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| Slide 1 | Good morning. My name is Maria Sanchez, an evaluator on the EHDI team at CDC. Winnie Chung, a health Scientist and Audiologist from CDC EHDI program, will be presenting as well.  The title for today’s presentation is C**’a**pturing hearing results among audiologist. Evaluating the acceptability and usability of reporting to Early Hearing Detection and Intervention information system |
| Slide 2 | Just a disclaimer, this presentation is not the official position of the CDC |
| Slide 3 | During this presentation you will learn:   * The acceptability and usability of the EHDI-IS and its provider-reporting module among audiologists. * The most common barriers preventing audiologists from reporting hearing evaluation data to state EHDI programs. * Ways to increase awareness among audiologists about the importance of documenting and communicating hearing evaluation results to state EHDI programs |
| Slide 4 | Let’s start by describing how we forecasted this Evaluation project and to provide a little bit of the background |
| Slide 5 | The Early Hearing Detection and Intervention Information System (EHDI-IS) is a tool that supports EHDI programs to ensure that all deaf and hard of hearing infants and young children are identified early and receive intervention services.  The Centers for Disease Control and Prevention (CDC) currently funds 44 state EHDI programs to enhance their EHDI-IS and to improve documentation of hearing diagnostic testing for infants who do not pass the newborn hearing screening |
| Slide 6 | During the first, of the three years cooperative agreement, funded EHDI programs conducted a formative evaluation, which focused on project improvement   * The purpose of the evaluation was To understand the willingness of the audiologists in the states to report data to the EHDI program * To learn how user- friendly is the process for audiologist to report and enter data into the EHDI-IS * To identify obstacles audiologists face around reporting hearing data to the EHDI-IS |
| Slide 7 | This was a one year evaluation that started in September 2017, when CDC and jurisdictions worked together, designing the evaluation plans. Beginning of 2018 states EHDI programs started implementing the evaluation plan, collecting and analyzing data. By the end of October, jurisdictions shared the evaluation finding with Stakeholders and |
| Slide 8 | Now I will present the evaluation design |
| Slide 9 | Here we have a flow chart of the evaluation questions addressed in this evaluation, but more important is how each step will influence the next step. Important to fill the gaps at the same time.  Like.. How many pediatric audiology providers or audiology centers are in the state? If this is you target population, and you need to received and collect data from them, Is a very important question |
| Slide 10 | Next is How many pediatric audiology providers are reporting hearing results to the EHDI program? |
| Slide 11 | But also to assess usability, states collect information about how user friendly Is the paper form or the electronic reporting system |
| Slide 12 | And What barriers prevent audiologists from reporting to the EHDI program |
| Slide 13 | This table summarize the evaluation design |
| Slide 14 | Under Data collection methods column we can see that Document reviews, surveys, and interviews was the methods used by state EHDI programs to collect the information. |
| Slide 15 | Here the data collection source column explain where the information was coming from:  For example to find the answer about the total of audiologist in the state, staff when to the   * State licensure list * Audiology Board list * Speech-Language Pathology & Audiology list * EHDI PALs * And also information from their EHDI-IS |
| Slide 16 | Let’s talk about in specific about the acceptability, the willingness of audiologist to report. how we assessed this attribute.  Well, Using the data reported by the state EHDI programs, we identified three levels of acceptability, High/moderate/low and we classified the responses in those categories, accordingly the following criteria:  **High Acceptability:**   * If more than the 75% of pediatric audiologists in the state report data to the EHDI-IS * Total of pediatric audiologist is based on an official list * If state EHDI program has their own list, they described the procedures they took to update the list.   **Moderate Acceptability**   * If between 50% and 74% of pediatric audiologist in the state report data to the EHDI-IS   **Low Acceptability**   * if less than the 49% of the pediatric audiologist in the state report data to EHDI-IS   **Another category was identified as unable to determine**   * Basically, states didn’t provided enough information * State used its own data list and lack on explanation how the list is regular updated |
| Slide 17 | Here we have the criteria we used to assess the usability of the system.  Two level of usability were identified:   * Friendly overall: if more than 70% of reporters were satisfied with the reporting process and few issues were identified. * Other wise it was classified as need improvement.   And again, unable to determine if state didn’t provided enough information |
| Slide 18 | 43 out of 44 funded state EHDI programs (97%) completed their evaluations, shared results with stakeholders and sent their final evaluation report to CDC in October 2018.  Thirty nine (39) evaluation reports were included in the analysis.  Excluded four territories, which had just one audiologist that report data.  All reports were reviewed; codes and categories were developed to analyze qualitative and quantitative data. Descriptive statistics were calculated using Excel. |
| Slide 19 | Lets review the evaluation findings |
| Slide 20 | This chart represents the number of states with diagnostic reporting protocol and also the number of states with hearing diagnostic legislation in place. Of all 39 states, 31 has a diagnostic reporting protocol and 29 states has a diagnostic legislation in place. |
| Slide 21 | Let’s see the results from the acceptability evaluation.  As I mentioned earlier, with the information from the evaluation reports we created 4 categories of the acceptability as you can see in the pie chart, high, moderate, low, and unable to determine. I have given the definitions for each category in earlier slide (#20).  Here shows that 19 states have high acceptability, 12 states have moderate acceptability, and 6 states have low acceptability.  We were unable to determine the acceptability for 2 states because data provided were not very clear. |
| Slide 22 | Here shows the reporting method used by audiologists to the state EHDI programs. 19 states have audiologists using both electronic and manual reporting method. 11 states use just electronic reporting method and 9 states use manual reporting method |
| Slide 23 | Here shows the usability or user-friendliness of the reporting method reported by audiologists.  For electronic reporting, 17 states reported it to be user-friendly and 13 states reported electronic method of reporting needs improvement.  For manual reporting, 15 states reported it to be user-friendly while 6 states reported having issues to resolve. |
| Slide 24 | We asked about barriers for audiologists to report diagnostic data to state EHDI programs. With the data that the funded programs provided, we learned that the top three barriers for reporting are (1) technical issues (2) lack of time and (3) lack of knowledge on reporting requirements. Rest of the barriers include lack of knowledge on how to report, forgot, attitude. Attitude in this context mean the individual’s beliefs and values about a recommended practices.  and short-staffed. Two states reported having no barriers in reporting. |
| Slide 25 | As we saw in previous slide, technical issues is the top barrier for audiology reporting. Here we provide a graphic that shows specific issue in detail. Electronic reporting begins with user registration. From there, is login – we have seen several issues with login, such as inability to login, compatibility issues, interface issues, issues with password.  After login, Then next step is finding records. 12 states reported, audiologist having trouble finding records in the EHDI-IS. Then is data entry. 12 states reported lack of knowledge on reporting requirements. Next is data completion. We have states reporting issues with data completion such as inability to save records, difficulty getting complete data on kids, or sometimes data were not saved properly.  Each step inhibit tracking of a patient’s progress through the EHDI process. |
| Slide 26 | As mentioned, 12 described issues with reporting requirements. Basically audiologists were unaware of the timeline for reporting, unsure if certain kids of certain ages need to be reported, or if kids with certain conditions need to be reported, etc.  9 states reported, audiologist didn’t know HOW to report.  5 states reported attitude issues. Attitude in this context refers to audiologists assuming that the kids move through the EHDI process regardless of audiologist reporting or not.  Attitude also refers to audiologists not feeling the need to report usually because they do not understand the importance of reporting. |
| Slide 27 | This table summarize the issues with manually reporting. We have states reporting that the form for reporting is outdated or the faxes get rejected or busy. Some states also have reported that faxing is time consuming.  Majority audiologists want program to make electronic reporting available |
| Slide 28 | We identified weakness and gaps that need to be filled but also strengths to report. Keep in mind we identified 17 states EHDI programs with user-friendly electronic reporting system. |