To: Ken Wade, Eileen Fitzgerald, Jeffrey Bryson, Michael Forster

From: Frederick Udochi

cc: Ron Johnston, Thomas Lyons, Barbara Richard, Mia Sowell

Date: November 8, 2010

Subject: Review of Online Reporting System (ORS) Database Application Controls / Data Collection Integrity & Analysis

Enclosed is a copy of the recently concluded review of the Online Reporting System (ORS) Database Application Controls / Data Collection Integrity & Analysis. Please review and let me know if you have any comments or questions. Thanks.
Executive Summary

Audit Review of the Online Reporting System (ORS) Database Application Controls / Data Collection Integrity & Analysis

<table>
<thead>
<tr>
<th>Business Function and Responsibility</th>
<th>Report Date</th>
<th>Period Covered:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Management, Organizational Assessment Division</td>
<td>September 24, 2010</td>
<td>May 2010 through August 2010</td>
</tr>
</tbody>
</table>

Assessment of Internal Control Structure

<table>
<thead>
<tr>
<th>Effectiveness and efficiency of Operations</th>
<th>Generally Effective.¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations in specific areas are noted below.</td>
<td></td>
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</table>

<table>
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<tr>
<th>Reliability of Reporting</th>
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<td>Recommendations in specific areas are noted below.</td>
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¹ Legend for Assessment of Internal control Structure: 1. Generally Effective: The level and quality of the process is satisfactory. Some areas still need improvement. 2. Inadequate: Level and quality of the process is insufficient for the processes or functions examined, and require improvement in several areas. 3. Significant Weakness: Level and quality of internal controls for the processes and functions reviewed are very low. Significant internal control improvements need to be made.
### Summary of Observations and Recommendations:

<table>
<thead>
<tr>
<th>Summarized Observation</th>
<th>Management Agreement with Observation (Yes/ No)</th>
<th>Internal Audit Recommendation</th>
<th>Accept IA Recommendation (Yes/ No)</th>
<th>Management’s Response to IA Recommendation (Received 12/7/10)</th>
<th>Estimated Date of Implementation</th>
<th>Internal Audit Comments on Management Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. While it appears that the Organization Assessment Division (OAD) s performs ORS User Acceptance Testing (UAT), UAT Plans and Results are not retained to evidence adequate and complete UAT for changes, prior to release to production.</td>
<td>Yes</td>
<td>We recommend OAD and IM retain UAT testing plans and results to evidence proper testing. Thorough UAT is imperative to ensure the software meets users’ expectations and the business need.</td>
<td>Yes</td>
<td>Management acknowledges the need to improve documentation of UAT testing and results. IM will begin formally recording and retaining UAT activity and results for future ORS releases, commencing with the spring ORS update.</td>
<td>March 2011</td>
<td>IA accepts Management’s response.</td>
</tr>
</tbody>
</table>

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2 The observations and recommendations in this section are summarized at a high level for informational purposes. To obtain a full, detailed explanation of each, please refer to the “Observations and Recommendations” section. Management’s response is directly related to the detailed observations and recommendations noted in the “Observations and Recommendations” section.
<table>
<thead>
<tr>
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<tr>
<td>2. We noted that during the beginning of the audit and during a web demo of the ORS production system on May 26, 2010, that login to the production ORS environment did not utilize a Secure Sockets Layer (SSL) connection (https). Thus logon credentials and data was being transmitted in clear text over the internet at that time.</td>
<td>Yes</td>
<td>This condition appears to have been corrected. Going forward the Corporation should ensure the SSL connection is operational and appropriate controls are in place to monitor this.</td>
<td>Yes</td>
<td>Yes SSL has been in place for ORS since the spring of 2010. A check for SSL compliance is now part of the post-release testing of software updates for ORS.</td>
<td>June 2010</td>
<td>IA accepts Management’s response.</td>
</tr>
<tr>
<td>Risk rating:</td>
<td></td>
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<tr>
<td>3. NeighborWorks lacks a formalized mechanism to hold vendors Dynaxys or TerpSys accountable for compliance with Information Security and Change Management policies and procedures, as these controls are not addressed in contracts.</td>
<td>Yes</td>
<td>As a short term measure the Corporation should consider and develop available options for obtaining assurance that Dynaxys and TerpSys comply with NeighborWorks’ Information Security</td>
<td>Yes</td>
<td>In FY2011 Management will ask the office of the General Counsel, in cooperation with Information Management, to complete a review of hosting and software development contract language to ensure</td>
<td>June-2011</td>
<td>IA accepts Management’s response.</td>
</tr>
</tbody>
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and Change Management policies and procedures. In the long term, future vendor agreements should be amended to ensure the provision of a right to audit (for compliance) and/or SAS 70 Service Auditor Reports where one could be reasonably expected.

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<td>4. Documented change management procedures do not exist for interaction between OAD (users), Information Management - IM (project/vendor manager), TerpSys (development vendor) and Dynaxys (server hosting vendor).</td>
<td>YES</td>
<td>Document the change management procedures that are in place between IM, TerpSys and Dynaxys. Formalized and documented change management procedures help to ensure only properly authorized changes are made to the system, code or data and that system documentation, such as the User Manual, are updated</td>
<td>YES</td>
<td>Management agrees that while change management procedures and controls were in place, the process lacked documentation. IM will document the change management policies and procedures.</td>
<td>June 2011</td>
<td>IA accepts Management’s response.</td>
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<td>5. NWOs report difficulty complying with the volume and frequency of NWA reporting through ORS.</td>
<td>Yes</td>
<td>We recommend that Management (through CPPS) conduct a comprehensive review of Network data requirements with a view to eliminating redundancies and elevating relevancy and cost/benefits as a necessary criteria for information gathering.</td>
<td>No</td>
<td>System in place with CPPS to review annually all data collection processes and data points including final review by officers.</td>
<td>Ongoing</td>
<td>IA does not dispute Management’s preference and decision to continue as indicated. IA has no further comments.</td>
</tr>
</tbody>
</table>

Risk rating: [ ]
6. NWOs and OAD report slow system performance at quarter end when surveys are due. This creates difficulties for submitting, reviewing and accepting the surveys in a timely manner.

Risk rating: ✅

<p>| Yes | IM should evaluate the feasibility of performing an Application Performance Technical Assessment to identify and correct application performance issues. | Yes | ORS system performance is evaluated on an ongoing basis. At the time of this audit the performance issues had been identified and performance improvement activity was already underway. A major system hardware upgrade has already been deployed to support ORS with additional processing power. On the software side, a number of performance improvement changes (adjustments to the underlying database structure, user interfaces and processing algorithms) are being made to the system during Q4 FY10, Q1 and Q2 FY11. | Ongoing | IA accepts Management’s response. |</p>
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<td>7. While the activities of the ORS Data Collection Process has contributed to the evolving current efficiency and availability of network survey results, there remains room for further refinement in the coordination, data reconciliation/validation and communication between the key relevant functions of OAD, IM and CPPS. We strongly recommend that management identify a champion with the authority and responsibility level to coordinate the activities of OAD, IM and CPPS as it relates to the ORS function.</td>
<td>Yes</td>
<td>Further streamlined coordination between OAD, IM and CPPS is required to ensure the achievement in the long term of a mature reporting process.</td>
<td>Yes</td>
<td>OAD is the “champion” of ORS – they have been the business owner since day 1 and as with all technology tools, strong cooperation is always required between the “business owner” and the IM department. Data collection and analysis is a complex process and we are continually trying to improve it. There are so many facets involved – and the ORS function is just one of them. ORS has nothing to do with data cubes, for example. It is a robust survey and data collection tool. ORS also has nothing to do with TEAM – which is another “collector” of multiple data points. OAD has the clear “business owner” lead</td>
<td>Improved coordination is ongoing as well as the efforts to improve analysis across the Corporation. CPPS currently is the lead on coordination of non-financial data analysis. OAD is the lead on ORS as the business owner and of course IM is the lead on any technology tool related to data collection, reporting and analysis.</td>
<td>We will look into creating an internal standing committee in Q2, FY11 to make sure that</td>
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</table>
on ORS. That is different than who has the lead on data analyses – which hopefully happens across the corporation every day. CPPS has the lead on making the decision on what data we should collect and ensuring that divisions are utilizing the data we do collect. IM always has primary responsibility for the integrity and effectiveness of the technology.

So Coordination can definitely improve, especially around analysis and CPPS will take the lead in focusing in on that. However, it is not realistic that there be one champion for all elements of data collection, tools and analysis. It is just too multi-faceted.
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<td>8. Data cubes have been added to reporting capabilities available to NeighborWorks management to view ORS collected data. Despite IM training outreach efforts, some are still unable to utilize the technology to its full potential due to technical difficulty.</td>
<td>Yes</td>
<td>Outreach efforts should continue to be made to encourage adoption of data cubes, while informing those without the necessary technical skills of alternative channels from which they can obtain static or dynamic canned reports. In the long term, management should consider reassessing the current data cubes versions with a view towards upgrading to a more user-friendly version.</td>
<td>Yes</td>
<td>Management appreciates IA recognition of the significant training efforts and the targeted, vertical user group who are engaged in regular use of corporate data cubes. As part of our ongoing data analyses efforts, CPPS and IM, along with the COO, are evaluating what are the best data analyses tools and training to provide – this ranges from canned reports to cubes. As cubes become more “friendly”, they can sometimes lose some of the usefulness and flexibility required by high end users. Since the cubes have just become available in the last year, we thought it wise to spend some time evaluating usage and</td>
<td>Management plans to use this year to increase usage and evaluate effectiveness of cubes and other data analyses tools. In addition, new releases of our reporting software and database servers should result in user interface improvements. We will provide an update by September 30, 2011 on our findings and next steps. This report will be prepared by CPPS in cooperation with IM.</td>
<td>IA accepts Management’s response.</td>
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exploring how staff and directors are using analytical tools to determine where to invest more of our scarce IM resources.

**Risk Rating Legend:**

**Risk Rating: HIGH**

A serious weakness which significantly impacts the Corporation from achieving its corporate objectives, financial results, statutory obligations or that may otherwise impair the Corporation’s reputation.

**Risk Rating: Moderate**

A control weakness which could potentially undermine the effectiveness of the existing system of internal controls and/or operational efficiency, integrity of reporting and should therefore be addressed.

**Risk Rating: Low**

A weakness identified which does not seriously detract from the system of internal control and or operational effectiveness/efficiency, integrity of reporting but which should nonetheless be addressed by management.
## Management Response to Audit Review Recommendations
### Funding to National NeighborWorks® Association

<table>
<thead>
<tr>
<th># Of Responses</th>
<th>Response</th>
<th>Recommendation #</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Agreement with the recommendation(s)</td>
<td># 1,2,3,4,6,7,8</td>
</tr>
<tr>
<td>1</td>
<td>Disagreement with the recommendation(s)</td>
<td>#5</td>
</tr>
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Audit of Online Reporting System (ORS) Database Application
Controls / Data Collection Integrity & Analysis

Objective

The objective of the audit is to obtain assurance that the Online Reporting System (ORS) data collection process produces accurate, complete and timely reporting and complies with prevailing data security and confidentiality standards.

Scope

The Online Reporting System is a web-based application that facilitates the collection of client, financing and project information from NeighborWorks Organizations (NWOs) and other organizations. NWO’s upload or enter this data directly into ORS, where it is then transferred to a data warehouse from which summary and detailed reports can be generated. Quarterly production data from all NWOs are analyzed and validated by the Organizational Assessment Division (OAD) prior to being available for reporting. NeighborWorks management may review these reports in order to evaluate the progress of initiatives throughout the NeighborWorks network of organizations. Corporate Planning Performance & Strategy (CPPS) utilizes ORS data from the data warehouse, to populate portions of the Corporate Scorecard presented to end-users such as Management and the Board of Directors. As refinement of ORS data collection and reporting continues, it is imperative that project management adequately address controls that ensure the accuracy, completeness, timeliness and confidentially of data provided by the various organizations.

Included in our scope was a review of the risks and controls surrounding:

- System Design and Implementation
- Data Input Controls (Application & Data Collection)
- Reconciliation and Validation Procedures (Application & Data Collection)
- Data Analysis and Interface with the Corporate Scorecard
- Data Security and Confidentiality

Background

Development of the Online Reporting System began in the calendar year of 2007 with the adaptation of a previously purchased software product called Success Measures. The very first quarterly survey was conducted through ORS in FY2010 and additional reporting capabilities in the form of Data Cubes\(^3\) were introduced in Quarter 2 of FY2010. Currently, NeighborWorks Information Management (IM) is working with vendor [REDACTED] to enhance the functionality and overall system performance of ORS. The Systems Development Life Cycle (SDLC) process follows an Iterative Development Methodology, which supports a dynamic method of evaluating a project’s status and allows corrective amendments to improve effectiveness. Actual development is outsourced to third party [REDACTED], who performs development and code changes and moves them to production upon request by NeighborWorks Information Management.

\(^3\) Data cubes provide users who possess advanced Microsoft Excel skills, the ability to create customize data views.
personnel. Resultantly, traditional SDLC requirements documentation is replaced with Task Orders to and Mockup Documents. A formalized system development methodology appears to be in place at ORS. As system owners and end users, the Organizational Assessment Division is responsible for User Acceptance Testing to verify functionality of development efforts. The actual ORS system is hosted offsite by third party in, however ORS source code is retained by NeighborWorks, thus protecting its interest in the product.

ORS is a web-based system that users access over the internet via the following website:  [http://report.nw.org/Markup/SignIn.aspx](http://report.nw.org/Markup/SignIn.aspx). Identification and authentication to the system is provided through a user id and password entered into the logon screen. Once logged in, authorization to surveys, results, survey build functionality, user administration and other functions is controlled by the roles assigned to the user’s account. The system is designed to utilize Secure Sockets Layer (SSL) technology to secure the connection between the ORS system and the PC connecting to it, thus protecting data in transit.

The ORS system does collect and maintain certain Personally Identifiable Information (PII), specifically within the Clients & Financing portion of the quarterly survey. Accordingly, the system utilizes role-based authorization, thus allowing each NWO access only to the surveys assigned to them. Additionally, there is a Privacy Notice opt-out option to prevent the release of some client personal information under the Federal Privacy Act. If the client opts-out, their First, Middle and Last name are removed from their data file submitted to ORS. Lastly, there is functionality to configure certain surveys, such as the Salary & Benefit survey, as “Sensitive Surveys” which do not get delegated to lower level staff at the NWO, but rather are restricted to the NWO Director level. Privacy requirements are addressed at a high level within the contracts with and. We further determined that access to the Data Warehouse where ORS data ultimately resides for reporting purposes is appropriately restricted to individuals within the IM department.

Entry of data into ORS is controlled by system edit and validation checks that enforce the data type, length and required input of certain fields. NWOs can enter survey data into ORS via two different methods: Direct Entry into the ORS Application or through population and Upload of an Excel template. This Excel Template can be populated by exporting data from the NWOs client management system (such as NSTEP or CounselorMAX), or can be manually populated by the NWO. The edit and validation checks are documented in the ORS Data Dictionary document and provide a first layer of data integrity protection to enforce reasonableness of data input. The Data Dictionary specifies whether non-compliance with a validation check will result in a red flag or a yellow flag displayed to the user. Red flags will not let the user continue without correcting the data, and yellow flags require the user to enter a comment explaining why their data entry is non-conforming. These yellow flags are later reviewed by OAD during the validation process.

In addition to edit and validation checks, OAD provides training for new NWOs as they join the NeighborWorks network. These trainings are usually provided remotely via
Webex, and include walkthroughs of the reporting process as well as a question and answer session. OAD also conducts quarterly Webex sessions where NWOs can call into a conference call and ask any reporting or ORS related questions. Thus, training is available multiple times per quarter, when a new NWO joins the network and multiple times at the start of each fiscal year to educate them on all data point changes being made that year. OAD also holds sessions at each NeighborWorks Training Institute (NTI) to answer questions, issues and concerns.

The initial ORS logon screens provide points of contact for technical assistance and for questions pertaining to survey content and question interpretation. A link is also made available to the ORS Respondent User Guide to instruct users on proper survey completion and to serve as a reference guide for frequently asked questions. This guide addresses how the user should respond if entry of their data results in a yellow or red flag, indicating that one or more of their data entries failed the validation checks. Additionally, users are informed about the review process that OAD performs once the NWO has submitted their survey data. OAD either accepts the survey and it is finalized, or rejects the survey which puts it into a “needs attention” status and the system automatically emails the NWO to notify that additional attention is required to complete the survey.

In addition to the ORS built-in validations, the following specific reconciliation procedures are currently performed for all surveys: 1) review for duplicate clients 2) review of project summary information to ensure NWO did not accidently report the same project multiple times 3) review of all yellow flag responses. When errors are identified, OAD staff enters comments into ORS which notifies the NWO via email to make the corrections and resubmit the survey. After these three steps are complete, OAD ensures all surveys are "accepted" then contacts IM to move the data warehouse, from which IM can then generate reports.

In addition to validating quarterly and annual survey data as they are submitted, OAD performs periodic NWO onsite reviews in order to randomly audit information the organization has submitted to ORS. Thus, if an organization is under or over reporting, this should be identified during the review. OAD is currently adding an annual off-site review frequency to its model.

According to the Quarterly Production Timeline for FY 2010, the target for survey reporting is 60 days from quarter end. The Timeline is as follows: Quarterly survey reporting is due from NWOs 25 days after quarter end. OAD then spends 1 week following up on late NWO submissions and an additional 2 weeks performing validation procedures and subsequent issue remediation. Data reports requested before final Acceptance from OAD are subject to change as sometimes surveys can be accepted and then fixed. CPPS may have reporting needs during this period. Once all data is accepted by OAD, IM is notified to move data to the data warehouse. The target date for OAD to finalize Quarterly Survey results is approximately 15 days after quarter end, with an additional 15 days required by IM to generate and post reports and data cubes. With Corporate Administration and Regular Board Meetings (Board Meetings) occurring on an
inconsistent schedule, this can create the need for reporting prior to the end of this 30-40 day cycle (see Figure 1 below).

Figure 1

Reporting of ORS data is made available by NeighborWorks Information Management in the form of static and dynamic PDF reports, as well as newly introduced Data Cubes. The Data Cubes are intended for “power users” who need data mining and analysis capability and are not meant for the general user, as their use requires advanced proficiency in Microsoft Excel. Data is available to general users through the PDF reports. Training on Data Cubes and Canned Reports has been made available via Webex, in-person sessions and online, with over 14 training sessions on these topics held in 2010 alone. The IM help desk is also available to answer any technical questions related to data cubes and reporting.
Observations and Recommendations

The following observations and recommendations were noted and should be considered for improving processes and controls related to the ORS process:

1. While it appears OAD is performing ORS User Acceptance Testing (UAT) to verify the functionality of requested system changes, UAT Plans and Results are not retained to evidence adequate and complete User Acceptance Testing for changes, prior to release to production. Thorough UAT is imperative to ensure that software changes meet the users’ expectations and business needs.

**Recommendation:**
We recommend that OAD and IM retain UAT testing plans and results to evidence proper testing. The test plan should be developed by IM and OAD conducting actual tests on the plan. IM and OAD should retain the completed test plans.

2. We noted that during the beginning of the audit and during a web demo of the ORS production system on May 26, 2010, that login to the production ORS environment did not utilize a Secure Sockets Layer (SSL) connection (https). SSL is utilized to create a secure connection between the ORS application and the connecting computer. Thus, when SSL or an equivalent security mechanism is not utilized, logon credentials and data are transmitted in an unencrypted form, over the Internet. This can potentially raise security and privacy concern issues in a full production environment.

**Recommendation:**
During our review it was noted that this condition appears to have been corrected. Going forward it is recommended that the Corporation ensure the SSL connection is operational and that appropriate controls are in place to monitor this.

3. NeighborWorks America lacks a formalized mechanism to hold vendors accountable for compliance with Information Security and Change Management policies and procedures. Information Security and Change Management controls are not addressed in contracts. Contracts with the vendor organizations do not currently provide a “right to audit clause” and/or the requirement for the provision of a SAS 70 review which would attest to the design and operating effectiveness of controls in place within the vendor organization.

**Recommendation:**
As a short term measure, the Corporation should consider and develop available options for obtaining assurance that comply with NWA Information Security and Change Management policies and procedures. In the long term, vendor agreements should be amended to ensure a right to audit (for compliance) and/or SAS 70 Service Auditor Reports depending on the scope and scale of activity or organizational size of the contracting vendor. Internal audit
recognizes that not all vendors might have the capacity for a SAS 70 Service Auditor Report. An alternative would be the provision of a right to audit clause (for compliance) which would provide the Corporation with the right to audit processes, controls and results associated with ORS from the vendors’ organization.

4. We noted that documented change management procedures do not exist for interaction between OAD (users), IM (project/vendor manager), [redacted] (development vendor) and [redacted] (server hosting vendor).

 Recommendation:
The Corporation should document the change management procedures that are in place between IM, [redacted] and [redacted]. Formalized and documented change management procedures help to ensure only properly authorized changes are made to the system, code or data and that system documentation, and User Manual, are updated accordingly.

5. NWOs report difficulty complying with the volume and frequency of NWA reporting through ORS. Primary on some of the feedback from the Network was that information demands were overly burdensome. During our review it was brought to our attention that OAD currently surveys the NWOs to hear their concerns regarding volume and frequency of reporting.

 Recommendation:
We recommend that Management conduct a comprehensive review of Network data requirements with a view to eliminating redundancies and elevating relevancy and cost/benefits as a necessary criteria for information gathering. The CPPS office should assume principal responsibility for providing this criteria and ongoing maintenance for changes.

6. During our review, we were informed that NWOs and OAD report slow system performance at quarter end when surveys are due. This creates difficulties for submitting, reviewing and accepting the surveys in a timely manner.

 Recommendation:
IM should evaluate the feasibility of performing an Application Performance Technical Assessment to identify and correct application performance issues.

7. While the activities of the ORS Data Collection Process has contributed to the evolving current efficiency and availability of network survey results, there remains room for further refinement in the coordination, data reconciliation/validation and communication between the key relevant functions of OAD, IM and CPPS that would facilitate further improvement in the quality of the reporting process. The varying frequency of ad-hoc survey requests, firm timeline commitments coupled with changing data points present a sometimes
challenging environment within which the three key functions must navigate in to consistently present timely and quality reports. We find the absence of a central coordinating body that would synchronize the activities of OAD, IM and CPPS as not enabling the full contributions of these unit towards the ORS cycle of activities.

**Recommendation:**
Further streamlined coordination between OAD, IM and CPPS is required to ensure the achievement in the long term of a mature reporting process. We strongly recommend that management identify a champion with the authority and responsibility level to better coordinate the activities of OAD, IM and CPPS as it relates to the ORS function. The following activities could be the basis for such a central oversight.

a) Accurate and timely reporting of preliminary survey data needs to be made available to CPPS. This would include reports that can specify how many surveys are accepted, how many are outstanding, and include the summary numbers for the surveys that have been accepted.

b) End users of ORS data, including CPPS, need to realistically manage time expectations around delivery dates for the submission of the quarterly surveys. NWO’s are required to submit their quarterly surveys within 25 days of quarter end, and final results are only available 30 – 40 days after the quarter end. NWOs are not entering data into ORS throughout the quarter; they have client management systems that are utilized for that need, so the most complete and reliable survey data will be obtained 30 – 40 days after quarter end. As a result depending on when reported, preliminary data may have limited value.

c) End users of ORS data, including CPPS, will need to build in time for review of new reports to ensure accuracy, and coordinate with IM to remediate any deficiencies.

d) OAD is planning additional validations for quarterly survey data to improve accuracy. Among the enhancements being considered are more extensive OAD validations, pulling Program Measurement Management Consultants (PMMCs) or Relationship Management Consultants (RMCs) into the validation process and providing NWOs with the ability to see an Executive Summary Report of data BEFORE it is submitted for NWO verification. Formalization of validation procedures needs to take place to guide OAD efforts going forward. Validation procedures should take into account data errors noted by CPPS and other end users of the data. Internal Audit recognizes that the data errors are an inherent weakness of the system since they are self-reported by the NWO’s however it emphasizes the need for the institution of a more enhanced validation procedure.
8. Data cubes have been added to reporting capabilities available to NWA management to view ORS collected data. Despite IM training outreach efforts, some are still unable to utilize the technology to its full potential due to technical difficulty.

**Recommendation:**
Outreach efforts should continue to be made to encourage adoption of data cubes, while informing those without the necessary technical skills of alternative channels from which they can obtain static or dynamic canned reports. In the long term, management should consider reassessing the current data cubes versions with a view towards upgrading to a more user-friendly version.

**Conclusion**

Information Management and OAD have made significant strides in automating the data collection and reconciliation processes, and in improving ORS data availability through moving to a data warehouse model and providing expanded reporting capabilities. Additional coordination between OAD, IM and CPPS is required to ensure the achievement in the long term, of a mature reporting process. Additionally, improvements in vendor management are required to ensure IT vendors are in compliance with prevailing IT Security and Change Management standards.

We would like to extend special thanks to the Information Management, Organizational Assessment Division, and Corporate Planning Performance & Strategy teams for their diligent assistance during our review.