Animal Disease Traceability

National Priority Tracing
Summary Report
2013-2022 Cooperative Agreement Periods

Background

The Animal Disease Traceability (ADT) program was established in 2013 to improve the ability of Federal, State, and Tribal animal health officials to trace livestock covered under 9 CFR part 86 in the event of an animal disease outbreak. ADT is a performance-based program that measures cooperators' (i.e., states and territories) progress through a specific set of four Traceability Performance Measure exercises (TPMs). These TPMs were established by a State-Federal working group in 2010 and are based on exercising activities that are typically associated with the administration of trace investigations (trace-back or trace-forward). The following four TPM questions were chosen for the exercises because they can be uniformly measured regardless of the complexity of the trace:

TPM 1: In what State was an inbound animal officially identified prior to entering your State?
TPM 2: Where in your State was the animal officially identified?
TPM 3: From what State was an inbound animal shipped?
TPM 4: From what location in your State was an outbound animal shipped?

Since the start of the ADT program in 2013, there has been an overall downward trend in the elapsed time to complete each TPM reflecting improvement in cooperators' animal disease traceability systems. Each year's analysis of TPM data demonstrates improvement in the national average elapsed times. A benchmark metric was established as the combined average elapsed time of three TPMs (TPMs 2, 3, and 4). This metric decreased from a baseline of 490 hours prior to the 2013 implementation of the program to 11.5 hours six years later in the 2019-2020 year. The 7th and 8th years (2020-2021 and 2021-2022) show that most cooperators were able to complete any of the TPMs in less than one hour.

Based on direct communication with cooperators while administering the exercises, improvement has been reported as due to the following:

- Increased use of electronic record keeping processes, electronic identification (EID), and electronic ICVI applications.
- Recording of TPMs directly into the EMRS2 database which allows ADT staff to provide oversight and traceability training to cooperators while TPMs are in progress.
- Increased familiarity with TPMs and the advance notice to cooperators in 2020-2022 allowed them to choose times when they could treat the traces as highest priority work.
- Sustained educational outreach by VS ADT staff and a higher level of cooperator understanding (content knowledge, familiarity with methods and relevant databases) which facilitates a greater ability to successfully complete these traces in less time.

When considering the improvement in the TPMs over time it is important to remember that these performance measures were specifically designed to assess a cooperator's ability to properly administer, record, and retrieve documents pertaining to official livestock identification and interstate movement of cattle and bison covered under the ADT rule. While substantial progress has been made in tracing capabilities, covered cattle and bison represent a subset of the total population since many cattle are exempt from the rule and do not need official identification to travel intrastate or interstate.

Although cooperators' abilities to complete the TPMs has improved, each year a portion of the TPMs could not be completed and were terminated due to an inability to locate records and data. For example, in the 8th year (2021-2022), visual metal National Uniform Ear tagging System (NUES) tags represented about a third of all traces but composed 70% of the terminated traces. With visual metal ear tags, the animal must be restrained to allow the ear tag to be read and transcribed. Visual ear tag numbers may be recorded on paper or manually entered in a database and errors can occur while reading, transcribing, or entering the ear tag numbers. Reading ear tags electronically does not require restraint of animals because the animal identification number is captured almost instantaneously by scanning the ear tag with a reader. Once the tag is scanned, the electronically collected tag number can be rapidly and accurately transmitted from the EID reader to a connected electronic database.

It is expected that TPM progress will be maintained or slightly improve as cooperators continue to convert from paper to electronic record keeping, engage in greater use of electronic identification and electronic ICVI solutions, and maintain accurate official identification distribution and movement records in databases.

Administration of National Priority Tracing

During each of the first five years since the establishment of the ADT program, each cooperator completed a certain number of TPMs based on the size of their cattle population, and the TPMs were administered without advance notice. Beginning in 2020 (7th year), the administration of TPMs was modified and became known as National Priority Tracing, which differs from the original process of TPM administration in that each cooperator completes only two of each TPM question for a total of eight TPMs and is contacted in advance to schedule time to complete the traces. The opportunity to schedule TPMs in advance allows cooperators to devote proper time and resources to the traces as if they were actual disease priorities. This provides a more accurate measure of their tracing capabilities.

Since the TPMs measure tracing capabilities of cattle and bison covered under the ADT rule, only official identification numbers (e.g., NUES or 840 AIN tags) are used for completing TPMs. The official identification numbers are sourced from tag application records or documents (e.g., test or vaccination records, interstate certificates of veterinary inspection [ICVI], or slaughter records) generated within the last three years. ADT staff conduct National Priority Tracing and provide cooperators with official identification numbers that are used to complete the TPMs. Cooperators complete the traces by searching records or contacting livestock markets, veterinarians, or others as they would during a disease outbreak.

The "elapsed time" value, in hours, is measured for each TPM. When recording the elapsed time, the start time is when the cooperator is notified of the official identification number and the end time is when they answer the question posed by the TPM. The elapsed time is influenced by the time to retrieve relevant records (from either electronic databases or a paper filing systems) or to contact veterinary offices or livestock markets for records not in State or Federal databases. Inaccurate records delay or result in termination of the trace.

Tribes with cooperative agreements are exempt from completion of the TPMs as most animal movement occurs within the tribal boundaries and is not under federal regulatory authority. Tribes without cooperative agreements work with the state in which the tribal boundaries lie.

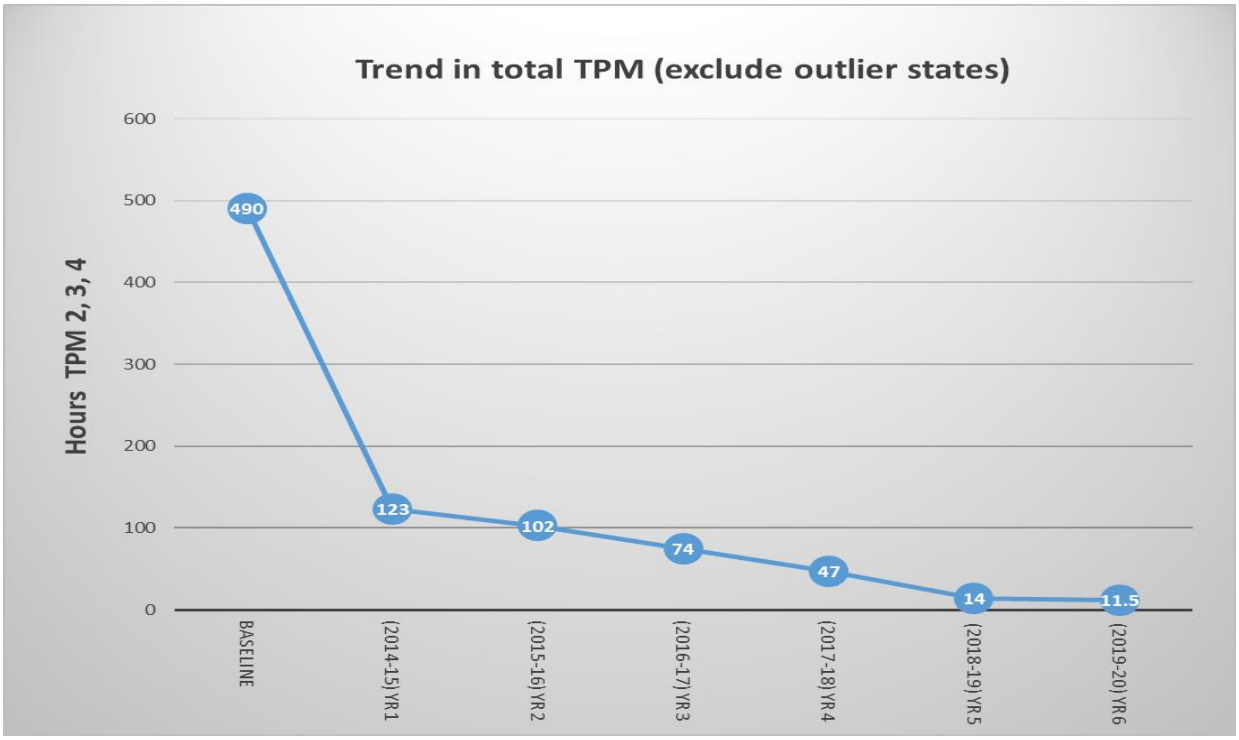
Performance Period Comparisons

Following the launch of the ADT program in 2013, funding has been provided to state and tribal cooperators each year to enhance traceability. Six functional areas are targeted for the funding to assist cooperators in enhancing the speed and accuracy of tracing as well as to provide outreach to stakeholders. Each cooperator is required to have a three-year roadmap which outlines their plan for enhancing traceability in their state, territory, or tribe and addresses six areas targeted for use of the funding.

1. Performance during National Priority Tracing exercises.
2. Inclusion of activities that support and advance use of official identification and record keeping, including the use of EID tags and reading devices.
3. Information sharing and integration of information systems.
4. Enhancement of electronic record keeping systems and electronic Certificates of Veterinary Inspection.
5. Outreach and information sharing with livestock producers.
6. Compliance with regulations.

National baseline values were established for each TPM using data that were reflective of each cooperator's record keeping and retrieval systems that existed prior to implementation of the regulation in 2013. Since then, comparisons to the baseline values document significant progress using a metric composed of combined average elapsed times for TPMs 2-4 (Figure 1). This metric decreased from a baseline of 490 hours to the 6th year metric of 11.5 hours. The 6th year metric of 11.5 hours includes the TPMs that were administered with and without advance notice.

Figure 1 *Demonstrates the steady reduction in combined average times for cooperators to complete TPMs 2-4 across each of the first six years after implementing 9 CFR part 86. The baseline prior to 2013 was 490 hours with rapid reduction in first year then steady reduction through the sixth year at 11.5 hours.*



In the 7th and 8th years (2020-2022) National Priority Tracing was instituted and traces were administered with advance notice so cooperators could prioritize them as if they were actual disease investigations. The ability to prioritize traces further reduced trace completion times (i.e., the elapsed times). Table 1 compares the national average and median elapsed times for each TPM for the 7th and 8th year cooperative agreement periods. In the eighth year, more than half of the cooperators were able to complete any single trace in about a half hour.

Table 1. *National Average and Median Elapsed Times for each TPM. For the years 2020-2022 both average and median times for any of the four TPMs were at or below one hour.*

TPM #	7th year (2020-21)		8th year (2021-22)	
	Average Elapsed Time (hours)	Median Elapsed Time (hours)	Average Elapsed Time (hours)	Median Elapsed Time (hours)
1	0.91	0.39	0.67	0.30
2	1.01	0.44	0.57	0.28
3	0.98	0.41	0.83	0.35
4	1.03	0.55	0.65	0.34