

# A Self-Assessment Checklist for Integrated Child Health Information Systems

PRINCIPLES, CORE FUNCTIONS AND  
PERFORMANCE MEASURES



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## Introduction

### **Purpose**

The *Self-Assessment Checklist (Checklist)* allows public health teams to assess progress in developing their integrated child health information systems. The *Checklist* is a companion to *A Framework for Integrated Child Health Information Systems: Principles, Core Functions, and Performance Measures (Framework)*, based on the integration of four early child health information systems: vital registration, newborn dried blood spot screening, newborn hearing screening, and immunizations. Public health program managers, private physicians, federal agency representatives, and parents developed the framework's principles, core functions, and performance measures through a three-year collaborative process. These features are considered critical to the success of an integrated child health information system. You can access the *Framework* at <http://www.phii.org/Files/CHISframework.pdf>.

The *Self-Assessment Checklist* includes principles, core functions, and performance measures. The *Principles* checklist enumerates the underlying values and attributes of a functional integrated child health information system. It helps the integrated system project team understand the processes and documents essential to ensuring that the integrated information system adheres to a set of basic principles for integrating information systems.

The *Core Functions* checklist is meant to assist a project team in assessing a system's current functionality, and also serves as a guide to the functionality needed to meet the goals and objectives of the four participating programs. Every integrated information system team should strive to incorporate all of the principles and core functions of an integrated information system.

The *Performance Measures* checklist can be used to evaluate the system's ability to provide timely information needed to support the programs participating in the integrated system. System development teams can use performance measurement reports as a management tool, as well as to show progress in the development of their integrated system to their key stakeholders. When monitored on an ongoing basis, the performance measures can highlight potential problems of which the project team may not be aware.

### **Instructions**

The *Self-Assessment Checklist* can be integrated into the project management strategy of an integrated system project team. The team can use this tool to assess the current functionality of their information system and consider the principles that are the foundation for the information system. For elements on the *Checklist* marked "No" or "In Progress," the team should develop strategies and action steps for incorporating that element into the system or program. Integrated system project teams should convene on a regular basis to review the *Checklist* and the identified actions to assess progress.

The performance measures should also be monitored on an ongoing basis. Project teams should be consistent in their use of denominators so that progress can be measured over time. The performance measures should generally be assessed every six months.

## Self-Assessment Checklist

### *Principles of an Integrated Child Health Information System*

|   |   | Yes | No | In Progress |
|---|---|-----|----|-------------|
| <i>Security and Confidentiality</i>         |   |     |    |             |
| 1.  | Security and confidentiality are an integral part of designing the integrated information system.   |     |    |             |
| 2.  | The integration project has: <ul style="list-style-type: none"> <li>▪ A written statement of compliance with state's interpretation of HIPAA.</li> </ul>  |     |    |             |
| 3.  | <ul style="list-style-type: none"> <li>▪ Written policies and procedures that define how and when parents, guardians, and patients are notified that information has been entered into the system.</li> </ul>   |     |    |             |
| 4.  | <ul style="list-style-type: none"> <li>▪ Written policies and procedures that define how parents, guardians, and patients can review the information in the integrated information system and how they are able to request changes to the information.</li> </ul> |     |    |             |
| 5.  | <ul style="list-style-type: none"> <li>▪ Written policies and/or written user agreements between the primary information sources and the information system that defines the intended use of information within the system.</li> </ul>                            |     |    |             |
| 6.  | <ul style="list-style-type: none"> <li>▪ Written policies and/or written user agreements that are updated as needed.</li> </ul>   |     |    |             |
| 7.  | <ul style="list-style-type: none"> <li>▪ Written policies against using the system for punitive or discriminatory purposes.</li> </ul>  |     |    |             |
| 8.  | <ul style="list-style-type: none"> <li>▪ Written policies and procedures that define role-based access to data within the system (e.g., patient/family, provider, program).</li> </ul>  |     |    |             |
| <i>Technology Serving Stakeholder Needs</i> |   |     |    |             |
| 9.  | The integration project has written policies defining the information system users, including patients, providers, the Medical Home, and programs.  |     |    |             |
| 10.   | Stakeholders are actively involved in the: <ul style="list-style-type: none"> <li>▪ Design of the system</li> <li>▪ Development of use policies</li> <li>▪ System implementation</li> <li>▪ System monitoring</li> <li>▪ System evaluation</li> </ul>             |     |    |             |
| 11.   | The system is designed to make information available in time to take appropriate action.  |     |    |             |

|   |   | Yes | No | In Progress |
|---|---|-----|----|-------------|
| 12.                                     | The integrated information system technologies were selected to meet the health needs of the individual and the public.   |     |    |             |
| 13.                                     | The system provides the minimum information needs of the participating programs and facilitates program evaluation.   |     |    |             |
| 14.                                     | The system adheres to federal and state technology standards for facilitating data access, transmission, processing, and reporting.   |     |    |             |
| 15.                                     | Data entry is simple for the users.   |     |    |             |
| 16.                                     | The system has been designed to minimize duplicate data entry.  |     |    |             |
| 17.                                     | The system is designed to be able to adapt to new business processes and coding schemes.  |     |    |             |
| <i>Quality Assurance and Evaluation</i> |   |     |    |             |
| 18.                                     | The system has procedures for monitoring and providing oversight on: <ul style="list-style-type: none"> <li>▪ Information use</li> <li>▪ Operation</li> <li>▪ Maintenance</li> <li>▪ Financing</li> </ul> |     |    |             |
| 19.                                     | Responsibility for the accuracy of the information entered into the system resides with the primary source of that information.   |     |    |             |
| 20.                                     | The system has a quality assurance process.   |     |    |             |
| <i>Financing</i>                        |   |     |    |             |
| 21.                                     | The costs and benefits of the integrated information system, and to whom they accrue, have been assessed.   |     |    |             |
|   |   |     |    |             |

## ***Core Functions of an Integrated Child Health Information System***

|   |  | Yes | No | In Progress |
|---|--|-----|----|-------------|
| <b><i>Confidentiality and Security</i></b>          |  |     |    |             |
| 1   | Protect against unauthorized access to information, modification of information, or loss or corruption of data.  |     |    |             |
| <b><i>Establish and Maintain Client Records</i></b> |  |     |    |             |
| 2   | Promptly establish and maintain a record for every live birth that occurs in the state and for every child who interacts with the system of care that the integrated system serves.  |     |    |             |
| 3   | Electronically retrieve and share data on core data elements as specified and agreed on by programs participating in the integrated system.  |     |    |             |
| 4   | Protect and maintain information about the child, even if the name or identity of the child changes.   |     |    |             |
| <b><i>Service Functionality</i></b>                 |  |     |    |             |
| 5   | Promptly record death and legal custodial changes of a child to prevent inappropriate contact with parents or guardians.   |     |    |             |
| 6   | Allow authorized users to retrieve and share data, in a timely manner, from all participating programs, including immunization information, hearing screening information, vital registration, and newborn dried blood spot screening information. |     |    |             |
| 7   | Automatically identify services for individuals that are due/late and provide information to authorized users in a timely manner.  |     |    |             |
| 8   | Track the individual from screening through confirmation of diagnosis and record initiation of therapy, as applicable (short-term follow-up).  |     |    |             |
| 9   | Record whether or not a screening or service was carried out and when.   |     |    |             |

|                                |   | Yes | No | In Progress |
|--------------------------------|---|-----|----|-------------|
| <i>Technical Functionality</i> |   |     |    |             |
| 10                             | Enable access to the system at the time of a service encounter, for entry and retrieval of information, based on authorized roles.          |     |    |             |
| 11                             | Have a system-wide process/ability to uniquely identify all children and link their information from participating programs.                |     |    |             |
| 12                             | Provide summary information from participating programs on a child in an integrated presentation to the user.                               |     |    |             |
| 13                             | Have the ability to electronically exchange information using nationally endorsed standards and standards implementation guides.            |     |    |             |
| <i>Reports</i>                 |   |     |    |             |
| 14                             | Generate reports on program and service coverage (e.g., by provider, health plan, age group, geographic area) and performance measures.     |     |    |             |
| 15                             | Support program and service system evaluation.  |     |    |             |
| 16                             | Produce official records and reports on behalf of programs with appropriate legal authority and need (e.g., official immunization records). |     |    |             |
|                                |   |     |    |             |

## Performance Measures of an Integrated Child Health Information System

Note: N = Numerator, D = Denominator

|                             |   | Results |
|-----------------------------|---|---------|
| <i>Establishing records</i> |   |         |
| PM 1A                       | Percent of newborns with a record in the integrated child health information system (ICHIS).  | _____ % |
|                             | N: Number of records entered into the system.<br><br>D: Total number of live births occurring in jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy.)   |         |
| PM 1B                       | Percent of records of live births occurring in the jurisdiction that were established within <ul style="list-style-type: none"> <li>• 0 – 2 days of birth</li> <li>• 3 – 7 days of birth</li> <li>• 8 – 14 days</li> <li>• 15 – 30 days</li> <li>• &gt; 30 days</li> </ul>  | _____ % |
|                             | N: Number of records in ICHIS entered into the system by ≤ 2 days of birth (3-7 days, 8-14 days, 15-30 days, >30).<br><br>D: Total number of live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) that has a record established in ICHIS . (Same as the numerator from PM 1A.)    |         |
| <i>Integrated record</i>    |   |         |
| PM 2A                       | Percent of records that include data on dried blood spot screening, hearing screening, immunization, and vital registration.  | _____ % |
|                             | N: Number of records that include data on dried blood spot screening, hearing screening, vital registration, and one or more immunization events.<br><br>D: Total number of resident live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) that has a record established in ICHIS. |         |

|   |  | <b>Results</b> |
|---|--|----------------|
| PM 2B                                     | Percent of records that include data on the four program elements (dried blood spot screening, hearing screening, immunization, and vital registration) within 90 days of birth.   | _____ %        |
|   | N: Number of records that include these data within 90 days of birth.<br><br>D: Number of records for resident live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) that include data on dried blood spot screening, hearing screening, vital registration, and one or more immunization events. (Same as the numerator from PM 2A). |                |
| <i>Immunization</i>                       |  |                |
| PM 3A                                     | Percent of records with immunization information available.  | _____ %        |
|   | N: Number of records of children who have received an immunization, other than first Hep B administered in the hospital, recorded in ICHIS.<br><br>D: Total number of resident live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) that has a record established in ICHIS.  |                |
| PM 3B                                     | Percent of records with immunization information available within 30 days of administration for children less than 6 years of age.   | _____ %        |
|   | N: Number of immunization events recorded in ICHIS within 30 days of the date of administration.<br><br>D: Total number of immunization events recorded in the integrated system in a specified time interval (mm/dd/yyyy - mm/dd/yyyy) for children less than 6 years of age.   |                |
| <i>Newborn dried blood spot screening</i> |  |                |
| PM 4A                                     | Percent of records with newborn dried blood spot screening information available.  | _____ %        |
|   | N: Number of records of children with newborn dried blood spot screening information recorded in ICHIS.<br><br>D: Total number of live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) that has a record established in ICHIS.   |                |

|                                  |  | <b>Results</b> |
|----------------------------------|--|----------------|
| PM<br>4B                         | Percent of records with newborn dried blood spot screening status available within two days of receipt of report from laboratory. (Note: Report on the initial newborn dried blood spot screening results. "Status" refers to either the test result, even if unsatisfactory, or an indication that the test is being conducted.)  | _____ %        |
|                                  | <p>N: Number of records recorded in ICHIS within two days of receipt of report from laboratory.</p> <p>D: Total number of established records in ICHIS with newborn dried blood spot screening status for live births occurring in the jurisdiction in a specified time interval (mm/dd/yyyy - mm/dd/yyyy). (Same as the numerator from PM 4A).</p> <p>Note: State newborn screening activities are reported annually under the Title V Block Grant Annual Application/Annual Report. The current National Performance Measure (Form 11) does not have the specificity of this proposed measure.</p> |                |
| <i>Newborn hearing screening</i> |  |                |
| PM<br>5A                         | Percent of records with newborn hearing screening results available.   | _____ %        |
|                                  | <p>N: Number of records of children with hearing screening results recorded in ICHIS.</p> <p>D: Total number of live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) that has a record established in ICHIS.</p>   |                |
| PM<br>5B                         | Percent of records with newborn hearing screening results available within specified time intervals for screening.   | _____ %        |

|   |   | Results |
|---|---|---------|
|   | <p>N: Number of records with newborn hearing screening results recorded in ICHIS within:</p> <ul style="list-style-type: none"> <li>• 0 – 2 days of birth</li> <li>• 3 – 7 days of birth</li> <li>• 8 – 14 days</li> <li>• 15 – 30 days</li> <li>• &gt; 30 days</li> </ul> <p>D: Total number of established records in ICHIS with a hearing screen for children born in the jurisdiction in a specified time interval (mm/dd/yyyy - mm/dd/yyyy) (Same as the numerator from PM 5A).</p> <p>Note: State newborn screening activities are reported annually under the Title V Block Grant Annual Application/Annual Report. The current National Performance Measure (Form 11) does not have the specificity of this proposed measure.</p> |         |
| <i>Newborn hearing screening follow-up</i>          |   |         |
| PM 6  | Percent of children who did not pass initial hearing screening AND who are enrolled in/referred to an early intervention or other appropriate program OR found not to have hearing loss by 6 months of age.   | _____ % |
|   | <p>N: Number of records of children who were found <u>not</u> to have hearing loss OR found to have hearing loss and were enrolled in/referred to an early intervention or other appropriate program within 6 months of age.</p> <p>D: Total number of resident live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) who did not pass their initial hearing screening.</p>  |         |
| <i>Newborn dried blood spot screening follow-up</i> |   |         |
| PM 7A   | Percent of children with out-of-range congenital hypothyroidism screening results, which have been diagnosed AND are under appropriate management by 21 days of birth. (NOTE: Appropriate management means the child is either in the NICU or has entered into a system of health care.)  | _____ % |

|          |   | <b>Results</b> |
|----------|---|----------------|
|          | <p>N: Number of records of children who have been diagnosed and are under appropriate management by 21 days of birth.</p> <p>D: Total number of resident live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) with out-of-range congenital hypothyroidism screening results.</p>  |                |
| PM<br>7B | <p>Percent of children with hemoglobin screening results suggesting Sickle Cell Anemia, Sickle C Disease, or Beta Thalassemia, who have been evaluated and are under appropriate management by 2 months of age.</p>   | <p>_____ %</p> |
|          | <p>N: Number of records of children who have been evaluated and are under appropriate management by 2 months of age.</p> <p>D: Total number of resident live births occurring in the jurisdiction during a specified time interval (mm/dd/yyyy - mm/dd/yyyy) with hemoglobin screening results suggesting either Sickle Cell Anemia, Sickle C Disease, or Beta Thalassemia.</p> |                |