



Secretary of State **Oregon Audits Division**



Department of Human Services

Oregon's Child Welfare Information System Is Adequate for Case Management, but Enhancements Are Needed to Improve Usability

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Executive Summary

Department of Human Services

Oregon's Child Welfare Information System Is Adequate for Case Management, but Enhancements Are Needed to Improve Usability

Why This Audit is Important

- » Oregon's Child Welfare caseworkers rely on data in OR-Kids to make decisions that affect the safety and well-being of children in foster care.
- » OR-Kids is a critical tool that should support case management activities.
- » Child Welfare managers and policy makers rely on OR-Kids data to inform program oversight.
- » Data in OR-Kids is reported to the federal government and inaccuracies could put federal funding at risk.

What We Found

1. The OR-Kids information system is functional for basic case management, in that it facilitates the storage and retrieval of case information. However, it is difficult to use, which decreases caseworker efficiency and puts Child Welfare data quality at risk. [\(pg. 6\)](#)
2. The Department of Human Services (DHS) has not fully identified which Child Welfare data is most critical and does not have a data governance program in place to manage data quality. [\(pg. 16\)](#)
3. Training is important to ensure that caseworkers and supervisors maintain data quality when they enter information into OR-Kids. However, the OR-Kids training program could be strengthened. [\(pg. 19\)](#)
4. Rather than replacing OR-Kids, DHS has elected to transition the existing system to meet new federal requirements. The agency is moving forward with the project, but is very early in this process and needs to monitor ongoing risks. [\(pg. 20\)](#)

What We Recommend

To improve OR-Kids usability and data quality management, DHS should continue to engage with program staff and other users to address usability concerns; implement a data governance function; fully identify critical data; and improve the OR-Kids training program. To ensure processes and controls are in place to successfully transition OR-Kids to a Comprehensive Child Welfare Information System, the department should acquire a qualified project manager and maintain engagement with project oversight entities.

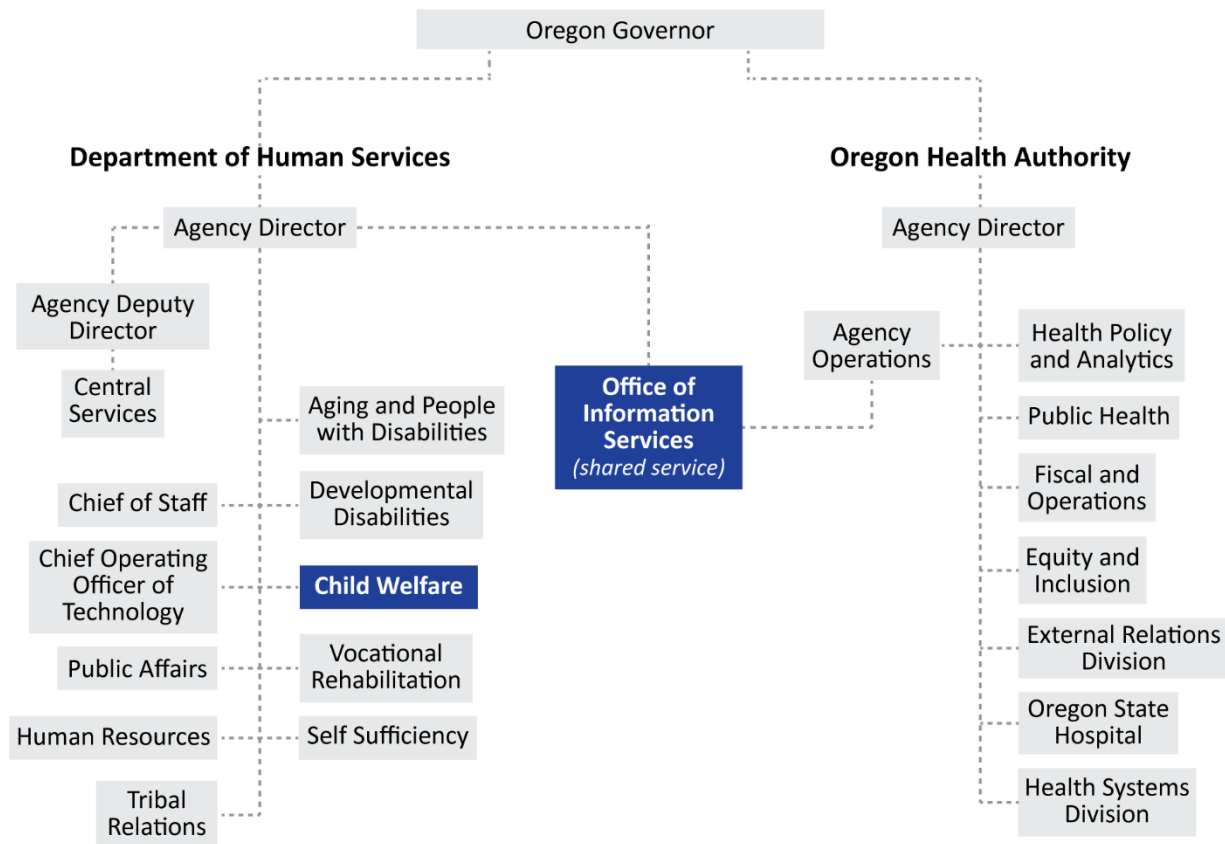
DHS agreed with all of our recommendations. Their response can be found at the end of the report.

Introduction

The mission of the Department of Human Services (DHS) is to help Oregonians in their own communities achieve well-being and independence through opportunities that protect, empower, respect choice, and preserve dignity. The agency provides services to assist Oregon’s vulnerable groups, including programs for aging adults, people with disabilities, and children in foster care. Child Welfare programs at DHS aim to improve family capacity to provide safe and permanent living environments for children in foster care in Oregon.

Child Welfare programs accounted for \$1.07 billion of the department’s \$11.38 billion total budget for the 2017-19 biennium. They are funded by General Fund (52%), federal fund (46%), and other fund dollars. Federal funds include Title XIX Medicaid, Title IV-E Foster Care and Adoption Assistance, and grant monies.

The agency’s central office is located in Salem, sharing a building with the Oregon Health Authority (OHA). DHS and OHA also share several internal service functions, including financial services, human resources, and information services. In addition to the central Salem office, DHS has 16 districts. Within the districts, there are 60 offices administering programs related to child protection, adoption, guardianship, foster care, residential treatment, foster parent/relative caregiver certification, and independent living.

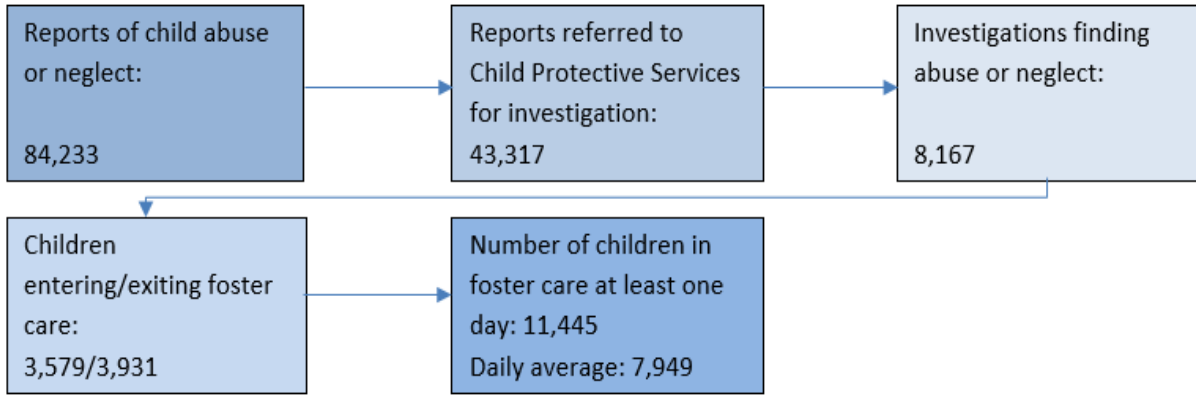


OR-Kids is critical to managing Oregon’s Child Welfare program

Child Welfare is a complex program with multiple steps

In the federal fiscal year ending September 30, 2018, Child Welfare served 11,445 children who spent at least one day in foster care. During that same time period, DHS received and reviewed 84,233 reports of abuse and neglect and referred 43,317 reports to Child Protective Services (CPS) workers for investigation.

Figure 1: Of the 84,233 reports, investigators in Oregon found over 8,100 instances of abuse or neglect



Source: 2018 Child Welfare Data Book

When investigators determine abuse or neglect occurred, a CPS caseworker may decide to close the investigation because the child is safe, open the case and implement an in-home safety plan, or remove the child from the home. If removed, the child enters state custody and is assigned a permanency caseworker to manage and monitor their case. After removal, the caseworker may return the child to the home with a period of monitoring, though most are placed with foster families or relatives. High-needs children and teens may be placed in more restrictive institutional settings or behavior rehabilitative programs.

A local court decides whether and for how long the child stays in state custody. Upon leaving state custody, the child may be returned to their home, become available for adoption through foster care, or enter long-term foster care or guardianship.

In addition to ensuring children are in safe and positive environments, caseworkers must also maintain voluminous documentation to satisfy state and federal requirements. The agency must comply with federal program standards, including those governing Child and Family Services; Child Support; Foster Care, Adoption Assistance and Guardian Assistance; Medicaid; Social Services Block Grant; and Emergency Assistance programs.

The DHS Child Welfare program also must adhere to state laws and regulations, such as the Strengthening, Preserving and Reunifying Families law and the Interstate Compact on the Placement of Children. These laws and standards are ever-changing; for example, the Governor’s recent Executive Order 19-03 established a Child Welfare Oversight Board to make and implement recommendations related to out-of-state foster child placements, building capacity for foster care, and availability of data.¹

Child Welfare is a complex program

The Child Welfare Procedure Manual contains 1,981 pages.

OR-Kids guides contain over 1,350 pages of reference materials and instructions.

¹ [Executive Order no. 19-03: Establishing an Oversight Board to Address the Crisis in Oregon’s Child Welfare System](#)

DHS has a 1,981 page manual to document what is required of caseworkers and how to fulfill Child Welfare practice requirements. A critical tool for tracking each of these elements of case management is the OR-Kids computer system. Users also have access to OR-Kids online guides containing over 1,350 pages of reference materials and instructions.

OR-Kids tracks and manages Child Welfare cases for thousands of children

DHS needs a robust computer system to track and manage thousands of Child Welfare cases, reports of abuse and neglect, and subsequent investigations; the agency's computer system, OR-Kids, serves this purpose. Some of the dozens of Child Welfare program functions supported by the system include provider certification, adoption work, eligibility determinations, case planning and tracking, payment processing, and federal reporting. The system's database currently contains over 400 tables containing more than 10,000 fields, which collectively contain over 600 million records, including approximately 1.8 million people associated with over 448,000 closed and 31,000 open cases.

Before OR-Kids, Child Welfare used outdated legacy systems and ancillary systems for case management. To help Oregon meet reporting requirements and improve Child Welfare programs, the federal government provided funding to cover 50% of the costs of a computer system to replace outdated legacy systems. In April 2007, DHS issued a formal Request for Proposal to design and develop its proposed system. Department officials indicated that the only viable proposal they received was from CGI Technologies and Solutions, Inc. In March 2008, the department accepted CGI's bid and both parties signed a contract to transfer and customize a new Child Welfare computer system called OR-Kids.

CGI had implemented similar systems in other states and based OR-Kids on its Wisconsin version with customization for Oregon. The original CGI contract price for OR-Kids was not to exceed \$29.6 million, but after multiple delays and amendments, the final cost of the contract was about \$40 million. The total cost of the project, including all contractors, state personnel costs, and other ancillary costs was about \$74 million.

On August 29, 2011, more than a year after the original planned implementation date, the department activated OR-Kids, but did not formally accept the system because of significant system defects. The department negotiated a resolution with CGI and took full responsibility for the support and operation of OR-Kids in March 2013.

DHS and OHA manage the OR-Kids system

After parting ways with CGI, the responsibility for system maintenance and changes fell to the technical team at the Office of Information Services (OIS).² This team is responsible for ensuring OR-Kids functions as needed for program staff, including fixing bugs and certain types of data entry errors, maintaining technical infrastructure, and developing code for system changes. This is in contrast to other major DHS and OHA computer systems that rely on contractors for much of their support, such as the Medicaid Management Information System and the Oregon Eligibility System.

The technical team works closely with the Child Welfare business team and program leadership to identify and prioritize needed changes to the system. In turn, the business team works closely with the various Child Welfare units to evaluate trouble tickets and determine how they need to be addressed.

² OIS provides shared information services for OHA and DHS.

The Child Welfare program has experienced challenges in recent years, including the original implementation of OR-Kids, but enhancements are underway

DHS Child Welfare has been under scrutiny in recent years for being disorganized, inconsistent, and representing a high risk for children in the system's care. An audit released by our office in 2018 found that DHS and Child Welfare struggled with chronic and systemic management shortcomings, lacked sufficient placement options to meet the needs of at-risk children, and faced staffing challenges that compromised the program's ability to perform essential Child Welfare functions.³ The audit found that poorly planned and implemented initiatives, including the 2011 implementation of OR-Kids, undermined caseworkers' and managers' efforts to improve child safety.

Since OR-Kids' implementation, our office has issued several findings regarding issues with its financial processing functions. For example, in 2014, our office released an audit that found OR-Kids was erroneously adjusting expenditure funding, resulting in approximately \$23.9 million of federal funding overdraws.⁴ Additionally, our office's financial audit team has issued several findings in prior years regarding ineffective review, incomplete data, inappropriate claims, inadequate eligibility documentation, and financial transaction processing errors.⁵

Current efforts are addressing some Child Welfare problems

DHS has taken positive strides to address identified risks and programmatic issues, and to improve outcomes in the Child Welfare program.

In June 2019, our office released a follow-up report of the agency's progress in addressing recommendations made in the foster care audit released in 2018.⁶ Although extensive work remained, the agency made progress on all 24 recommendations, including taking steps to adopt a data-driven decision-making strategy. The agency opened the Office of Reporting, Research, Analytics and Implementation (ORRAI) to spearhead this effort.

ORRAI has begun to develop and introduce predictive analytics tools to help Child Welfare better focus child safety services on children most at risk of abuse, while reducing response and workload on low-risk cases. The agency started to implement the first tool in December 2018, which supports screening and relies on data from OR-Kids for both building the predictive model and applying it to screening activities.

The federal government recently developed a new standard for Child Welfare computer systems

The Administration for Children and Families (ACF) publishes rules governing Child Welfare information systems for agencies seeking federal funding. Until recently, such agencies were required to comply with rules published in 1993, and amended in 2012, for systems referred to as Statewide Automated Child Welfare Information Systems (SACWIS). However, in recognition of changes in Child Welfare practice and advancements in technology, ACF published a final rule

³ [Audit Report 2018-05: "Department of Human Services Child Welfare System: Foster Care in Oregon: Chronic management failures and high caseloads jeopardize the safety of some of the state's most vulnerable children"](#)

⁴ [Audit Report 2014-28: "Department of Human Services: OR-Kids Financial System Problems"](#)

⁵ [Audit Report 2019-14: "Fiscal Year 2018 Statewide Single Audit Report"](#)

⁶ [Audit Report 2019-24: "Department of Human Services Recommendation Follow-up Report: DHS Has Made Important Improvements, but Extensive Work Remains to Ensure Child Safety"](#)

in 2016 that establishes requirements for Comprehensive Child Welfare Information Systems (CCWIS).⁷ Major provisions of the rule include:

- Providing Child Welfare agencies with flexibility to determine the size, scope, and functionality of their information system;
- Allowing the agency to build a CCWIS to obtain required data from external information systems so that a copy of that data is then stored and managed in the CCWIS;
- Emphasizing data quality and requiring a new data quality plan;
- Requiring new bi-directional data exchanges and use of electronic data exchange standards that strengthen program integrity; and
- Promoting more efficient and less expensive development of reliable systems that follow industry design standards including development of independent, reusable modules.

ACF required agencies to declare by August 1, 2018, whether they would build a new CCWIS, transition their SACWIS to a CCWIS, or become non-CCWIS compliant and lose some federal funding. In response to these changes, DHS declared to ACF that the agency would transition OR-Kids to a CCWIS. As part of the transition process, DHS developed a data quality plan for OR-Kids, which it submitted to ACF in August 2019. Additionally, in a planning document also submitted in August, the agency identified a body of work and staffing needed to support the development strategy to achieve CCWIS compliance, including:

- Implement new technologies to remove caseworker usability constraints;
- Allocate additional technical resources for system development;
- Design and develop new modular solutions;
- Modify restraints to enable OR-Kids to operate with newer technologies;
- Modify user interface configuration to improve usability;
- Develop data standards;
- Redesign the current data structure to improve system functionality;
- Add additional business team positions to support data quality, testing, and responsiveness to user needs;
- Staff a data quality team; and
- Integrate the OR-Kids training team into the business team to increase training capacity.

Although agencies were required to declare their CCWIS intentions by 2018, ACF's rule states that a CCWIS may be built at any time. In its planning document, the agency states that it will likely be CCWIS compliant by August 2021. In addition to meeting compliance requirements, the agency plans to conduct a phased replacement of some OR-Kids functionality, which it anticipates completing by the end of 2024.

⁷ [Comprehensive Child Welfare Information System Final Rule](#)

Audit Results

We found that OR-Kids adequately performs basic case management functions and generally produces accurate reports based on data recorded in the system, though its effectiveness and efficiency is hindered by usability issues. This has resulted in worker dissatisfaction and distrust of the primary tool they are required to use for case management work. As a result, some major program areas use resources outside of the system to track and manage their work, which increases the risk that important information will not be captured in OR-Kids, the official system of record. Mitigating longstanding usability issues has not been prioritized until recent years due to higher program priorities and mandates.

Although planning is in progress, DHS has not yet developed a data quality management program or completed the identification of which data in OR-Kids is most critical. Defining these elements is important to ensure that the agency has designed and implemented appropriate controls to ensure critical data is complete, accurate, and reliable. Because caseworkers record information directly into OR-Kids, training of caseworkers and supervisors is a key component of ensuring data is accurately and completely recorded. However, program managers have not ensured users have the required skills to fully comply with case management policy.

We also found that DHS did not complete a full feasibility study or cost analysis prior to declaring its intention to modify the current OR-Kids system to meet new federal requirements. The agency is moving forward with initial planning steps for the project. Diligence will need to be applied throughout the project to manage existing risks and ensure successful implementation.

OR-Kids adequately performs basic case management functions, but usability issues create inefficiencies and data quality risks

While the OR-Kids computer system collects and reports basic case management information, some users and managers do not trust the reports. Users also find the system difficult to navigate and have trouble using it to see and understand how people have interacted with the Child Welfare program. As a result of usability issues, caseworkers may document some key work outside of the system, increasing the risk that needed information may not be in OR-Kids. Difficulties using the system also add to the burden of caseworkers who are already overworked and expected to document a large volume of information about children and families. Although DHS has made changes and fixes, it was only in 2018 that it began prioritizing efforts to make the system easier to use.

OR-Kids meets basic case management needs and generates reports based on system information

Caseworkers are expected to use OR-Kids to record and track all information associated with a Child Welfare case, from the time abuse or neglect is first reported until the child leaves the program. This includes recording and maintaining critical information such as screening reports of child abuse, investigations of alleged abuse, foster care placements, child safety plans, family and child-specific case plans, and face-to-face meetings between caseworkers and children or families.

Generally, we found the system is able to capture information needed to support program goals. This includes the capacity to:

- Identify individuals and their demographic information and link them to cases and assessments;

- Document required information for screening reports of child abuse and neglect, including notes, participants, allegations, and decisions regarding whether the report will be assigned for investigation;
- Link screening reports to CPS assessments and document CPS assessment activities and results, including:
 - Identifying whether allegations were founded or unfounded,
 - Documenting the type of alleged maltreatment,
 - Identifying the alleged victims and perpetrators, and
 - Concluding whether the victims are deemed safe or unsafe at the conclusion of the assessment;
- Document safety or case plans associated with children and families that provide roadmaps for how the safety and well-being of children will be managed;
- Certify and track foster care providers; and
- Record placements of children with foster care providers and any modifications made due to new service types or providers.

If users have put the required information into the computer system, it is technically available for retrieval; however, navigating the system is often confusing and inefficient.

OR-Kids produces reports for programmatic decision-making or tracking certain case goals using several different mechanisms. In addition, ORRAI uses a data warehouse which includes OR-Kids data, allowing ad hoc reporting and queries based on program needs.

Reports generated from OR-Kids act as a control mechanism to manage the timeliness and completeness of casework by helping caseworkers and managers track work and report on items that are due or unfinished. We found that these reports generally reflect the data recorded in the system, though we identified some minor exceptions and discrepancies.

For example, a report showing case plan status had data issues associated with pre-adoptive cases, which may result in case plans being reported erroneously as overdue or more overdue than they actually are. Another report, showing screening report status, may display slightly different information from one day to the next, even if the user selects the same exact time period, due to background changes to data. Some of these changes are not visible to the end user, which contributes to distrust of the accuracy of the report even though it accurately reflects the current status of each screening report in the system at the time the report was created.

Gaps in the automatically generated reports have prompted some managers to request additional data extracts from ORRAI, which builds and runs them as requested. Managers generally expressed confidence that these extracts provide useful and accurate information.

OR-Kids is not a user-friendly system

Best practices indicate that management should have processes in place to ensure information systems are considered usable and that stakeholder expectations are met. Although there are some indications that OR-Kids usability is improving, users rate the system relatively low on ease of use. We identified numerous challenges associated with navigating OR-Kids that, when taken together, add up to a system that frustrates users and does not help streamline their work. Although management has been aware of some of these concerns since 2015, due to other mandated changes that required significant system modifications, it was not until 2018 that they began to prioritize system changes to improve usability.

As part of an anonymous survey, we asked OR-Kids users to rate the system using a 10 question system usability scale. Research indicates an average score is 68, with scores below 51 falling into the bottom 15% based on system usability scores recorded over a period of many years and

across many systems. Users scored OR-Kids at 45.⁸ Although usability is a subjective concept, especially for a complex system such as OR-Kids, these results illustrate caseworker frustrations regarding the system they are required to use for their critical work.

We also invited respondents to share any additional thoughts or concerns about using OR-Kids. Multiple users shared concerns in the following areas:

- OR-Kids navigation is cumbersome, not intuitive, and unnecessarily complex;
- The system requires too many “clicks” in order to perform needed work, such as adding documents to the file cabinet or creating assessments;
- Caseworkers need to perform duplicate data entry in areas such as documenting case notes for multiple people;
- The search function is unreliable and can require extra steps; and
- The system and some specific screens do not always function as expected, leading caseworkers to lose work if they do not save frequently.

Selection of user comments from survey

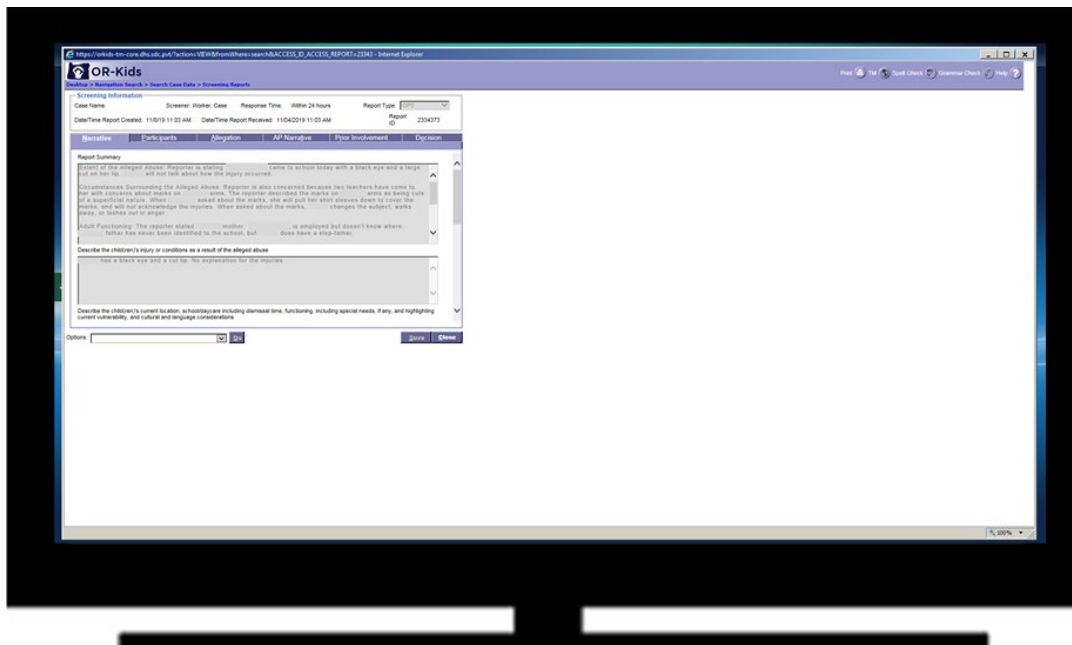
“...They said... all you'll have to do is ‘click’ on buttons and it takes you there. Well my gosh, that's all I do is click on things, several things, just to get where I want to go.”

“... It’s not easy to search appropriately and you often can’t find people even when you know they are there...”

“... it is nice that certain items will automatically pull into the case plan and other documents, making that part less tedious...”

Users also reported that screen size detracts from ease of use. OR-Kids displays many critical screens in a small portion of the monitor, regardless of monitor size. While the main screen can be resized, the individual screens remain small and cannot be made larger by the user, as shown in Figure 2.

Figure 2: OR-Kids screens cannot be expanded to fit the available space

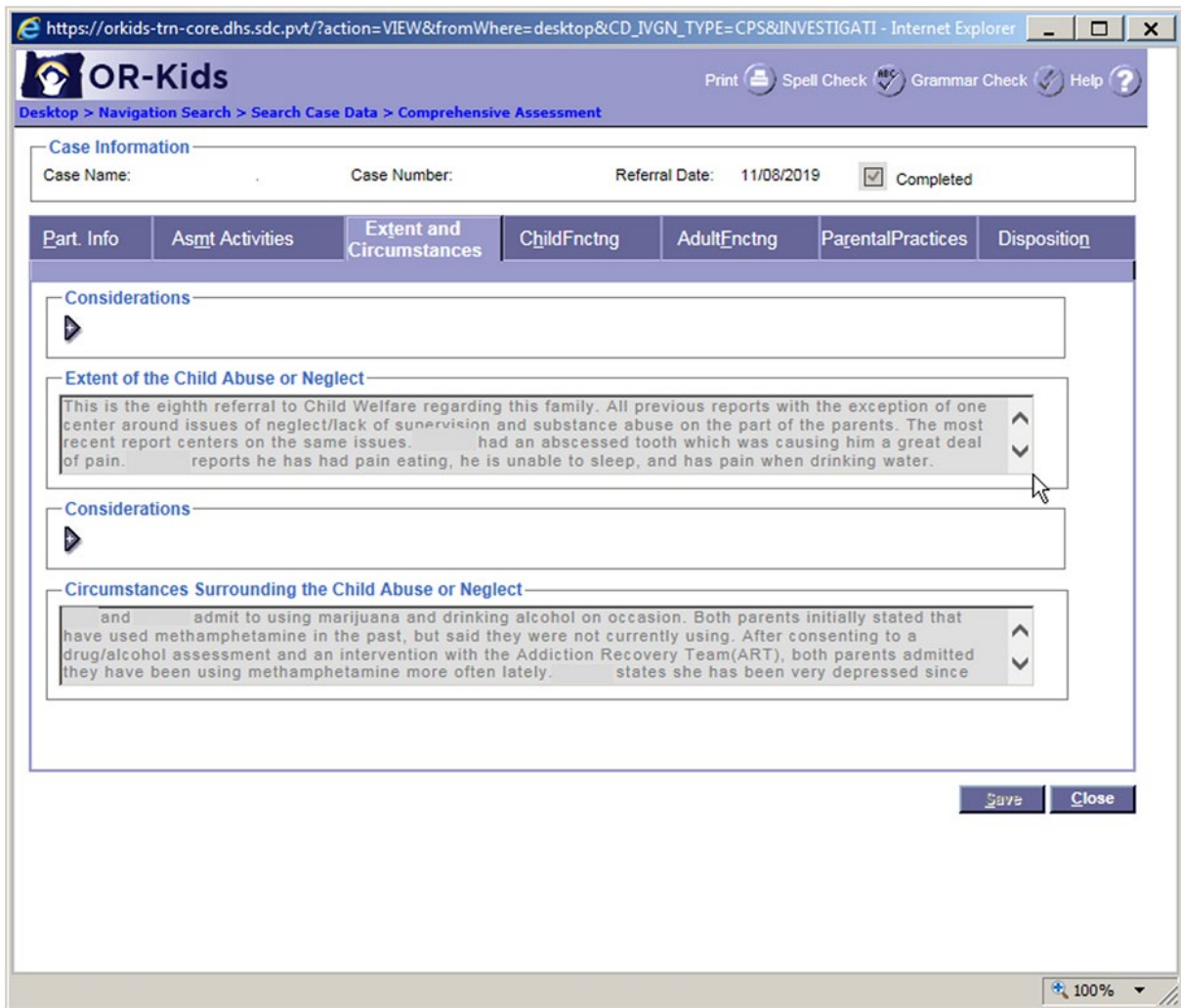


Source: OR-Kids Training database (not actual case data)

⁸ See section “[Objective, Scope, and Methodology](#)” and [Appendix A](#) for more information about the usability survey.

OR-Kids users also expressed frustration with the size of text boxes in which caseworkers write notes about their investigation or document family circumstances. Many narrative text boxes only show four lines at a time, as illustrated in Figure 3. However, the content of these notes can be enough to fill multiple pages, making the small text box insufficient for easy reading.

Figure 3: Many text boxes show four lines without an option to expand the text box



Source: OR-Kids Training database (not actual case data)

DHS created change requests to address problems with the size of screens and text boxes in 2015. The change request associated with expanding overall screen sizes was listed as a “Major” priority, and from 2015 through 2019, various notes and clarification of requirements were added to the change ticket. The ticket remained in the “Ready for Development” status for 692 days before it was moved to the “In Progress” status in August 2019. This change request was still open in November 2019.

In October 2018, more than three years after the original change request was opened, DHS implemented changes to six major text boxes that expanded their fixed size from four to 12 lines. However, not all text boxes were expanded, including some that may require pages of text. In October 2019, DHS rolled out another change that allows users to expand the size of the case notes text box. While this represents a significant step forward in improving display of the text boxes, it also represents only one text box out of dozens in the system. DHS indicated it plans to roll out the changes to other text boxes within the system.

Another element of OR-Kids that can be frustrating to caseworkers is the file cabinet function. Several critical documents are stored in the file cabinet, such as medical records, legal documents, handwritten safety plans, signed versions of OR-Kids-generated documents, and photographs. While some guidelines for labeling file cabinet items exist, users indicated that they are not consistently applied, which can make it difficult to find documents.

In addition, some documents may be scanned in as a bulk set of documents, such as those used for legal discovery purposes, and therefore are not labeled in a way that the user can discern what items are included in the file. Additionally, removing documents uploaded in error can be time-consuming and, until recently, required users to submit requests to have documents removed from the file cabinet. This process has now been streamlined and a supervisor can delete a document.

There are indications that OR-Kids usability is improving. Some users reported the text box size adjustments and other recent changes, such as the ability to close a case more quickly, were welcome changes. Our survey also asked users whether there were improvements over the last year in response time, system bugs, and system uptime. Users shared the following perceptions about these measures:

- About 36% reported they have improved over the last year;
- About 55% said they are unchanged; and
- Under 10% indicated they have gotten worse.

System usability issues cause daily frustration for users who already have high caseloads and are expected to produce significant documentation about children and families in case files to support their work. In addition to the issues identified above, caseworkers reported that they need to document similar items multiple times in different forms or screens. Users also commented that OR-Kids does not adequately support current business process flows. We identified some areas where the structure of OR-Kids makes it challenging to quickly find relevant information about children and families, which can slow other case work.

OR-Kids makes it difficult to quickly discern key information about people

Users indicated there is no simple, intuitive way to identify the history and circumstances of a given person and how they may be associated with the Child Welfare program. This is partially due to the structure of how person and case data is stored and displayed for users, and partially due to a lack of an intuitive summary of activities or actions that have occurred for a person, or even for a case.

In OR-Kids, critical information related to the safety and well-being of children and families is contained within the context of a case. When searching for a case, users may click on the main case folder to display a list of up to 22 categories of items associated with the case, such as assessment, case notes, ongoing safety plan, ongoing services, placements and services, and screening reports.⁹ Figure 4 shows a partial list resulting from a search of a fictitious case, #796804. Clicking the category name opens a list of items available within that category, such as links to individual CPS assessments, case plans, or screening reports.

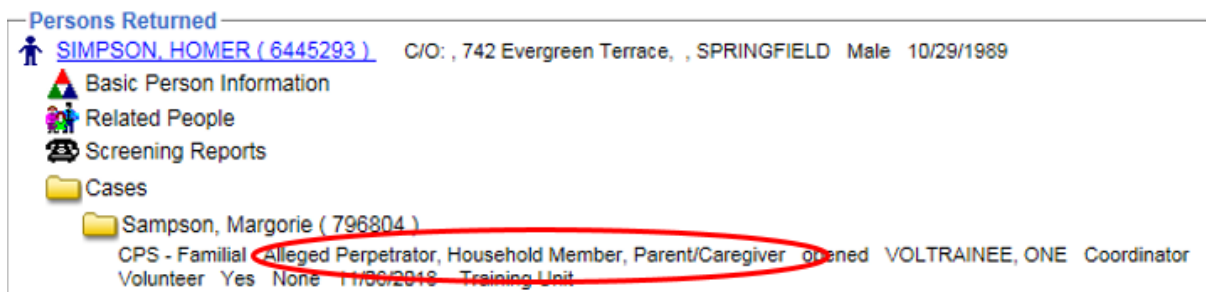
⁹ Category “assessment” contains Child Protective Services assessments, which are investigations of alleged child abuse or neglect allegations; category “ongoing services” contains case plans, which are written goal-oriented, time-limited individualized plans for the child and family, developed by the department and the parents or guardians, to achieve the child’s safety, permanency, and well-being.

Figure 4: Multiple categories may be shown under cases



When searching by person, OR-Kids displays possible matches, and also allows the user to view categories available under the person record, such as basic person information, related people, screening reports, and cases. The case record also shows basic information about how the person is associated with the case, such as identifying them as a household member, alleged victim, or alleged perpetrator, or combinations of those roles on the case (circled in red in Figure 5).

Figure 5: For a person search, that person's basic relationship to the case is illustrated



However, it can be difficult to quickly discern which case is most relevant to the person being searched and their history with Child Welfare. This is because a single person may be associated with multiple cases resulting in multiple entries in the “Cases” folder, each of which can display a list of up to 22 categories.

We found that 84 people were associated with 10 or more CPS-related cases. Over 325,000 people were associated with two or more CPS cases, representing 20% of people having at least one of this type of case in the system. Although many of these represent historical cases, the information within them may still be relevant to current events. In addition, when reviewing case data such as assessments, case plans or ongoing safety plans, it is not immediately clear whether a relevant person being researched is included in any of those documents or not. To determine who is part of each plan or assessment requires opening each one and reviewing the participants associated with them.

We also noted it can be time-consuming to discern whether a given person has ever been a perpetrator of child abuse. This information is critical when researching people associated with new screening reports or evaluating relatives for possible emergency placements. We analyzed how many clicks it takes to determine whether a given person has ever had a founded allegation of child abuse or neglect. For one person whose name was similar to several other names in the system, and who was associated with multiple cases, we had to click 42 times through various screens to determine whether the person had any founded allegations of child abuse or neglect.

In addition, there is no easily identifiable or central location where users can access a summarized history of a person or case. Screening reports sometimes contain a narrative of the case history, but obtaining the complete history requires reviewing each person, case, and

associated case documents. There is no central summary screen that captures this information for a person or case.

Viewing a child’s placement history can also be challenging. Placements are documented within the context of a case, but children may be placed under multiple case identification numbers. There is a screen that allows users to see the overall placement history for a child, but it is not intuitive. Users must select “placement correction” from a utilities menu, then search for the child.

These issues and frustrations do not mean the system is not usable. No matter what computer system DHS uses for Child Welfare, caseworkers will be responsible for documenting a significant amount of data. However, making sure the system meets user needs in a way that supports business processes is key. The current operation of the system, while functional, does not provide caseworkers with a streamlined system, and the challenges in discerning information about relevant cases, perpetrators, and case history increases the risk that information critical to keeping a child safe may be overlooked.

Usability challenges result in caseworkers documenting, tracking, and relying on some critical information outside of OR-Kids

As a result of these usability challenges, some caseworkers at times work outside or around the system. This increases the risk that critical information will not be captured within OR-Kids and available for other caseworkers to review and that sensitive information could be stored outside the system on the user’s computer.

During our review, users identified several areas where work was documented outside of OR-Kids, including:

- Drafting case notes in Microsoft Word then copying them into OR-Kids due to concerns that system “time-outs” could cause work to be lost if the worker did not save the narrative frequently;
- Managing collateral contacts, contact information of case participants, and face-to-face due dates in Microsoft Excel because it can be difficult to navigate to the screens that store this information;
- Developing forms needed for casework and uploading them into the file cabinet because the forms are not available in OR-Kids; and
- Maintaining case file notes in a shared drive at their branch, then uploading the documents to OR-Kids as needed.

We determined that program areas associated with permanency and certification have more reliance on information stored outside OR-Kids than some other program areas. This is largely due to system limitations and business decisions associated with these areas.

Critical information about available foster care beds is not tracked consistently in OR-Kids

Not all caseworkers use OR-Kids in the same way to accurately and completely record a provider’s bed capacity or ability to accept children with special placement needs such as disabilities, religious beliefs, or gender or sexual identity.

Caseworkers must enter provider certification information into OR-Kids in order to place children in a provider’s home. Based on these inputs, certification status is tracked in the system and included in automated reports. However, workers reported that OR-Kids does not report certain information on these areas in a useful way, and that it does not produce reliable “ticklers” to prompt them that actions need to be taken. Caseworkers indicated they need additional information that is not included on the report, such as whether a provider needs to be fingerprinted, in order to manage their work.

OR-Kids has the capacity to track available foster care beds and to include information about the type of special needs a foster care provider has the capacity to support. However, foster care beds, as recorded in OR-Kids, do not reliably reflect the actual beds available because some certifiers have been instructed to certify some foster care providers for the maximum number of beds, even if the providers do not want to take in that many children. As such, the number of beds reported in OR-Kids does not reflect actual capacity. In addition, the provider's capacity to accept special needs is not consistently entered or used to make placement decisions.

As a result of the inconsistencies, certification and permanency staff indicated that they sometimes use Microsoft Excel worksheets outside of OR-Kids to identify placement beds and to track their certification results and status.

Any information documented outside of OR-Kids increases the risk that the information in OR-Kids is incomplete. Without complete data in the system, caseworkers may miss key elements of the case when making decisions about child removal and placement. Additionally, incomplete information may skew management's understanding of program performance and result in inappropriate decisions. Finally, incomplete information may put federal funding at risk if required federal reports are impacted.

Usability issues stem from the original system design, challenges in maintaining the system, and a focus on fixing bugs and implementing new requirements

OR-Kids was purchased as a transfer system from the vendor CGI, based on an implementation from Wisconsin. Per DHS, the underlying computer code for OR-Kids was machine-translated code that was originally built in the 1990s. As a result of the machine-translation process, the main computer code of OR-Kids currently consists of over 2 million lines of complex, intertwined code, resulting in concerns that changing functionality in one area may adversely affect functionality in another area.

The major design elements that detract from system usability date from the design of OR-Kids as procured during the original project. While we did not conduct a detailed review of the original project requirements, we noted that they focused on functionality rather than on ease of use. Project close-out documents from DHS written in 2013 indicate "the ultimate project success measure for OR-Kids is compliance with SACWIS requirements..." A focus on federal compliance and system function was clearly important, but it detracted from ensuring the system aligns well with user needs and business processes.

As discussed in our 2018 foster care audit, DHS severed ties with the original project vendor under a "mutual termination agreement." In March 2013, DHS took over sole responsibility for managing OR-Kids, despite the existence of a large number of unresolved system defects and incomplete system documentation provided by the vendor. In addition, data conversion problems during the project resulted in poor quality data in some areas that required continued work to manage and correct. Data conversion issues continue to impact historical records to this day.

DHS began sole maintenance of the system with 579 unresolved change requests or bugs, including 255 considered "critical" or "major."¹⁰ Technical staff resolved an

DHS began sole support of OR-Kids with multiple unresolved issues

OR-Kids had over 500 unresolved change requests or bugs, including over 200 considered "critical" or "major" when DHS initially took over sole maintenance of the system from the vendor in 2013.

¹⁰ A "change request" is a software change that enhances the features of the existing system that was not specified in a previous requirement or existing feature. A "bug" is defective software behavior that prevents successful completion of a requirement or prevents supported system workflow. It is also referred to as a software defect.

average of 142 tickets for system changes or bugs annually between 2014 and 2018, including 235 in 2018 alone. An average of 328 change or bug tickets were also created each year during this period, though more than half of them either remained open as of May 2019, or were closed without being resolved due to a variety of reasons, such as being unable to duplicate the issue, withdrawal of the issue, or because the issue was a duplicate of another ticket. In addition, DHS performs between 650 and 1,850 data fixes each year.¹¹ As of December 1, 2019, there were still 902 unresolved bugs and change requests and 154 open data fixes. The oldest change request was originally opened in 2010.

Given this ongoing body of work to complete, DHS has prioritized changes necessary to support the operation of OR-Kids and meet new requirements. DHS business analysts and technical managers acknowledged that usability improvements are needed, but that prior to 2018 they have had to prioritize fixing system bugs and implementing changes due to state or federal requirements. For example, managers stated that programming changes needed for an alternative approach to CPS assessments represented a major effort that received priority, though the concept was never fully implemented statewide.

We identified 32 change requests related to making OR-Kids easier to use which were opened between 2013 and 2018 and prioritized as “major” or “critical” by the agency.¹² These include change requests addressing text box size, file cabinet redesign, changes to search functionality, and making provider placement history more easily viewable. The agency resolved the first of these requests in 2018, completing 10 of them by December 2019 with an average time from creation to resolution of 384 days. This demonstrates that the agency has not historically resolved major usability changes in a timely fashion, but that they are making progress.

Usability change requests have not been prioritized until recently
Of 32 “critical” or “major” change requests associated with usability opened between 2013 and 2018, the first 10 were implemented in 2018 and 2019 with an average time from creation to resolution of 384 days.

DHS’s ability to test completed changes has been limited until very recently. Technical managers reported that many changes were ready for testing but had to wait in line behind other change requests to actually be tested and implemented. A major infrastructure upgrade was completed in June 2018 that increased the number of testing environments available, which managers reported has improved this situation. In addition, technical managers shifted from a strategy of periodic large releases to smaller, more frequent releases that included more enhancements aimed at improving ease of use.

In late 2018, DHS shifted its strategy for prioritizing the overall list of changes to include more input from central office program managers, as well as input from the field. The modified governance approach helps to ensure a broader range of Child Welfare program personnel are involved in the priority setting. Priorities are being determined in the Office of Child Welfare Programs meeting, which is attended by Child Welfare leadership and central office program managers. This has resulted in additional feedback from program managers and has allowed those managers to see how their change priorities aligned with other priorities. The priority list of changes as of October 2019 included 16 open items, of which five were aimed at improving system usability, including major efforts to combine case plans and court reports and streamline person searches.

¹¹ A “data fix” is a change made to data in the background rather than through the standard user interface. These fixes are needed to correct instances where the data was not correctly captured in the system due to user error, system bugs, or other events.

¹² We identified 38 changes total, but six of them were change requests for the same topic — increasing the size of text boxes — with each individual change request representing one text box. These were tied to an original “parent” change request, which was also included in the total. To avoid duplicates in calculations, we only included the parent ticket, manually changing the date of resolution to match the date of the child tickets.

In addition, technical managers met recently with users to obtain their views on changes the users would like to see. DHS managers reported they are considering those requests as they continue their work. The new CCWIS project team has also stated they plan to implement new technologies to improve usability for caseworkers.

Currently, **Child Welfare lacks a responsible or accountable party for data quality**, such as an active data governance body.

Current DHS processes for prioritization appear to include adequate consideration for usability along with other factors. However, past efforts to identify usability issues, as illustrated in older change requests, did not result in timely changes due to higher priorities. Therefore, DHS will need to ensure prioritization efforts continue to appropriately consider the needs of users alongside system fixes and mandates in order to make the system more user-friendly.

Controls to ensure completeness, accuracy, and reliability of information need improvement

Reliable data in the OR-Kids system is critical to decision making and program funding. The system contains case records on all children and families served by Child Welfare and issues payments to service providers. OR-Kids also provides reports to internal and external partners, including caseworkers, financial services, and ACF. Furthermore, DHS relies on OR-Kids data when submitting required reports for federal funding for the Child Welfare program.

DHS has not fully designed and implemented data quality management efforts and has not fully identified critical data. Ensuring these activities are completed can help DHS identify whether it has appropriate automated and manual controls to ensure critical data is complete, accurate, and reliable. In many areas, automated controls cannot improve data quality because caseworkers enter narratives and other unstructured data directly into OR-Kids. This means that training to ensure both caseworkers and supervisors understand how to use the system and what information should be recorded is key. However, user proficiency has not been systematically measured or managed.

Data quality management is not in place and critical data has not yet been fully defined

DHS has some processes to evaluate data quality and has started to develop a data quality management program. However, it has not yet implemented a data governance team or data quality program that could help ensure that results of evaluations are integrated into overall data improvement plans. Moreover, the agency has not yet fully defined which data elements are most critical for its business practices or for reporting and tracking foster care performance.

OR-Kids collects and stores a significant amount of data. The system's database contains almost 400 tables containing more than 10,000 fields, which collectively contain over 600 million records. This data is collected using an extensive series of pages, tabs, text boxes, drop-down lists, and checkmarks. This level of complexity demands significant management.

Data quality management involves managing data through its lifecycle by setting standards; building quality into the processes that create, transform, and store data; and measuring data against standards defined by the organization. Best practices suggest that organizations should define an integrated, organization-wide strategy to achieve and maintain the level of data quality required to support business goals and objectives, including developing a data quality improvement plan, monitoring progress toward data quality goals, and systematically collecting stakeholder reports of data quality issues. Data quality programs are more effective when part of a data governance program, which enables better collaboration with stakeholders, as well as acceleration of data quality efforts.

Automated Controls vs. Manual Controls

Automated controls are system-based, and may be used to control the correctness or accuracy of data, such as edits or validations.

Manual controls are used when human interaction or judgment is necessary to capture or validate information.

Currently, Child Welfare lacks a responsible or accountable party for data quality, such as an active data governance body. Although a governance group existed in the past, there has not been a committee meeting since the middle of 2017.

In August 2019, DHS submitted a data quality plan to ACF, as required, to transition OR-Kids to a CCWIS. This plan included an initial list of data elements it considers “critical,” though the plan

indicates this was only a starting point and more work is needed. Fully defining which data elements are most critical to the work of Child Welfare will provide management with scope and focus necessary to improve the data that is most important to the organization.

DHS has also implemented some internal reviews in order to evaluate the quality of data entry. For example, central office program managers for Child Safety and Permanency conduct periodic fidelity reviews to evaluate a sample of cases for adherence to policy expectations. For Child Safety, these reviews have shown there is significant room for improvement in documenting safety information, documenting interview observations, describing home environments, developing safety plans, and identifying safety threats.

In addition, the DHS Office of Program Integrity conducts periodic federally required Child and Family Services Reviews (CFSR). These are in-depth reviews that consist not only of examining case documentation, but also in contacting the family and validating that certain actions actually occurred as documented. The reviews evaluate various safety, permanency, and well-being outcomes. During these reviews, analysts identified weaknesses in the quality of data entered into OR-Kids. For example, several notes discussed the lack of medical documentation. The CFSR team’s review notes on OR-Kids data also indicate that caseworker entry and supervisor review are not always effective.

While these reviews did demonstrate that DHS has taken some action to monitor data quality, there was no comprehensive strategy to consolidate the results of these efforts into a programwide data quality improvement plan. Individual results were communicated to branches, but have not been used as part of a consolidated effort to evaluate whether additional training is needed, whether there are areas where the system should be modified to make data entry easier or to force input of certain elements, or to otherwise improve the areas of observed weakness. A data quality strategy can and should integrate these elements into the evaluation.

Completeness, accuracy, and reliability of OR-Kids data rely on skill and diligence of caseworkers and supervisory review, and some automated controls could be enhanced

Effective application controls include both manual and automated processes that ensure only complete, accurate, and valid information is entered into a computer system. OR-Kids has some automated controls in place, but the nature of the data that needs to be captured by caseworkers limits the usefulness of automated controls. Manual controls are necessary to compensate for these limitations, but there has been no centralized identification of manual controls across branch offices to ensure critical data is entered completely, accurately, and timely. Ultimately, data accuracy in OR-Kids is dependent on the expertise and diligence of people entering information into the system and the supervisors who review it.

OR-Kids automated controls help ensure certain information is captured, not duplicated, and within acceptable ranges. For example, some documents require a caseworker to complete key fields before they can submit it for approval. Other automated controls include: ensuring users search multiple data sources before creating a record for a new person; enforcing the use of

drop-down boxes to select approved categories; requiring linking of various data elements, such as people and cases, prior to allowing data to save; producing “ticklers” to prompt users and managers that certain work needs to be completed; and producing reports to indicate whether elements such as CPS assessments, case plans, or face-to-face contacts are being completed timely.

Though automated controls are important, data accuracy, completeness, and reliability in OR-Kids depends on manual processes to ensure data is entered appropriately. This is because many data elements are only captured when needed, or under certain circumstances that are not easily automated. For example, entering placements for a child requires workers to identify that a placement needs to be made, or has been made. The act of executing the placement is a physical move of a child from one place to another, and depends on coordination between various caseworkers, supervisors, and foster care providers to ensure the placement is appropriate and available. Placements are required to be recorded in OR-Kids, but an automated control cannot ensure that the placement is entered correctly, rather it relies on appropriate entry and timely review.

Overall data quality relies on the expertise and diligence of caseworkers entering data and the supervisors who review it. However, Child Welfare has not fully or centrally identified how manual processes or controls will ensure that critical OR-Kids data is entered completely, accurately, and reliably. While the central office has developed policy manuals and training materials, these are not consistently implemented from one branch office to another. Furthermore, the materials focus on how to enter information in the system, but provide only limited guidance on how quickly information should be documented or which data is the most critical.

In addition to gaps in defining and documenting manual controls, we identified some opportunities to improve or expand automated controls. For example, Child Welfare policy indicates that children who are determined to be “unsafe” at the conclusion of a CPS assessment should have their safety managed through an ongoing safety plan. Creation of this plan is not enforced by OR-Kids automated controls, nor are there any reports available that show when the plan should be created. Completion of the plan in OR-Kids drives some other processes, such as populating reports for children needing face-to-face contacts.

We found that approximately 20% of children marked unsafe between January 1, 2017, and June 18, 2019, did not have an ongoing safety plan created, as required by policy. Our detailed review showed that caseworkers were performing some degree of safety planning activities, so child safety was not being ignored. However, in some instances the narrative in OR-Kids indicated that the child was safe when the same screen showed the child was unsafe — indicating that the child safety condition had been misidentified at the conclusion of the assessment. In other instances, the plan was documented late, or was only documented in the file cabinet, requiring additional time and effort to determine how safety was being managed. Automated controls to ensure documentation of the safety plan, or clarify when one is required, can help reduce the risk that children will be exposed to an unsafe environment and provide a clearer view for caseworkers regarding the status of child safety in a case.

We also found some data anomalies not adequately managed by automated or manual controls. For example, we observed case notes that indicated a meeting occurred in the 1800’s or early 1900’s and instances where the alleged perpetrator and alleged victim were identified as the same person. We also found instances when case notes indicated a foster care placement had occurred, but none was recorded in the system. While these represented rare exceptions, they illustrate the opportunity for additional automated or manual controls to detect or prevent erroneous or incomplete data entry.

A training program covers OR-Kids use and requirements, but has gaps

Due to the reliance on user input and supervisor review for data quality, proper training on using the computer system, on Child Welfare practice and policy, and on the importance of recording critical data elements is essential to ensuring timeliness and quality of data entered in the system. Although the agency has a training program in place that includes several modules on OR-Kids navigation and documentation requirements, the effectiveness of the program has been hampered by inadequate central oversight and communication channels.

All caseworkers are required to take a series of training classes within a specified time from their date of hire. These classes cover general topics, such as domestic violence and preparing for court, in addition to classes that specifically address OR-Kids. While some of the OR-Kids-specific trainings are mandatory — such as those covering assessment, screening, permanency, or certification — others are optional, such as training covering how to document safety plans. Screeners at the Oregon Child Abuse Hotline are excluded from these requirements, as they undergo a separate training regimen specific to their role.

After the caseworker has completed the initial training regimen, the agency does not require any ongoing training for caseworkers and there are no additional training requirements for program supervisors. Although changes are often communicated by newsletters, the lack of required training beyond the initial courses means staff may not be adequately trained on changes made to the OR-Kids system.

A training team develops materials and delivers training on how to use OR-Kids to document casework in accordance with agency policy. When we asked how trainers develop their training materials, one trainer said it is done based on their own experience, collaboration with Child Welfare internal consultants, and review of program policy. During our conversation with the trainers, they expressed concern regarding insufficient resources and inadequate communication and oversight from DHS central office.

Trainers communicated that, while caseworkers seem to have grasped the training concepts in training, they sometimes do not apply what they learned in the field. They were also concerned about the lack of required supervisor training, in part because supervisors do not always know how things are supposed to be done in the system. Trainers posited that practices taught in training are not always applied consistently in the field due to decentralized processes.

In January 2019, executive management shared that Child Welfare may not be adequately prioritizing training. The program began to take steps to address these concerns, including reconsidering the structure of the training curriculum and taking steps to hire a new training manager. However, in the midst of these changes, the Child Welfare director departed from the agency. This departure further delayed the program's efforts to address training weaknesses. Before the end of 2019, the agency moved the OR-Kids training staff out of the training unit and under the purview and oversight of the OR-Kids business team.

Training is critical because Child Welfare caseworkers have a variety of experience levels, automated controls are somewhat limited, and data completeness relies on caseworker input.

Best practices indicate that management should maintain the skills and competencies of personnel, including regularly verifying that personnel have the competencies to fulfill their roles. This involves identifying gaps between required and available skills, regularly reviewing training materials and programs to ensure adequacy with respect to changing business requirements, and developing and delivering training programs based on business needs.

An inadequate training program increases the risk that caseworkers will not effectively and efficiently use OR-Kids to obtain the information they need to make critical decisions about the

safety and well-being of children in the Child Welfare system. Moreover, a lack of understanding in how to use OR-Kids increases the risk that inaccurate or incomplete information will be entered into the system. Unreliable information in the system increases the risk that caseworkers, management, and policy makers will be unable to make informed decisions. Moreover, there is an increased risk that federal reporting will be inaccurate, which puts federal funding at risk.

DHS is moving forward to transition OR-Kids to a Comprehensive Child Welfare Information System, though it is very early in the process and risks remain

During a period when Child Welfare leadership was changing, new federal requirements forced DHS to decide whether to modify its existing system to meet new standards, develop a replacement system, or to decline to meet new standards. While DHS did not complete a full cost benefit analysis or feasibility study, it decided it would transition OR-Kids instead of replacing it. The agency is moving forward with its early project planning efforts for the transition, though risks still exist.

DHS decided to modify its existing system and add new modules to meet the new requirements instead of replacing the entire system

In July 2018, DHS formally chose to transition OR-Kids to a CCWIS compliant system. ACF gave state Child Welfare programs until August 1, 2018, to declare whether they would transition their information systems to a CCWIS, implement a new CCWIS, or become non-CCWIS compliant, which would result in reduced federal funding. DHS conducted a limited review to assess OR-Kids and identify the benefits and risks of transitioning to a CCWIS or implementing a new system. DHS ultimately made the decision to modify OR-Kids without performing a formal feasibility study or robust alternatives analysis, or formally addressing the risks identified in the review.

Best practices indicate that management should perform a review of alternative solutions, assess their viability, and select the preferred option when building or acquiring new technologies. This process includes reviewing the alternatives with all stakeholders and selecting the most appropriate option based on feasibility, risk, and cost. Additionally, management should identify, document, prioritize, and mitigate risks associated with business requirements and the proposed solution.

In January 2017, the OR-Kids business and technical teams performed a review of the CCWIS rule and a brief technical analysis of OR-Kids and its ability to be transitioned to a CCWIS. They included some of the costs associated with the transition but did not perform a thorough cost benefit analysis. The teams documented the pros and cons of each option and recommended transitioning OR-Kids to a CCWIS. They also identified several gaps between CCWIS requirements and OR-Kids, along with potential risks and recommendations to close the identified gaps. These risks were not addressed prior to deciding to transition OR-Kids to a CCWIS.

Shortly after being appointed to the position in October 2017, the Child Welfare program director was faced with finalizing the decision on how to proceed with the program's information system. The director solicited input from business and technical staff and chose to formally declare the agency's intention to transition OR-Kids to a CCWIS.

The agency engaged oversight entities and took initial steps to move forward with CCWIS

The agency is moving forward with the transition project, though it is very early in the overall planning process. DHS has also acquired additional resources to facilitate the successful transition of the OR-Kids system to meet federal requirements and address known issues with the current application.

Before claiming funding for CCWIS, foster care agencies must submit a planning document that includes how the CCWIS will meet requirements, automated functions included in the CCWIS, and whether automated functions will meet specified federal requirements. Additionally, agencies must develop and submit a data quality plan with their planning document. Agencies are also required to develop a cost allocation methodology and plan that aligns with the agency's CCWIS transition decision.

After submitting their planning document in 2018 that explained the agency's intention to transition OR-Kids to a CCWIS and how the agency will meet CCWIS requirements, DHS submitted its initial data quality plan in August of 2019. The agency included proposed cost allocation methodologies in both the 2018 and 2019 planning documents and its most recent submission of the cost allocation plan aligns with its intention to transition to a CCWIS.

In addition to complying with federal requirements to remain eligible for federal financial participation, the agency must also comply with Oregon regulations governing project oversight. OIS management met with Enterprise Information Services in the first quarter of 2019 to discuss the CCWIS transition.¹³ DHS submitted a high-level business case in April 2019, which addresses the project purpose, alternatives analysis, assumptions, problem and opportunity statement, and discussion of costs.

The agency has also begun to fill several positions to facilitate the internal work to transition OR-Kids to a CCWIS. DHS was approved for nine new positions in the 2019 legislative session. These positions were used to create eight new business analyst positions and one new manager position for this unit. Additionally, OIS has created eight new positions currently dedicated to work on OR-Kids and the CCWIS transition, including one project manager, three developers, one user interface designer, one data management administrator, one infrastructure/application security administrator, and one testing analyst.

Although the transition is moving forward, it is early in the project and significant risks need to be monitored

While the agency is moving forward with the early stages of the planning effort, we did note some areas that may pose potential risks for the project if not adequately addressed.

The Child Welfare program has had six different directors, including two interim directors, since 2016, which is when ACF published the final rule for CCWIS and set the deadline for deciding on the transition. If the leadership churn continues, it may be difficult for the agency to keep the transition project on track, as new directors may bring in their own visions and strategies for the Child Welfare program.

In addition to the changes in leadership, the project currently lacks a project manager to formulate a strategy for the project itself. As of November 22, 2019, the agency has not been able to fill the project manager position for the CCWIS project, despite recruitment attempts beginning in January of the same year and an offer to a candidate who declined. Pending the hire

¹³ When an information technology project exceeds \$1 million in state funds, the agency developing the project must engage with the information technology investment process governed by Enterprise Information Services (formerly the Office of the State Chief Information Officer), an organizational component of the Department of Administrative Services.

of a project manager, the agency is postponing initiation of key project tasks, such as developing a detailed product roadmap or technical plan. Without a qualified project manager, the agency risks failing to meet project objectives in a timely manner.

Additionally, DHS and OIS plan to manage CCWIS development efforts as a formal project using an agile software development methodology. The OIS project solutions team has not managed a large project using agile development methodologies in the past, though the OR-Kids development team has begun using this approach for other efforts in the last year. Best practices state that management should utilize experienced project management and team leader resource skills appropriate to the size, complexity, and risk of the project. The new approach and the complexity of the project may require DHS to acquire additional skills and abilities for the OIS team, which could cause delays or increase costs as the agency moves forward.

Recommendations

To improve OR-Kids usability and data quality management, DHS and OIS management should:

1. Continue to engage with program staff and end users to identify and document key usability issues and the potential risks associated with those issues. Based on this assessment, prioritize fixes to address high risk usability issues.
2. Implement a data governance function that is responsible for creating a data quality strategy that aligns with the Child Welfare business strategy.
3. In conjunction with fully defining critical data and planning for data quality, fully identify and document associated automated and manual application controls and analyze whether additional controls are necessary to ensure data are complete, accurate, and reliable.

To strengthen the OR-Kids training program, DHS management should:

4. Define the skills users are expected to possess in order to enter and retrieve information in OR-Kids based on their duties, develop procedures to evaluate user knowledge, and design training approaches to ensure users possess these skills.
5. Develop procedures to adjust training content and materials as needed to reflect changes to OR-Kids functionality or changes to Child Welfare practices that require changes to the use of OR-Kids.

To help ensure processes and controls are in place to successfully transition OR-Kids to a CCWIS, DHS and OIS management should:

6. Acquire a qualified project manager and maintain ongoing engagement with ACF and Enterprise Information Services to ensure the CCWIS project remains in compliance with federal requirements and the state's IT investment oversight process.

Objective, Scope, and Methodology

Objective

Our objectives were to determine whether DHS has:

- Designed and implemented controls to ensure case management data in OR-Kids is complete, accurate, and reliable, and that the system is usable by Child Welfare management and staff as needed to help ensure the safety and well-being of children and families served by the Child Welfare system; and
- Controls in place for preliminary planning of its transition of OR-Kids to a federally compliant CCWIS.

Scope

The audit focused on system functionality as it pertained to safety and well-being. We reviewed data related to screening, CPS, providers and certification, and placements in the Child Welfare program. Although some of the cases we reviewed included adoption services, our review focused primarily on foster care placement services. While we spoke with caseworkers and program staff about usability concerns, which sometimes included financial payment processing functionality, we did not look at data quality and usability specific to financial services. Our review generally covered calendar years 2017-2019; however, because Child Welfare cases often span over several years, our follow-up on initial test results sometimes compelled the review of data from prior years.

The following internal control principles were relevant to our audit objectives:

- Control Environment
 - We considered the agency's establishment of structure, responsibility, and authority.
 - We considered the agency's demonstration of commitment to recruit, develop, and retain competent individuals.
- Risk Assessment
 - We considered the agency's identification, analysis, and response to significant changes that could impact the internal control system.
- Control Activities
 - We considered the agency's design of control activities for the OR-Kids information system.
 - We considered the agency's design of the OR-Kids information system and related control activities.
 - We considered the agency's implementation of control activities for the OR-Kids system.
- Information and Communication
 - We considered the agency's use of quality information.
 - We considered the agency's internal communication.
 - We considered the agency's external communication.
- Monitoring
 - We considered management's performance of monitoring activities.
 - We considered the agency's remediation of identified internal control deficiencies on a timely basis.

Methodology

We interviewed the following personnel:

- DHS Child Welfare caseworkers and supervisors;
- DHS Child Welfare central office management and program staff;
- DHS OR-Kids business analysts;
- DHS OR-Kids trainers; and
- OHA OR-Kids technical managers.

We also met or exchanged email correspondence with the following entities:

- Officials from ACF; and
- IT investment process personnel from Enterprise Information Services.

We inspected the following documents:

- Oregon Revised Statutes and Administrative Rules governing Child Welfare;
- Federal foster care reporting requirements;
- System functionality and design specifications;
- Child Welfare policies and procedures;
- OR-Kids training materials;
- CCWIS rules and guidelines; and
- Oregon IT investment policies and procedures.

We obtained data from the agency's ORRAI. ORRAI provided copies of tables from the unit's Data Warehouse, which are derived from OR-Kids production data. ORRAI also provided SQL statements to the audit team which described how the data was queried from OR-Kids production data to populate the Data Warehouse tables. We performed procedures to assess the overall integrity of the data by comparing record counts to control totals provided by ORRAI, as well as using ACL to run VERIFY commands to check for data validity errors. In addition to overall record count and field validity review, we performed integrity tests on a selection of data fields to ensure data was complete and reasonable.

We assessed the reliability of the agency's Child Welfare data by (1) performing electronic testing for obvious errors in accuracy and completeness, (2) reviewing existing information about the data and the system that produced them, and (3) interviewing agency officials knowledgeable about the data. We determined that some data elements are sufficiently reliable, and we documented identified limitations; data elements that were determined not to be sufficiently reliable were excluded from the engagement.

We performed the following tests to assess data quality:

- Analyzed selected data elements to ensure inputs were complete and reasonable, including ongoing case contact dates;
- Assessed whether children deemed unsafe had a documented safety plan, as required by statute;
- Analyzed whether child location data (i.e., addresses) is accurate and up-to-date;
- Assessed whether selected foster care, screening and assessment, and well-being reports from the OR-Kids server agreed to data in the OR-Kids application;
- Compared data in another information system to OR-Kids to ensure information in OR-Kids is complete.

We sent out a survey to 3,853 users, including both agency staff and external partners, that use the system for provider payment processing, casework management, provider certification, child needs assessment screening, legal documentation, or other purposes related to Child Welfare. Users are located throughout Oregon, including the DHS central office in Salem, branch offices across the state, and locations outside of DHS. We received 1,474 responses during the four weeks the survey was open. The survey took an average of five minutes to complete. Responses were anonymized intentionally to encourage respondents to provide honest feedback.

The survey consisted of a series of demographic questions, a 10-question system usability scale¹⁴ (SUS) question set, and open-ended questions for additional user feedback. The SUS was created by John Brooke in 1986 to give a global view of subjective assessments of usability. Of the 17 questions included in the survey, only the 10-question SUS was scored. The SUS was scored to provide a single number to represent the overall usability of the OR-Kids system. Auditors used the scoring methodology published in a white paper authored by the creator of the SUS. Of the 1,474 respondents, 645 provided comments in an open-ended question associated with other comments about OR-Kids usability.

We used the ISACA publication “Control Objectives for Information and Related Technology” (COBIT), and the United States Government Accountability Office’s publication “Federal Information System Controls Audit Manual” (FISCAM) to identify generally accepted control objectives and practices for information systems. We used DAMA International’s Data Management Book of Knowledge (DM-BOK) to identify best practices for data management.

We conducted this performance audit 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.

We sincerely appreciate the courtesies and cooperation extended by officials and employees of DHS and OHA during the course of this audit.

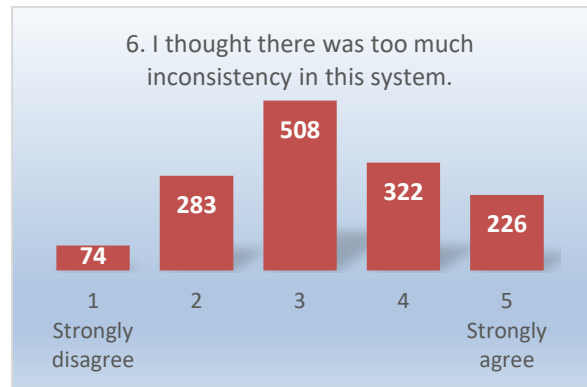
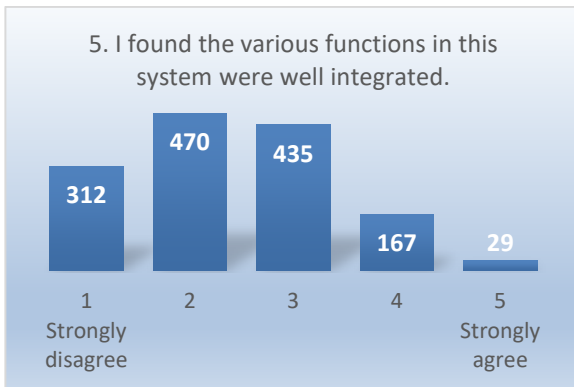
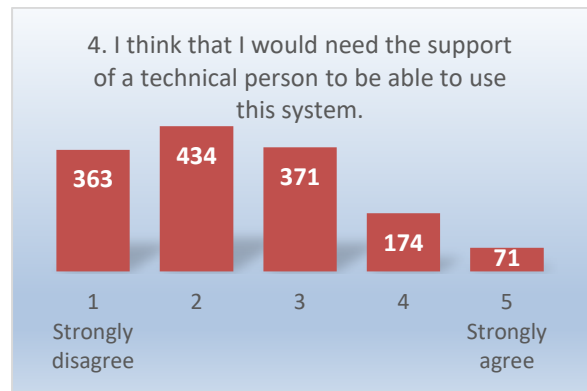
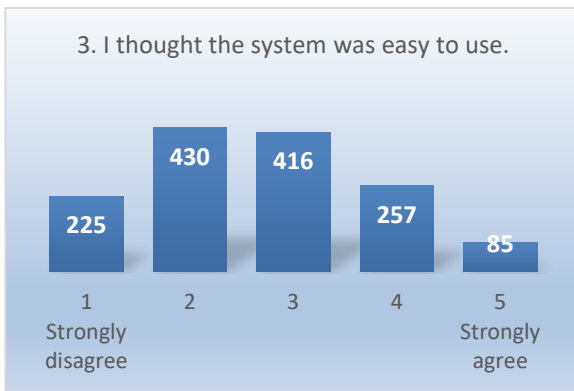
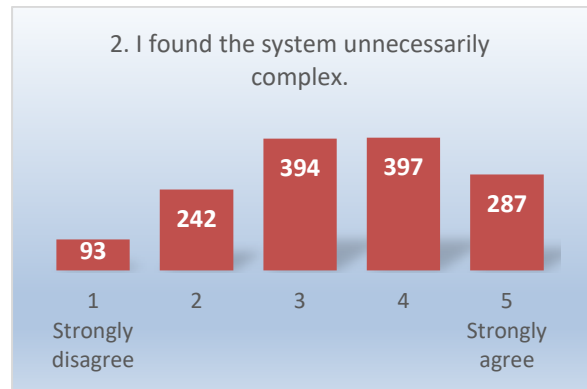
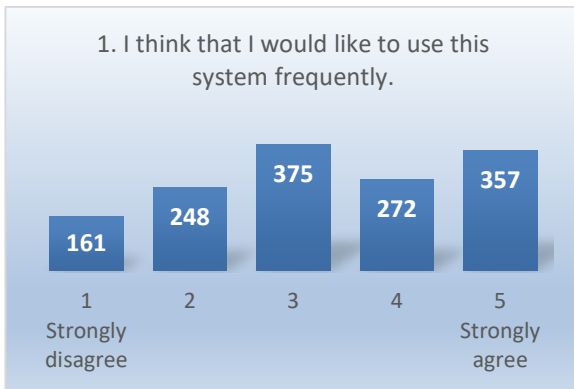
¹⁴ The federal Department of Health and Human Service, which develops federal rules for IV-E Child Welfare information systems, refers to the SUS as a “quick and dirty” reliable tool for measuring usability on their usability.gov website. The website notes benefits of using the SUS are that it is an easy scale to administer to participants, can be used on small sample sizes with reliable results, and is valid in that it can effectively differentiate between usable and unusable systems.

Appendix A: System Usability Survey Scores

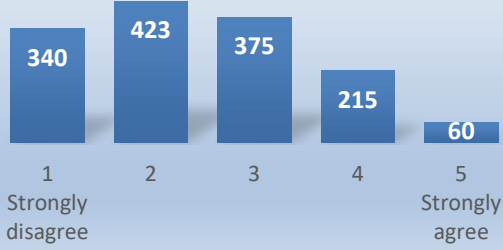
The System Usability Scale (SUS) was created by John Brooke in 1986 to give a global view of subjective assessments of usability. The SUS consists of 10 questions, each of which have five response options, from strongly disagree to strongly agree.

To calculate the SUS score, we used the scoring methodology provided in a white paper by John Brooke. We first summed the score contributions from each item. Each item's score contribution ranged from 0 to 4. For items 1, 3, 5, 7, and 9 the score contribution is the scale position minus 1. For items 2, 4, 6, 8, and 10, the contribution is 5 minus the scale position. We multiplied the sum of the scores by 2.5 to obtain the overall value of system usability. SUS scores have a range of 0 to 100. For OR-Kids, the score using this methodology was 45.4.

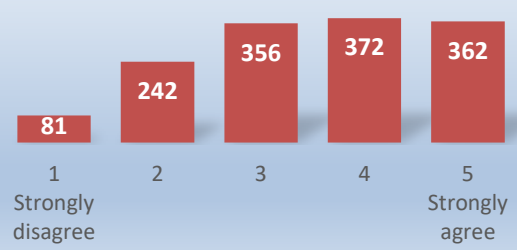
The following charts depict the number of responses received for each response option on each question of the SUS:



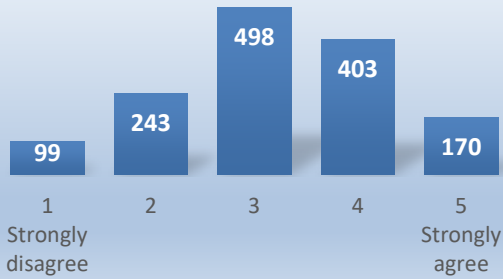
7. I would imagine that most people would learn to use this system very quickly.



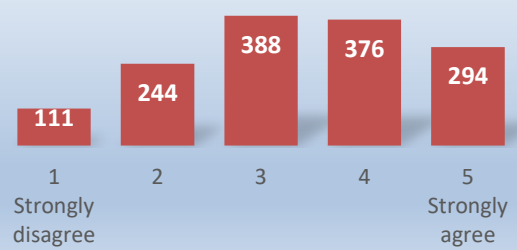
8. I found the system very cumbersome to use.



9. I felt very confident using the system.



10. I needed to learn a lot of things before I could get going with this system.





Oregon

Kate Brown, Governor

Department of Human Services Office of Child Welfare Program

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January 29, 2020

Kip Memmott, Director
Secretary of State, Audits Division
255 Capitol St. NE, Suite 500
Salem, OR 97310



Dear Mr. Memmott,

This letter provides a written response to the Audits Division's final draft audit report titled *"Oregon's Child Welfare Information System is Adequate for Case Management, But Enhancements are Needed to Improve Usability."*

The objective of this audit was to determine whether DHS has:

- Designed and implemented controls to ensure case management data in OR-Kids is complete, accurate, and reliable, and that the system is usable by Child Welfare management and staff as needed to help ensure the safety and well-being of children and families served by the Child Welfare system; and
- Controls in place for preliminary planning of its transition of OR-Kids to a federally compliant Comprehensive Child Welfare Information System (CCWIS).

Below is our detailed response to each recommendation in the audit.

RECOMMENDATION 1		
Continue to engage with program staff and end users to identify and document key usability issues and the potential risks associated with those issues. Based on this assessment, prioritize fixes to address high risk usability issues.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	June 30, 2020	Lee Brown, 503-990-3340

Narrative for Recommendation 1

In October 2019 DHS established an OR-Kids User Group that brings together technical staff, program staff and end users. Requested enhancements and feedback on OR-Kids usability issues and potential risks are discussed at this forum. Input from the User Group feeds into

decisions on priorities for OR-Kids fixes and enhancements which are currently discussed and determined by the Child Welfare Leadership Team in their monthly meeting.

To ensure sustained, appropriate governance of OR Kids, discussions are underway between Child Welfare and the Office of Information Services on ways to improve governance. Consideration will be given to adopting the Information Systems Management Committee (ISMC) governance model and associated processes used by other DHS program areas.

RECOMMENDATION 2		
Implement a data governance function that is responsible for creating a data quality strategy that aligns with the Child Welfare business strategy.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	December 31, 2020	Lee Brown, 503-990-3340

Narrative for Recommendation 2

In response to the Comprehensive Child Welfare Information System (CCWIS) requirements, DHS has included in the 2020 Annual Planning Document Update (APDU) a plan for a data quality plan that includes data governance. The APDU was submitted on January 9, 2020 to the Administration for Children and Families (ACF) and is pending approval.

Assuming approval by ACF, the Department anticipates full implementation no later than 12/31/2020.

RECOMMENDATION 3		
In conjunction with fully defining critical data and planning for data quality, fully identify and document associated automated and manual application controls and analyze whether additional controls are necessary to ensure data are complete, accurate, and reliable.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	January 2021	Lee Brown, 503-990-3340 Jeff Hauck, 503-947-8667

Narrative for Recommendation 3

The OR-Kids business and technical teams will review the control gaps identified as a part of this audit and will present recommendations to the OR-Kids governance body for additional automated and manual controls to ensure data are complete, accurate and reliable.

RECOMMENDATION 4

Define the skills users are expected to possess in order to enter and retrieve information in OR-Kids based on their duties, develop procedures to evaluate user knowledge, and design training approaches to ensure users possess these skills.

Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	January 30, 2021	Lee Brown, 503-990-3340 Kim Lorz, 971-718-6183

Narrative for Recommendation 4

Currently, users are assigned a user-role that provides access to system functionality based on job classification. DHS will use these existing roles as a basis for identifying and categorizing training materials to support respective user-roles and will assess the options available for assessing user knowledge and comprehension.

RECOMMENDATION 5

Develop procedures to adjust training content and materials as needed to reflect changes to OR-Kids functionality or changes to Child Welfare practices that require changes to the use of OR-Kids.

Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	June 30, 2021	Lee Brown, 503-990-3340 Kim Lorz, 971-718-6183

Narrative for Recommendation 5

DHS is planning to hire an analyst/technical writer to coordinate changes to training content to reflect OR-Kids and Child Welfare practice changes.

RECOMMENDATION 6

Acquire a qualified project manager and maintain ongoing engagement with the Administration of Children and Families and Enterprise Information Services to ensure the CCWIS project remains in compliance with federal requirements and the state's IT investment oversight process.

Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	March 30, 2020	Robert Ladouceur, 503-378-3332 Alison Bellair, 503-779-9828

Narrative for Recommendation 6

DHS/OIS is working to assign a Project Manager. The Project Manager will be a member of the Office of Information Service's Project Solutions team and will be required to follow the standard OIS project management methodology and to stay in compliance with the state's IT investment oversight process.

Please contact Kathy Steiner at 503-385-7135 with any questions.

Sincerely,



Rebecca Jones Gaston
Child Welfare Director

Cc: Fariborz Pakseresht, Director, DHS
Debbie Estabrook, Interim Chief Information Officer, DHS/OHA
Lee Brown, OR-Kids Program Manager, DHS
Bob Ladouceur, OR-Kids Technical Manager, DHS/OHA
Eric L. Moore, Chief Financial Officer, DHS
Shawn Jacobsen, Controller, DHS/OHA
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About the Secretary of State Audits Division

The Oregon Constitution provides that the Secretary of State shall be, by virtue of the office, Auditor of Public Accounts. The Audits Division performs this duty. The division reports to the elected Secretary of State and is independent of other agencies within the Executive, Legislative, and Judicial branches of Oregon government. The division has constitutional authority to audit all state officers, agencies, boards and commissions as well as administer municipal audit law.

This report is intended to promote the best possible management of public resources.
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