiscal year 2019 *Border Security Metrics Report*, DHS met the intent of our recommendation. The OMB's statistical standards for federal agencies include providing the results of sensitivity analyses for key methodological assumptions to ensure that these assumptions do not unduly affect the results of the model.⁵⁴ The sensitivity analysis that DHS completed will allow Congress, policy makers, and the public to better understand potential limitations of DHS's statistical model and more fully evaluate the validity of the border security metrics derived from the model.

DHS Conveyed Statistical Uncertainty for Some Unlawful Entry Metrics but Not Others

In its fiscal year 2019 *Border Security Metrics Report*, DHS took steps to implement our March 2019 recommendation about conveying statistical uncertainty for some unlawful entry metrics but did not fully implement the recommendation. In March 2019, we reported that DHS did not provide information on the level of uncertainty related to its statistical model in the fiscal year 2017 *Border Security Metrics Report*.⁵⁵ DHS provided a single model-based apprehension rate for each year that did not fully convey the uncertainty of estimating partially unobserved metrics, such as unlawful entries and the probability of detection. We reported that, like all statistical models, DHS's estimate was based upon a limited sample of data and may have been affected by random variation, among other things, meaning that the estimates derived from the model included some level of

⁵³This sensitivity analysis estimated how varying the assumptions by plus or minus 5 percentage points affected the model-based apprehension rate and the estimated number of unlawful entries. DHS officials reported this is a range slightly larger than the 95 percent confidence interval of the estimated apprehension rate for a particular subset of border crossers.

⁵⁴Office of Management and Budget, *Standards and Guidelines for Statistical Surveys*.

⁵⁵[GAO-19-305](#).

uncertainty. We recommended that DHS include measures of statistical uncertainty for all metrics based on estimates derived from statistical models in its annual *Border Security Metrics Report*, and DHS concurred with our recommendation.

In the fiscal year 2019 *Border Security Metrics Report*, DHS took steps toward implementing this recommendation by conveying statistical uncertainty of the model-based apprehension rate and of the total number of unlawful entries in a report appendix.⁵⁶ Specifically, OIS officials told us that they allowed key assumptions to vary by as much as twice the confidence interval for the estimated apprehension rate for a particular subset of border crossers—a key input into the statistical model.⁵⁷ According to OIS officials, this uncertainty reflected sampling and prediction error in estimating the probability of deterrence.

While these are positive steps, DHS did not fully address the intent of our recommendation because it did not estimate how this uncertainty affected all unlawful entry metrics that rely on the statistical model outputs. Specifically, DHS conveyed statistical uncertainty for its statistical model that estimates the model-based apprehension rate.⁵⁸ However, DHS did not convey statistical uncertainty for the estimated number of undetected unlawful entries, the unlawful border crossing effectiveness rate, and the probability of detection rate. OIS officials stated that they did not carry the

⁵⁶Within the between ports of entry domain, the 2017 NDAA mandates that DHS report separately on detected unlawful entries and estimated undetected unlawful entries. In the fiscal year 2019 *Border Security Metrics Report*, DHS conveyed statistical uncertainty for the total number of unlawful entries, which is the sum of detected and undetected unlawful entries.

⁵⁷DHS, using a survey of Mexican individuals who were apprehended and returned to the border region of Mexico by U.S. immigration authorities, calculated the estimated apprehension rate—as well as a 95 percent confidence interval—for this particular subset of border crossers. The survey, Encuesta sobre Migración en la Frontera Norte de México, is conducted by a Mexican research center, El Colegio de la Frontera Norte. The survey website can be accessed at <http://www.colef.mx/emif/>. A margin of error (or confidence interval) provides the range around a statistical estimate where the true value is likely to exist. If an estimate's margin of error is small, the estimate has a lower amount of random error and is therefore more precise and known with greater certainty.

⁵⁸DHS conveyed this statistical uncertainty in the appendix of the fiscal year 2019 *Border Security Metrics Report* in its discussion of the sensitivity analysis. DHS also conveyed statistical uncertainty for the total estimated unlawful entries between land ports of entry and the at-the-border deterrence rate in the fiscal year 2019 report. The total estimated unlawful entries is defined as the number of got aways plus estimated undetected unlawful entries.

uncertainty estimates to metrics that rely on the statistical model in the fiscal year 2019 *Border Security Metrics Report* because they thought readers could readily calculate the uncertainty themselves. However, when we raised this issue, OIS officials stated that they could see how including this information could help readers better understand the statistical uncertainty of the metrics and are amenable to adding it into a future version of the *Border Security Metrics Report*.

According to the OMB's statistical standards for federal agencies, possible variation in estimates should be noted, such as by reporting the range of each estimate.⁵⁹ Measures of statistical uncertainty, such as confidence intervals, help to convey the amount by which estimates might vary due to randomness in the data and allow consumers of the estimates to evaluate their accuracy. To fully address our March 2019 recommendation, DHS should include measures of statistical uncertainty in future *Border Security Metrics Reports* for all metrics derived from the statistical model. Doing so would allow Congress, policy makers, and the public to more fully evaluate the extent to which the metrics are valid. Providing this additional information about the metrics would also allow DHS to more accurately convey how limitations in available data and methods could affect the results and provide more useful information about migration and border enforcement.

Border Patrol Has Made Progress with Its Model That May Better Estimate Unlawful Border Entries

In March 2019, we reported that Border Patrol was developing another model that may better reflect unlawful border entries because DHS's statistical model used in the fiscal year 2017 *Border Security Metrics Report* may not have accurately reflected conditions at the southwest border.⁶⁰ Specifically, we reported that DHS's statistical model did not fully account for the changing population of unlawful border crossers. For example, the model excludes all individuals who are not Mexican nationals from the count of unlawful border crossers. In the fiscal year 2019 *Border Security Metrics Report*, DHS reported that when this methodology was developed in the 1990s, Mexican adults quickly deported to the nearest border accounted for about 95 percent of apprehensions. However, DHS reported there is a rising number of individuals from Central American countries crossing the border unlawfully between ports of entry and, as a result, only about 20 percent of southwest border apprehensions have been used in the calculation of the model-based apprehension rate and related metrics in recent years.

⁵⁹Office of Management and Budget, *Standards and Guidelines for Statistical Surveys*.

⁶⁰[GAO-19-305](#).

In January 2021, OIS officials stated that the model's relevance has further diminished due to the rising number of apprehended children and family units, as the model excludes children under 18 from its calculations.

In March 2019, we reported that Border Patrol contracted with the Johns Hopkins University's Applied Physics Laboratory to undertake a project that aims to use a combination of statistical modeling and data from sensors along the border to estimate the total number of unlawful border entries between land ports of entry, including entries both detected by Border Patrol and those not detected by Border Patrol.⁶¹ According to OIS officials, as we reported in March 2019, a simulation-based estimate would rely on fewer assumptions about the types of individuals who unlawfully cross the border as compared with the statistical model. In February 2021, Border Patrol officials stated they could use their model to assess performance and as a planning capability for DHS, if the data are found to be valid.

Border Patrol has made progress developing this model since our March 2019 report, but it is too early to tell whether DHS will use the simulation-based model to address the limitations associated with the model-based apprehension rate. DHS noted in the fiscal year 2019 *Border Security Metrics Report* that Border Patrol completed the pilot analysis for all stations along the southwest border and is beginning to conduct a sensitivity analysis with the data and incorporate additional operational elements into the model. Further, in July 2021, Border Patrol officials stated they are planning to expand the modeling and simulation capability to the northern border and complete a validation effort for the total flow estimate by the end of fiscal year 2022.⁶² Exploring alternative models is a positive step for DHS; however, in April 2021, OIS officials stated that it is too early to determine how much value the estimates will provide for the purpose of reporting 2017 NDAA metrics. For the first few reports where the Border Patrol model is available, OIS officials plan to review

⁶¹Sensors include infrared and daylight camera systems, radar, and unattended ground sensors. The simulation-based model takes into account the line of sight from the sensor, the field of view of the sensor, and the probability of detection based on sensor type (e.g., type of radar or camera), among other things.

⁶²Total flow analysis focuses on using modeling, simulation, and operational data analysis to investigate the total flow of unlawful migrants across the southern border. Understanding the total flow of unlawful entries, including the unknown portion, is an important factor in evaluating the impact of investments in technology, infrastructure, and the workforce, according to a CBP task order for the project.

the model's outputs to determine how to best present its results, if at all, in DHS's annual *Border Security Metrics Report*.

Agency Comments

We provided a draft of this report to the Department of Homeland Security for review and comment. The department provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees and the Secretary of Homeland Security. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions, please contact me at (202) 512-8777 or gablerr@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made significant contributions to this report are listed in appendix III.



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Director, Homeland Security and Justice

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

In prior reports, we have identified other metrics that the Department of Homeland Security (DHS) could use to help measure the effectiveness of border security in addition to the National Defense Authorization Act for Fiscal Year 2017 (NDAA) metrics. In our March 2019 report, we identified 11 recommendations from nine reports issued from August 2009 through January 2019 related to measures for assessing border security. We noted that implementing these recommendations would provide DHS with additional indicators and metrics that could provide important insights into the state of border security. Since our March 2019 report—specifically, from January 2019 through September 2021—we issued reports that identified two additional metrics and improvements to another metric outside of those mandated in the NDAA that could help DHS measure the effectiveness of border security.

The following tables provide information on these new recommendations, as well as updates on the recommendations included in our March 2019 report.¹ Tables 6–9 chronologically list the 14 recommendations across the four domains in the 2017 NDAA—between ports of entry, at ports of entry, the maritime border, and the air environment, respectively.² The tables also provide the status of DHS’s implementation of those recommendations, as of September 2021. Of the 14 recommendations, three have been implemented, four have been closed and not implemented, and seven remain open as of September 2021. Implementing the open recommendations would provide DHS with additional indicators and metrics that could provide important insights into the state of border security.

¹GAO, *Border Security: DHS Should Improve the Quality of Unlawful Border Entry Information and Other Metric Reporting*, [GAO-19-305](#) (Washington, D.C.: Mar. 21, 2019).

²The National Defense Authorization Act for Fiscal Year 2017 refers to the final domain as “Air and Marine security metrics in the land domain,” which it describes as aviation assets and operations of U.S. Customs and Border Protection’s (CBP) Air and Marine Operations. 6 U.S.C. § 223(e). In our 2019 report, we referred to this as “air and marine security in the land domain.”

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Table 6: Other Metrics the Department of Homeland Security (DHS) Could Use to Measure the Effectiveness of Border Security Between Ports of Entry

GAO product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Northern Border Security: CBP Identified Resource Challenges but Needs Performance Measures to Assess Security Between Ports of Entry</i>^a (GAO-19-470)</p>	<p>In June 2019, we reported on northern border security efforts. We found that while the U.S. Border Patrol had performance measures that assessed specific border security operations or programs that included data from the northern border, these measures generally combined data with other border regions and, collectively, the measures did not assess effectiveness at securing the northern border between ports of entry. We concluded that without northern border performance measures, Border Patrol cannot assess its effectiveness at securing the northern border between ports of entry.</p>	<p>Border Patrol should develop and implement performance measures to assess its effectiveness at securing the northern border between ports of entry.</p>	<p>Open Border Patrol agreed with this recommendation and in April 2020 stated that it was developing new northern border security metrics. Border Patrol was in the process of evaluating them and coordinating with subject matter experts to ensure they are valid. In an April 2021 update, Border Patrol stated that it was coordinating with northern border sectors and stations, as well as subject matter experts, to collect data that are relevant to the northern border operational environment to better measure performance. We will continue to monitor Border Patrol's ongoing efforts.</p>
<p><i>Southwest Border Security: Additional Actions Needed to Better Assess Fencing's Contributions to Operations and Provide Guidance for Identifying Capability Gaps</i> (GAO-17-331)</p>	<p>In February 2017, we reported on the use of border fencing along the southwest border. We found that Border Patrol collected data that could be useful to assess the contributions of border fencing to border security operations but had not conducted such an assessment.</p>	<p>Border Patrol should develop metrics to assess the contributions of pedestrian and vehicle fencing to border security along the southwest border, using the data Border Patrol already collects, and apply this information, as appropriate, when making investment and resource allocation decisions.</p>	<p>Open (priority recommendation)^b DHS agreed with the recommendation and stated that it planned to develop metrics for southwest border security operations. In July 2021, U.S. Customs and Border Protection (CBP) reported that Border Patrol was on track to complete the development of a model that uses quantitative analysis and qualitative field insight in fiscal year 2022. Officials stated that this model will help Border Patrol determine what resources, including fencing, would benefit Border Patrol's operations. We view these efforts, as described, as important progress toward fulfilling our recommendation; however, it is too soon to tell whether the model will fully address the intent of our recommendation. We will continue to monitor Border Patrol's efforts in this area.</p>

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GAO product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Arizona Border Surveillance Technology Plan: Additional Actions Needed to Strengthen Management and Assess Effectiveness</i> (GAO-14-368)</p>	<p>In March 2014, we reported on the status of DHS's Arizona Border Surveillance Plan—a plan for security technology deployment across the Arizona border that includes a mix of radars, sensors, and cameras to help provide security for the Arizona border. We found that while CBP defined mission benefits for the technology programs under the plan, the agency did not develop key attributes for performance metrics for all surveillance technologies to be deployed as part of the plan.</p>	<p>CBP should analyze available data on apprehensions and seizures and technological assists, in combination with other relevant performance metrics or indicators, as appropriate, to determine the contribution of surveillance technologies to CBP's border security efforts.</p>	<p>Open (priority recommendation) DHS agreed with this recommendation. According to DHS officials, Border Patrol intends to create a plan of action with milestones to explore and develop a process to answer how different classes of technology, within a certain environment, contribute to Border Patrol's mission. As of March 2019, Border Patrol was able to generate a performance report, using data collected from multiple systems, on how surveillance technologies have assisted agents during operations, including Border Patrol apprehensions. In September 2020, CBP officials provided us with a briefing on its efforts to develop a model that uses quantitative analysis and qualitative field insight to depict the Border Patrol's Mission Essential tasks across any area of operations. In July 2021, CBP reported that Border Patrol was continuing to develop this model, and it was on track to be completed in fiscal year 2022. We view these efforts, as described, as important progress toward fulfilling our recommendation; however, it is too soon to tell whether the model will fully address the intent of our recommendation. We will continue to monitor CBP's efforts in this area.</p>

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GAO product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Arizona Border Surveillance Technology: More Information on Plans and Costs Is Needed before Proceeding</i> (GAO-12-22)</p>	<p>In November 2011, we reported on CBP's plans for developing and implementing a new approach for using surveillance technology (the Arizona Border Surveillance Technology Plan) along the southwest border in Arizona. We found that CBP did not have the information needed to fully support and implement the plan in accordance with DHS and Office of Management and Budget guidance. Further, we found that CBP had not defined the mission benefits expected from implementing the new plan. We concluded that defining the expected benefits could help improve CBP's ability to assess the effectiveness of the plan.</p>	<p>CBP should determine the mission benefits to be derived from implementation of the Arizona Border Surveillance Technology Plan and develop and apply key attributes for metrics to assess program implementation.</p>	<p>Closed – implemented DHS agreed with this recommendation. As of March 2019, Border Patrol was able to generate a performance report, using data collected from multiple systems, on how surveillance technologies have assisted agents during operations, including Border Patrol apprehensions. Border Patrol officials also described how they used a surveillance capability score to represent the combined contributions of individual technology assets and agents on patrol to conduct surveillance in a given area. The score allows Border Patrol to consider how surveillance technologies may have different impacts in various environments. Border Patrol officials stated that the report and surveillance capability score comprise Border Patrol's metrics for assessing the performance of surveillance technologies. Identifying expected mission benefits and developing performance metrics were important efforts to assist those Border Patrol officials assessing the contributions of border technologies, including when determining future investments in technologies. Therefore, we closed this recommendation as implemented.</p>

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

GAO product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Border Patrol: Checkpoints Contribute to Border Patrol's Mission, but More Consistent Data Collection and Performance Measurement Could Improve Effectiveness</i> (GAO-09-824)</p>	<p>In August 2009, we reported on the contributions and impact of checkpoints along the southwest border. We found that Border Patrol had identified some measures to evaluate the impact checkpoints have on local communities in terms of quality of life, but Border Patrol had not implemented the measures. As a result, Border Patrol lacked information on how checkpoint operations could affect nearby communities.</p>	<p>CBP should implement quality of life measures that have already been identified by Border Patrol to evaluate the impact checkpoints have on local communities. Implementing these measures would include identifying appropriate data sources available at the local, state, or federal level and developing guidance for how data should be collected and used in support of these measures.</p>	<p>Closed – not implemented</p> <p>DHS agreed with this recommendation. In September 2018, Border Patrol reported to us that it expected to fully implement these measures by February 2019. However, in May 2019, Border Patrol reported to us that it changed its approach to addressing this recommendation. Specifically, instead of implementing quality of life measures—which officials said would not be feasible and were outside their mission—to assess the impact checkpoints have on their surrounding communities, it would instead implement protection of communities measures. Officials noted that protection of communities measures were intended to assess the impacts of Border Patrol operations on illicit activity coming through and around checkpoints. We determined that this information was already measured by existing operational checkpoint metrics, such as apprehension and seizure location data and would not provide Border Patrol with information on the impacts checkpoints have on the quality of life of their surrounding communities. Accordingly, we concluded the new approach and measures Border Patrol proposed are not consistent with the intent of this recommendation, and we closed this recommendation as not implemented.</p>

Source: GAO analysis of prior GAO reports related to border security effectiveness metrics. | GAO-22-104651

^aWe issued this report, which identified an additional metric that DHS could use to measure border security effectiveness, in June 2019 and, therefore, the metric was not listed in our March 2019 report. This report also appears in table 9 because it also includes a recommendation related to the air environment.

^bA priority open recommendation is one that may significantly improve government operations in the following ways: (1) realizing large dollar savings; (2) aiding in congressional decision-making on major issues; (3) substantially improving major government programs; (4) eliminating mismanagement, fraud, and abuse; (5) ensuring that programs comply with laws and that funds are legally spent; and (6) making progress toward addressing a high-risk or duplication, overlap, and fragmentation issue.

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Table 7: Other Metrics the Department of Homeland Security (DHS) Could Use to Measure the Effectiveness of Border Security at Ports of Entry

GAO product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<i>Land Ports of Entry: CBP Should Update Policies and Enhance Analysis of Inspections^a</i> (GAO-19-658)	In August 2019, we reported on U.S. Customs and Border Protection (CBP) processes for inspections at land ports of entry. We found that CBP uses various sets of performance measures to assess its efforts to detect illegal activity at land ports. We also found that these measures generally reflected key attributes of effective measures; however, CBP had not set an ambitious and realistic target for one measure. Specifically, CBP's target for the land border interception rate—the estimated percentage of major violations in privately owned vehicles that CBP intercepts out of the projected total number of major violations—was lower than the actual reported rate for fiscal years 2015 through 2018.	CBP should develop a new target for the land border interception rate for passengers in privately owned vehicles with major violations that sets an ambitious and realistic goal on the basis of past performance.	Open CBP agreed with this recommendation. In January 2020, CBP's Office of Field Operations (OFO) amended the target for the land border interception rate for passengers in privately owned vehicles. However, in June 2020, we found that while OFO raised the targets, they were not raised above recent national performance results and that OFO's implemented plan to raise the target was insufficient. In a July 2021 update, CBP said it intends to implement this recommendation by January 2022. We will continue to monitor CBP's ongoing efforts to do so.
<i>U.S. Ports of Entry: CBP Public-Private Partnership Programs Have Benefits, but CBP Could Strengthen Evaluation Efforts</i> (GAO-18-268)	In March 2018, we reported on the agreements, funds, and donations that CBP and the General Services Administration have received under the Reimbursable Services Program (RSP) and the Donations Acceptance Program (DAP). We found that CBP uses various processes to monitor and evaluate its partnerships but could benefit from establishing an evaluation plan to assess overall program performance. We concluded that, given CBP's staffing challenges and anticipated growth of the RSP and DAP, an evaluation plan could better position CBP to further integrate evaluation activities into program management.	CBP should develop and implement an evaluation plan to be used to assess the overall performance of the RSP and DAP, which could include measurable objectives, performance criteria, evaluation methodologies, and data collection plans to inform future program decisions.	Closed – implemented DHS agreed with this recommendation. In April 2018, CBP issued its Alternative Funding Programs: Program Performance Management Plan. This plan contains program goals and metrics, along with methodologies to collect and analyze data to evaluate the RSP and DAP. CBP subsequently implemented the plan and, in April 2019, issued its first evaluations reports for these programs. CBP intends to conduct these program evaluations on an annual basis. Therefore, we closed this recommendation as implemented.

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GAO product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Supply Chain Security: CBP Needs to Enforce Compliance and Assess the Effectiveness of the Importer Security Filing and Additional Carrier Requirements</i> (GAO-17-650)</p>	<p>In July 2017, we reported on CBP’s implementation of its Importer Security Filing (ISF) program related to compliance, enforcement, and performance. We found that the ISF rule data have improved CBP’s ability to identify high-risk cargo shipments, but CBP could collect additional performance information to better evaluate program effectiveness.</p>	<p>CBP should identify and collect additional performance information on the impact of the ISF rule data, such as the identification of shipments containing contraband, to better evaluate the effectiveness of the ISF program.</p>	<p>Open CBP agreed with this recommendation. In March 2018, CBP informed us that offices within CBP planned to assess additional performance metrics to evaluate the effectiveness of the ISF program. In June 2018, CBP stated that CBP staff continued to work on these additional performance metrics and were analyzing data to identify the number of unmanifested containers and determine how/if they were mitigated before arrival and to identify the number of times potential terrorism matches were made against ISF entities versus the number of times they were not matched, using the same manifest data. In May 2021, CBP stated that it anticipated implementing this recommendation by late December 2021. We will continue to monitor CBP’s ongoing efforts to do so.</p>
<p><i>Border Security: CBP Aims to Prevent High-Risk Travelers from Boarding U.S. Bound Flights, but Needs to Evaluate Program Performance</i> (GAO-17-216)</p>	<p>In January 2017, we reported on CBP’s air predeparture programs—programs designed to interdict high-risk individuals, such as potential terrorists, human traffickers, drug smugglers, and otherwise inadmissible persons, before they board U.S.-bound aircraft—and CBP’s plans to expand them. We found that while CBP’s predeparture programs have helped identify and interdict high-risk travelers, CBP had not fully evaluated the overall effectiveness of these programs using performance measures and baselines. CBP tracked some data, such as the number of travelers deemed inadmissible, but had not set baselines to determine if predeparture programs are achieving goals. By developing and implementing a system of performance measures and baselines, CBP would be better positioned to assess if the programs are achieving their goals.</p>	<p>CBP should develop and implement a system of performance measures and baselines to evaluate the effectiveness of CBP’s predeparture programs and assess whether the programs are achieving their stated goals.</p>	<p>Closed – implemented CBP agreed with this recommendation. In July 2017, CBP reported that a working group had developed three performance measures for its predeparture programs. According to OFO officials, fiscal year 2018 was to be the first complete year that each of these measures was calculated using a standardized and repeatable methodology and would thus be used as a baseline year. OFO has used those baselines developed during fiscal year 2018 for assessments of program effectiveness. In November 2019, OFO provided documentation of CBP’s fiscal year 2019 targets and performance results, as well as its fiscal year 2020 targets. Developing and implementing performance measures and baselines should help CBP better evaluate the effectiveness of its predeparture programs. Therefore, we closed this recommendation as implemented.</p>

Source: GAO analysis of prior GAO reports related to border security effectiveness metrics. | GAO-22-104651

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

^aThis August 2019 report identified improvements to another metric outside of those mandated by the National Defense Authorization Act and listed in our March 2019 report.

Table 8: Other Metrics the Department of Homeland Security (DHS) Could Use to Measure the Effectiveness of Border Security at the Maritime Border

Product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Coast Guard: Actions Needed to Enhance Performance Information Transparency and Monitoring</i> (GAO-18-13)</p>	<p>In October 2017, we reported on the U.S. Coast Guard's performance goals. We found that although the Coast Guard's performance goals were generally aligned with its statutory missions, the Coast Guard did not explain why certain aspects of mission performance were measured, while others were not. We concluded that in the absence of documentation explaining how existing performance goals address each mission, it is unclear the extent to which the Coast Guard's performance goals encompass all of its mission activities.</p>	<p>The Coast Guard should either develop new performance goals to address mission activity gaps or explain in the Coast Guard's Annual Performance Report (APR) why certain aspects of mission performance are measured, while others are not.</p>	<p>Open</p> <p>The Coast Guard agreed with the recommendation. In June 2021, the Coast Guard shared its fiscal year 2020 APR and stated that the service updated the explanation of results under each program in the body of the report and the performance measure definitions in the appendix to provide a more thorough description of the scope and limitations of the reported performance measures for each mission. Upon review of the fiscal year 2020 APR, we found that additional details were provided on the scope and limitations for some of the Coast Guard's performance goals for its missions. However, the APR did not describe why the Coast Guard does not capture performance data for its Drug Interdiction mission for drugs other than cocaine. We specifically discussed this performance data limitation in our report. We continue to believe that in the absence of documentation explaining how existing performance goals address each mission, the extent to which the Coast Guard's performance goals encompass all of its mission activities is unclear. Either developing new goals to address mission activity gaps or describing in the APR how existing goals sufficiently assess the performance of each mission could provide more meaningful information on progress in achieving the Coast Guard's missions to executive branch decision makers, Congress, and the public. We will continue to follow up on the Coast Guard's efforts to fully implement the recommendation as intended.</p>

Source: GAO analysis of prior GAO reports related to border security effectiveness metrics. | GAO-22-104651

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

Table 9: Other Metrics the Department of Homeland Security (DHS) Could Use to Measure the Effectiveness of Border Security in the Air Environment

Product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Northern Border Security: CBP Identified Resource Challenges but Needs Performance Measures to Assess Security Between Ports of Entry^a</i> (GAO-19-470)</p>	<p>In June 2019, we reported on northern border security efforts. We found that while U.S. Border Patrol and Air and Marine Operations (AMO) have performance measures that assess specific border security operations or programs that include data from the northern border, these measures generally combine data with other border regions and, collectively, the measures do not assess effectiveness at securing the northern border between ports of entry. We concluded that without northern border performance measures, AMO cannot assess its effectiveness at securing the northern border between ports of entry.</p>	<p>AMO should implement performance measures to assess its effectiveness at securing the northern border between ports of entry in the air and maritime environments.</p>	<p>Open AMO agreed with this recommendation and, in a July 2020 update, stated that it had developed preliminary performance measures and had established a working group to assess their effectiveness. According to an April 2021 update, AMO remained on track to implement the performance measures and report on them beginning in fiscal year 2022. We will continue to monitor AMO's efforts.</p>

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

Product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
<p><i>Border Security: Additional Actions Could Strengthen DHS Efforts to Address Subterranean, Aerial, and Maritime Smuggling</i> (GAO-17-474)</p>	<p>In May 2017, we reported on DHS's efforts to address threats posed by smuggling in the aerial, subterranean, and maritime environments. We found that DHS components collected various data regarding the prevalence of smuggling using ultralight aircraft, cross-border tunnels, and selected maritime smuggling methods but had not established performance measures and associated targets to assess the effectiveness of their efforts specific to addressing these threats.</p>	<p>DHS should establish and monitor performance measures and targets related to</p> <ul style="list-style-type: none"> • ultralight aircraft, • cross-border tunnels, and • panga boat (a fishing vessel) and recreational vessel smuggling. 	<p>Closed – not implemented</p> <p>Ultralight aircraft smuggling. DHS agreed with this recommendation and stated that within U.S. Customs and Border Protection (CBP), Air and Marine Operations and the U.S. Border Patrol were developing a joint performance measure and targets for interdicting ultralight aircraft. However, in December 2019, CBP reported that it would no longer pursue establishing a performance measure because it found that the ultralight aircraft interdiction rate fluctuated year to year and that the number of ultralight aircraft incidents had been trending downward. Subsequently, in September 2020, CBP officials stated that they had reinitiated efforts to develop a performance measure and target in response to our continued belief that they can be set and would help CBP monitor performance to ensure that technology investments and operational responses to address ultralight aircraft are effective. However, in June 2021, CBP determined that it could not collect reliable performance data at this time. Given the passage of time and the uncertainty about when CBP would be able to address this recommendation, we closed this recommendation as not implemented.</p>

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

Product title and number	Summary and finding	Recommended metric	Status of recommendation implementation as of September 2021
			<p>Closed – not implemented</p> <p>Cross-border tunnel smuggling. DHS agreed with this recommendation and stated that CBP and U.S. Immigration and Customs Enforcement would review available information and develop performance measures and targets as deemed appropriate. In August 2021, Immigration and Customs Enforcement reported that it had determined that developing performance targets related to cross-border tunnels would not operationally enhance its efforts. We continue to believe that performance targets could help ensure that DHS efforts to address smuggling through cross-border tunnels are effective and that managers and stakeholders have the information needed to make decisions. However, given the passage of time and that DHS does not intend to implement this recommendation, we closed it as not implemented.</p>
			<p>Closed – not implemented</p> <p>Panga boats and recreational vessel smuggling. DHS did not agree with this recommendation. DHS stated that it did not believe that performance measures and targets related to smuggling by panga boats would provide the most useful strategic assessment of operations to prevent all illicit trafficking. DHS also cited the creation of the DHS Office of Policy, Strategy, and Plans to better evaluate the effectiveness of all operations that work to prevent the illegal entry of goods and people into the country, as appropriate. Given the passage of time since we made the recommendation in 2017 and the remaining uncertainty about when and how DHS will assess maritime border security, we closed this recommendation as not implemented.</p>

Source: GAO analysis of prior GAO reports related to border security effectiveness metrics. | GAO-22-104651

Note: The National Defense Authorization Act for Fiscal Year 2017 refers to this domain as “Air and Marine security metrics in the land domain,” which it describes as aviation assets and operations of AMO. 6 U.S.C. § 223(e).

Appendix I: Other Metrics for Measuring the Effectiveness of Border Security

^aWe issued this report, which identified an additional metric that DHS could use to measure border security effectiveness, in June 2019 and, therefore, was not listed in our March 2019 report. This report also appears in table 6 because it also includes a recommendation related to the between ports of entry domain.

Appendix II: Border Security Metrics as Described in the National Defense Authorization Act for Fiscal Year 2017

This appendix provides the border security metrics the Department of Homeland Security (DHS) is required to report on as described in the National Defense Authorization Act for Fiscal Year 2017 (NDAA).¹ This appendix organizes the metrics by each of the four domains listed in the NDAA: (1) metrics for securing the border between ports of entry, (2) metrics for securing the border at ports of entry, (3) metrics for securing the maritime border, and (4) Air and Marine security metrics in the land domain.²

Between Ports of Entry

Estimates—using alternative methodologies where appropriate, including recidivism data, survey data, known-flow data, and technologically measured data—of the five following metrics:

Attempted unlawful border crosser apprehension rate. The rate of apprehension of attempted unlawful border crossers.³

Detected unlawful entries. The number of detected unlawful border crossers who enter the United States and are not apprehended by a border security component of DHS.⁴

Estimated undetected unlawful entries. The number of estimated undetected unlawful border crossers who enter the United States and are not apprehended by a border security component of DHS.⁵

Turn backs. The number of unlawful border crossers who, after making unlawful entries into the United States, respond to U.S. enforcement efforts by returning promptly to the country from which they entered.⁶

¹Pub. L. No. 114-328, div. A, title X, subtitle G, § 1092, 130 Stat. 2000, 2429-36 (2016) (classified at 6 U.S.C. § 223).

²Previously in this report, we refer to the fourth domain as “air environment” because the 2017 NDAA describes it as aviation assets and operations of Customs and Border Protection’s (CBP) Air and Marine Operations (AMO). 6 U.S.C. § 223(e)(1).

³6 U.S.C. § 223(b)(1)(A)(i).

⁴Id. at § 223(a)(11), (b)(1)(A)(ii).

⁵Id. at § 223(a)(11), (b)(1)(A)(iii).

⁶Id. at § 223(a)(9), (b)(1)(A)(iv).

Got aways. The number of unlawful border crossers who—(A) are directly or indirectly observed making unlawful entries into the United States, (B) are not apprehended, and (C) are not turn backs.⁷

Measurement of situational awareness achieved in each U.S. Border Patrol sector. Measurement of the knowledge and understanding of current unlawful cross-border activity, for each U.S. Border Patrol sector, including the following: (A) threats and trends concerning illicit trafficking and unlawful crossings, (B) the ability to forecast future shifts in such threats and trends, (C) the ability to evaluate such threats and trends at a level sufficient to create actionable plans, and (D) the operational capability to conduct persistent and integrated surveillance of the international borders of the United States.⁸

Unlawful border crossing effectiveness rate in each U.S. Border Patrol sector. For each U.S. Border Patrol sector, the percentage that results from dividing the number of apprehensions and turn backs by the sum of the number of apprehensions, estimated undetected unlawful entries, turn backs, and got aways.⁹

Probability of detection rate. Rate that compares the estimated total unlawful border crossing attempts not detected by U.S. Border Patrol to the unlawful border crossing effectiveness rate, as informed by the attempted unlawful border crosser apprehension rate; the number of detected unlawful entries, turn backs, and got aways; and the number of estimated undetected unlawful entries.¹⁰

Apprehensions in each U.S. Border Patrol sector. The number of apprehensions in each U.S. Border Patrol sector.¹¹

⁷Id. at § 223(a)(3), (b)(1)(A)(v).

⁸Id. at § 223(a)(7), 223(b)(1)(B).

⁹Id. at § 223(a)(10), (b)(1)(C).

¹⁰Id. at § 223(a)(3), (9), (11), (b)(1)(D).

¹¹Id. at § 223(b)(1)(E).

Apprehensions of unaccompanied alien children: The number of apprehensions, and nationality of such unaccompanied children, in each U.S. Border Patrol sector.¹²

Apprehensions of family units. The number of apprehensions of family units, and the nationality of such family units, in each U.S. Border Patrol sector.¹³

Between the ports illicit drug seizure rate. Rate for illicit drugs seized by U.S. Border Patrol between ports of entry, which compares the ratio of the amount and type of illicit drugs seized between ports of entry in any fiscal year to the average of the amount and type of illicit drugs seized between ports of entry in the immediately preceding 5 fiscal years.¹⁴

Estimates of the impact of the Consequence Delivery System on recidivism. Estimates of the impact on the rate of recidivism of unlawful border crossers over multiple fiscal years of the Consequence Delivery System, which is the series of consequences applied by U.S. Border Patrol in collaboration with other federal agencies to persons unlawfully entering the United States, in order to prevent unlawful border crossing recidivism.¹⁵

Examination of each consequence under the Consequence Delivery System. An examination of each of the following consequences under the Consequence Delivery System: (i) voluntary return, (ii) warrant of arrest or notice to appear, (iii) expedited removal, (iv) reinstatement of removal, (v) alien transfer exit program, (vi) criminal consequence program, (vii) standard prosecution, and (viii) Operation Against Smugglers Initiative on Safety and Security.¹⁶

¹²Id. at §§ 223(b)(1)(F), 279(g)(2).

¹³Id. at § 223(b)(1)(G).

¹⁴Id. at § 223(b)(1)(H).

¹⁵Id. at § 223(a)(2), (11), (b)(1)(I).

¹⁶Id. at § 223(b)(1)(J). For more information on the Consequence Delivery System, see GAO, *Border Patrol: Actions Needed to Improve Oversight of Post-Apprehension Consequences*, [GAO-17-66](#) (Washington, D.C.: Jan. 12, 2017).

At Ports of Entry

Estimates—using alternative methodologies where appropriate, including recidivism data, survey data, and randomized secondary screening data—of the three following metrics:

Total inadmissible travelers at ports of entry. The total inadmissible travelers who attempt to, or successfully, enter the United States at a port of entry.¹⁷

Refusal and interdiction rate at ports of entry. The rate of refusals and interdictions for travelers who attempt to, or successfully, enter the United States at a port of entry.¹⁸

Unlawful entries at ports of entry. The number of unlawful entries at a port of entry.¹⁹

Illicit drugs seized at ports of entry. The amount and type of illicit drugs seized by the U.S. Customs and Border Protection's (CBP) Office of Field Operations (OFO) at ports of entry during the previous fiscal year.²⁰

Port of entry illicit drugs seizure rate. Illicit drugs seizure rate for drugs seized by OFO, which compares the ratio of the amount and type of illicit drugs seized OFO in any fiscal year to the average of the amount and type of illicit drugs seized by OFO in the immediately preceding 5 fiscal years.²¹

Major infractions at ports of entry. The number of infractions related to travelers and cargo committed by major violators who are interdicted by OFO at ports of entry, and the estimated number of such infractions committed by major violators who are not so interdicted. Major violators are persons or entities that have engaged in serious criminal activities at any land, air, or sea port of entry, including the following: (A) possession of illicit drugs, (B) smuggling of prohibited products, (C) human smuggling, (D) possession of illegal weapons, (E) use of fraudulent

¹⁷6 U.S.C. § 223(c)(1)(A)(i); 8 U.S.C. § 1182(a).

¹⁸6 U.S.C. § 223(c)(1)(A)(ii)

¹⁹Id. at § 223(a)(11), (c)(1)(A)(iii).

²⁰Id. at § 223(c)(1)(B).

²¹Id. at § 223(c)(1)(C).

documents, and (F) any other offense that is serious enough to result in an arrest.²²

Cocaine seizures effectiveness rate. In consultation with the heads of the Office of National Drug Control Policy and the U.S. Southern Command, a cocaine seizure effectiveness rate, which is the percentage resulting from dividing the amount of cocaine seized by OFO by the total estimated cocaine flow rate at ports of entry along the U.S. land border with Mexico and Canada.²³

A measurement of how border security operations affect crossing times, including the four following metrics:

Ratio of average wait times and traffic volume. A wait time ratio that compares the average wait times to total commercial and private vehicular traffic volumes at each land port of entry.²⁴

Infrastructure capacity utilization rate. An infrastructure capacity utilization rate that measures traffic volume against the physical and staffing capacity at each land port of entry.²⁵

Secondary examination rate. Rate that measures the frequency of secondary examinations at each land port of entry.²⁶

Secondary examinations effectiveness rate. Enforcement rate that measures the effectiveness of such secondary examinations at detecting major violators.²⁷

A seaport scanning rate that includes the four following metrics:

Number of potentially “high-risk” cargo containers. The number of all cargo containers that are considered potentially

²²Id. at § 223(a)(5), (c)(1)(D).

²³Id. at § 223(c)(1)(E).

²⁴Id. at § 223(c)(1)(F)(i).

²⁵Id. at § 223(c)(1)(F)(ii).

²⁶Id. at § 223(c)(1)(F)(iii).

²⁷Id. at § 223(c)(1)(F)(iv).

“high-risk,” as determined by the Executive Assistant
Commissioner of OFO.²⁸

Ratio of potentially high-risk cargo containers scanned relative to high-risk containers entering in previous fiscal year. A comparison of the number of potentially high-risk cargo containers scanned by OFO at each sea port of entry during a fiscal year to the total number of high-risk cargo containers entering the United States at each such sea port of entry during the previous fiscal year.²⁹

Potentially high-risk cargo containers scanned upon U.S. arrival by sea. The number of potentially high-risk cargo containers scanned upon arrival at a U.S. sea port of entry.³⁰

Potentially high-risk cargo containers scanned before U.S. arrival by sea. The number of potentially high-risk cargo containers scanned before arrival at a U.S. sea port of entry.³¹

Maritime Border

Situational awareness achieved in the maritime environment.

Knowledge and understanding of current unlawful cross-border activity in the maritime environment, including the following: (A) threats and trends concerning illicit trafficking and unlawful crossings, (B) the ability to forecast future shifts in such threats and trends, (C) the ability to evaluate such threats and trends at a level sufficient to create actionable plans, and (D) the operational capability to conduct persistent and integrated surveillance of the international borders of the United States.³²

Known maritime migrant flow rate. An unspecified rate of known maritime migrant flow, which flow is the sum of the number of undocumented migrants—(A) interdicted in the waters over which the United States has jurisdiction; (B) identified at sea either directly or indirectly, but not interdicted; (C) if not described in (A) or (B), who were otherwise reported, with a significant degree of certainty, as having

²⁸Id. at § 223(c)(1)(G)(i).

²⁹Id. at § 223(c)(1)(G)(ii).

³⁰Id. at § 223(c)(1)(G)(iii).

³¹Id. at § 223(c)(1)(G)(iv).

³²Id. at § 223(a)(7), (d)(1)(A).

entered, or attempted to enter, the United States through the maritime border.³³

Illicit drugs removal rate. Rate for drugs removed inside and outside of a transit zone, which compares the amount and type of illicit drugs removed, including drugs abandoned at sea, by DHS maritime security components in any fiscal year to the average of the amount and type of illicit drugs removed by such maritime components for the immediately preceding 5 fiscal years. The term “transit zone” means the sea corridors of the western Atlantic Ocean, the Gulf of Mexico, the Caribbean Sea, and the eastern Pacific Ocean through which undocumented migrants and illicit drugs transit, either directly or indirectly, to the United States.³⁴

Cocaine removal effectiveness rate. In consultation with the heads of the Office of National Drug Policy and the U. S. Southern Command, a rate for cocaine removed inside a transit zone and outside a transit zone that compares the amount of cocaine removed by DHS maritime security components with the total documented cocaine flow rate, as contained in federal drug databases.³⁵

DHS known maritime threat response rate. Rate that compares the ability of the maritime security components of DHS to respond to and resolve known maritime threats, whether inside or outside a transit zone, by placing assets on-scene, with the total number of events with respect to which DHS has known threat information.³⁶

Intergovernmental actionable maritime threat response rate. Rate that compares the ability of the maritime security components of DHS or other U. S. government entities to respond to and resolve actionable maritime threats, whether inside or outside a transit zone, with the number of such threats detected.³⁷

³³Id. at § 223(a)(4), (d)(1)(B).

³⁴Id. at § 223(a)(8), (d)(1)(C).

³⁵Id. at § 223(a)(8), (d)(1)(D).

³⁶Id. at § 223(d)(1)(E).

³⁷Id. at § 223(a)(8), (d)(1)(F).

Air and Marine Security in
the Land Domain

Flight hour effectiveness rate. Rate that compares CBP Air and Marine Operations (AMO) flight hours requirements the number of flight hours flown by AMO.³⁸

Funded flight hour effectiveness rate. Rate that compares the number of funded flight hours appropriated to AMO to the number of actual flight hours flown by AMO.³⁹

AMO readiness rate. Rate that compares the number of aviation missions flown by AMO to the number of aviation missions cancelled by AMO due to maintenance, operations, or other causes.⁴⁰

AMO weather-related cancellation rate. The number of missions AMO cancelled due to weather compared to the total number of planned missions.⁴¹

Individuals detected by AMO. The number of individuals detected by AMO through the use of unmanned aerial systems and manned aircraft.⁴²

Apprehensions assisted by AMO. The number of apprehensions assisted by AMO through the use of unmanned aerial systems and manned aircraft.⁴³

Illicit drug seizures assisted by AMO. The number and quantity of illicit drug seizures assisted by AMO through the use of unmanned aerial systems and manned aircraft.⁴⁴

³⁸Id. at § 223(e)(1)(A).

³⁹Id. at § 223(e)(1)(B).

⁴⁰Id. at § 223(e)(1)(C).

⁴¹Id. at § 223(e)(1)(D).

⁴²Id. at § 223(e)(1)(E).

⁴³Id. at § 223(e)(1)(F).

⁴⁴Id. at § 223(e)(1)(G).

**Appendix II: Border Security Metrics as
Described in the National Defense
Authorization Act for Fiscal Year 2017**

AMO actionable intelligence. The number of times that actionable intelligence related to border security was obtained through the use of unmanned aerial systems and manned aircraft.⁴⁵

⁴⁵Id. at § 223(e)(1)(H).

Appendix III: GAO Contact and Staff Acknowledgments

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In addition to the contact named above, Taylor Matheson (Assistant Director), Eric Warren (Analyst-in-Charge), Kelsey M. Carpenter, Benjamin Crossley, Dominick Dale, Michele Fejfar, Madeline Kasik, Sasan J. "Jon" Najmi, and Jeff Tessin made key contributions to this report.

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