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

From: Frederick Udochi

cc: Jeanne (Reitz) Fekade-Sellassie, Mia Bowman, [Redacted] (Consultant)

Date: 02 September 2009

Subject: Audit Review: Data Collection System (DCS)

As part of our continuous monitoring within the context of the Internal Audit Plan for the National Foreclosure Mitigation Counseling (NFMC) Program, please find below an internal audit report pertinent to the Data Collection System. Please review and let me know if you have any comments or questions.
## Executive Summary

**Audit Review of NFMC Data Collection System**

<table>
<thead>
<tr>
<th>Business Function and Responsibility</th>
<th>Report Date</th>
<th>Period Covered:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFMC Project Team</td>
<td>June 1, 2009</td>
<td>3/1/08 – 2/15/09</td>
</tr>
</tbody>
</table>

### Assessment of Internal Control Structure

<table>
<thead>
<tr>
<th>Effectiveness and efficiency of operations</th>
<th>Reliability of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally effective.¹</td>
<td>Generally effective.</td>
</tr>
</tbody>
</table>

Recommendations in specific areas are noted below.

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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; Risk Rating</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 on 11/12/09)</th>
<th>Estimated Date of Implementation</th>
<th>Internal Audit Comments on Management Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Outcome Data</td>
<td>Yes</td>
<td></td>
<td>Accept IA Recommendation - Yes</td>
<td>A. The outcome datapoint is not a required datapoint in the Data Collection System. To have made it required would have meant that Level 1 clients (and some L2 and L3 clients) could not be credited toward the grantees’ production until the servicer or client reports back to the agency on the outcome received. This would place an undue burden on the counseling agencies and would delay their payment by months. To change the DCS for this reason would be too costly, and even if the datapoint became mandatory, the data reported would still have the same validity problems because the data would still be self-reported outcome data. Urban Institute, however, does periodically validate outcomes on a representative sample of the database to determine actual outcomes. These verified outcomes are the ones NFMC relies upon. We currently report both the counselor-reported outcomes (identified as self reported) and the Urban Institute outcomes. We will accept the recommendation to change our current qualification of self-reported data each time we report the outcome data from the DCS to describe the limitations of the data source more fully.</td>
<td>Immediately.</td>
<td>IA accepts Management’s response.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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>
</thead>
<tbody>
<tr>
<td>B. Duplicate Customer Records</td>
<td>Yes</td>
<td>1. We recommend that the customer validation processes be enhanced. They can be made both more effective and labor-efficient by employing more sophisticated algorithms (as described) and expanding the number of fields compared to identify likely duplicate customer records.</td>
<td>Yes</td>
<td>1. Enhancement of Customer Validation Processes: OGC has advised that the DCS cannot have a retrieval functionality as described in the summary observation without violating the privacy protections of clients in the system who did not authorize third parties, other than NW and UI, to access information about whether they received service.</td>
<td>The added fields described in paragraph 2 of the response have already been added to the DCS as part of the manual review process.</td>
<td>- 3 -</td>
</tr>
<tr>
<td>(1 of 2)</td>
<td>1. The DCS does not have retrieval functionality in place for grantees and sub-grantees to check customer information against historical service records prior to accepting and rendering service to new customers.</td>
<td>We have checked with our DCS developers and the algorithm described in the report is not something that can be implemented to catch duplicates in a real time SQL application which is how the duplicate check needs to run. This algorithm is only useful to run on a static dataset. We agree to and have already implemented enhancements to increase the number of fields that in our manual duplicate checks (at the suggestion of IA, we have already added current servicer, current loan number, and PITI).</td>
<td>We will add some enhancements to the duplicate check, as described in the last paragraph of the response, by December 2010.</td>
<td>1. As already alluded in the report below and mentioned during our meetings, the IA- proposed additional duplicate algorithm-based validation checks can be performed in batch mode (periodically), rather than real-time, to avoid undermining system performance. The audit review (which identified duplicates) already demonstrated that this is feasible for the DCS data environment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
These techniques have been used to detect 177,585 duplicate records to date, amounting to $39,170,050. 32,832 of these were identified in the manual duplicate check, amounting to $7,274,500.

We will begin conversations with our developers about the cost of further enhancing the automated and manual duplicate control check systems to catch even more duplicates. An initial estimate to add Levenshtein-tolerant tests against servicer and loan number in combination with zip code, to test against inverted last name, and to test to include tolerant misspellings will cost at least $5,000.
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<tr>
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</thead>
<tbody>
<tr>
<td>B. Duplicate Customer Records</td>
<td>Yes</td>
<td>2. We also recommend that Management obtain / execute credits from the grantees for the dollar amount ($850,000+) associated with the duplicates identified during this audit.</td>
<td>No</td>
<td>2. Recapture funds from duplicate errors: We will not seek repayment of the funds for duplicates not captured, as the round 1 grants (from which this sample was pulled) were reconciled and closed out over four months ago.</td>
<td></td>
<td>2. IA defers to its original recommendation. $850,000 is a sufficiently significant level of duplicate funding to warrant collection or the imposition of credits from grantees. The collection or credits could have been readily implemented in mid-July since the specific duplicates, related grantees and the corresponding detail data were relayed to management as early as July 13th, 2009. The balances are from work completed just months ago and over 97% of the $850,000 is due from grantees that continue to work for NFMC in Round 2.</td>
</tr>
</tbody>
</table>

2. More than 4,150 duplicate customer records were identified during our audit as having bypassed current DCS controls, representing more than $850,000 in over-payments. The DCS’ current validation processes are binomial in nature and relatively rigid, requiring data from multiple records to match virtually identically in 3-4 data fields in order to be flagged as duplicates. This rigidity creates a control gap that contributed to the unidentified duplicates identified above.

Risk Rating: [ ]
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<tr>
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</thead>
<tbody>
<tr>
<td>C. Enhanced Process Timestamps</td>
<td>Yes</td>
<td>We recommend, as a best practice, to implement as part of the next major release of CounselorMAX, that additional customer-specific timestamps (as described below) be incorporated in the DCS design and collected, to enhance the measurement of efficiencies between grantees, creditors and homeowners in the processing and resolution of customer cases.</td>
<td>Yes</td>
<td>When we plan the next major releases of both CounselorMAX and the Data collection System, we will explore the feasibility of adding timestamps. As long as it is cost-effective, we will add them to both. However, these datapoints will be optional for grantees to report to NFMC, as (a) we cannot change the reporting requirements midway through a grant term to be more stringent after grantees had applied for funds under a different understanding of what the requirements are, and (b) while we can suggest that Home Counselor On-Line and other propriety client management systems be modified to include these timestamps, we cannot control whether they will and their timeline for doing so. Until all CMSs are able to collect this data, we would not make it a required data point for the NFMC program.</td>
<td>At next major release of both CMax and the NFMC DCS</td>
<td>IA accepts management’s response.</td>
</tr>
<tr>
<td><strong>Summarized Observation; Risk Rating</strong></td>
<td><strong>Management Agreement with Observation (Yes/No)</strong></td>
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<td>--------------------------------------</td>
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<tr>
<td><strong>D. Defined Requirements</strong></td>
<td>Yes</td>
<td>In preparation for Round 3 implementation, we recommend that Management integrate, and rationalize all pending needs into one comprehensive requirements and planning document. These requirements could then be assigned transparent priorities, ranked and balanced against estimated costs, accordingly.</td>
<td>Yes</td>
<td>We already have a master document that guides the management of the DCS vendor relationship which outlines the priority, timeline, and estimated costs for each of the pending Round 3 projects, and we will continue to use this. This document allows us to manage upcoming projects and to insert new projects, when necessary, based upon a full view of the DCS enhancement schedule and priority. The program manager and director discuss this document every two weeks. Specific requirements are negotiated before each project reaches the top of this list and task orders are delivered based on these requirements. Since each project builds upon the previous projects, it is very difficult to come to a full documentation of all requirements in advance. Thus, the method we currently use actually allows fewer delays in development and saves time for our management staff, as fewer change orders need to be developed and approved because each scope of work builds on the developments and changes to the DCS implemented in the previous project. We do know that it is inevitable that this master document will change during Round 3. It was impossible to anticipate the changes that would be required to the DCS the onset, as there was no time to beta test it prior to delivery, given the 60 day requirement to get this program up and running and the urgency for grantees to be able to upload and receive credit for counseling clients. As users began suggesting improvements, we have weighed the cost/benefits and decided</td>
<td>Already in process</td>
<td>IA accepts management’s response</td>
</tr>
</tbody>
</table>

**Risk Rating:** Yes
whether enhancements could be made. Additionally, decisions to enhance the program are made from time to time in response to feedback from grantees, suggestions from Congressional committees, and new programs rolled out by the Administration. Each such enhancement has an impact on the DCS management document and could never have been anticipated prior to the individual grant round.

### E. IM Department Oversight

Although we recognize that NFMC has contractors and staff with information systems expertise, we have been unable to determine the extent and responsibility of IM’s formal oversight role in the technical management of the DCS.

**Risk Rating:**

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<thead>
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</thead>
<tbody>
<tr>
<td><strong>Yes</strong></td>
<td>Since numerous enhancements are being proposed for the DCS through Round 3, we believe that a more formal oversight (if not direct management) role by IM would help to better assure that system support and development activities are executed in a systematic and structured manner.</td>
<td><strong>Yes</strong></td>
<td>Management agrees there has not been a formal oversight process involving the Information Management Division. However, as the audit correctly notes there has been regular involvement by IM staff and contractors with the NFMC technology projects and activities. This involvement has helped to ensure the success and effectiveness of these projects since the inception of the program. Management believes we can increase the level of formal communication with quarterly reporting to the IM Division, via the Director, Database Architecture and Development from the NFMC team. In addition, Management would expect the IM division to continue its role as “experts” to be consulted on NFMC technology activities and investments. Finally, the Director, Information Management, will now sign off on all technology-related Task Orders for NFMC, including all Task Orders related to the Data Collection System.</td>
</tr>
</tbody>
</table>
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.
<table>
<thead>
<tr>
<th># Of Responses</th>
<th>Response</th>
<th>Recommendation #</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Agreement with the recommendation(s)</td>
<td>A, B1, C, D, E</td>
</tr>
<tr>
<td>1</td>
<td>Disagreement with the recommendation(s)</td>
<td>B2</td>
</tr>
</tbody>
</table>

Management Response to Audit Review Recommendations
NFMC Data Collection System
Project Summary

The NFMC Data Collection System was designed and implemented in a relatively short timeframe, due to programmatic time constraints imposed by the Congressional funding mandate. Although the system has proven to be functional, a series of enhancements are called for to further facilitate and support the intended purposes of the National Foreclosure Mitigation Counseling Program.

Background

On 26 December 2007, the United States Congress appropriated $180 million for the NFMC Program to help mitigate the current national foreclosure crisis and selected NeighborWorks® America to administer the program. On 26 February 2008, NeighborWorks® America announced that it had granted $130.8 million in grants to 130 organizations. Operational activity by the grantees and sub-grantees was performed throughout the balance of calendar 2008 and into 2009.

The Data Collection System (DCS) was conceived at project launch to support monitoring and evaluation of NFMC operational activity. A corresponding request for proposals was issued to prospective vendors on 25 January 2008. Following a competitive process, the task to develop and implement the DCS was outsourced to Inc., d/b/a on 17 March 2008.

The system application was developed in Python, leveraging the Postgre database management system and upon the Fedora Linux operating system platform. The system is based on servers that are hosted in.

The system became operational in May 2008, in accordance with a rather urgent deadline, and all 130 grantees were able to transmit data in time for first quarterly reporting deadline.

Audit Objective

The objectives of the audit were to:

- Understand the requirements defined for the Data Collection System;
- Assess the extent to which the system meets the requirements;
- Identify areas in which the requirements and system could better support the goals and purpose of the NFMC;
- Review the business continuity and security factors surrounding the system; and
- Provide recommendations for action (as appropriate) to Management.

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3 An updated version was issued on 01 February 2008.
4 An assessment of the procurement process resulting in the award of the DCS contract shall be included in a subsequent internal audit review project “Staffing and Management of Outsourced Services”.

- 11 -
Scope and Limitations

The scope of the audit touched upon the following areas:

- Review the stated requirements of the system;
- Assess the extent to which the design and implementation of the system satisfy the stated requirements and supports the needs of the NFMC;
- Consider business continuity and security considerations, including
  - Confidentiality;
  - Integrity of the underlying information; and
  - Availability of the system to perform its intended functions; and
- Assess documentation and technical ownership of the system.

These reviewed areas and their underlying elements were drawn from the COBIT\textsuperscript{5} control framework and the ISO/IEC 27002 standards\textsuperscript{6} for information security management, with emphasis on those topics most relevant to the DCS and its implementation.

Related aspects that will receive greater emphasis in subsequent audits\textsuperscript{7} are the adequacy of the data attributes/fields established in the DCS to support reporting, analysis and quality control of the program.

Access to the DCS database(s) for testing purposes was limited to that provided through current online retrieval functions for users and administrators and an extract of all customer records as at mid – February 2009. Certain security aspects such as batch controls and certain types of audit trails could not be tested directly; nor could information pertaining to branches be readily interpreted. Also, the adequacy of disaster / recovery plans and procedures shall be considered within the scope of subsequent audits. Furthermore, the review did not systematically consider the experience of grantees in the use of the system.

\textsuperscript{5} COBIT is a generally accepted internal control framework for information technology and related best practices published by the Information Systems Audit and Control Association (ISACA) and IT Governance Institute (ITGI). The current version of the framework is 4.1.

\textsuperscript{6} Published jointly by the International Organization for Standardization (ISO) and the International Electrotechnical Commission in 2007 and titled “Information technology - Security techniques - Code of practice for information security management”.

\textsuperscript{7} In the “Quality Control of Counseling Services” and “Production and Quarterly Reporting” projects, respectively.
Methodology

The audit project was launched with an introductory meeting\textsuperscript{8} to discuss the audit objective, acquire a preliminary understanding of the processes underlying the system and the implementation status, review management responsibilities for acceptance of the system from the vendor. This was followed by a walk-through\textsuperscript{9} of online features available in the system and a review of DCS-related documentation, including the Reporting Requirements Guide, the Request for Proposals, and the database structure (schema).

Snapshots of user-available data were captured in late September, October, November, of 2008 and mid-February 2009, respectively, to allow for limited testing of the data and to examine identifiable changes over time. Lastly, an extract of customer data, also as at mid –February 2009, was reviewed primarily to assess the capability of the DCS to prevent or detect duplicate customer counseling and billing.

Observations and Recommendations

A. Outcome Data

Observation:

Reliable information on the outcomes of homeowners’ foreclosure cases is important to the ability to assess the effectiveness of the NFMC program and to take corrective actions, as appropriate. To this end, Management has been collecting NFMC outcome data in the DCS (for self-reported data from grantees) and, more recently, in a database managed by the Urban Institute, based on information supplied by servicers to McDash Analytics.

The self-reported outcome\textsuperscript{10} and production data residing in the DCS has been a source of information for a number of reports issued externally and internally since the inception of the program, each of which presented summarized analyses on outcomes. However, as illustrated in the figure below, it appears (see Figure 1) that the DCS currently lacks meaningful outcome information for almost 80% of customer data, including Level 2 / 3, records collected through mid – February 2009\textsuperscript{11}. The gaps identified in our estimation could potentially undermine the reliability of those reports and the ability to draw accurate conclusions about NFMC program effectiveness at appropriate levels (e.g. by grantee, sub-grantee or servicer). However it is our understanding that Management relies more on the DCS for production data rather than outcome data at this time.

\textsuperscript{8} The introductory meeting was held on 02 July 2008.
\textsuperscript{9} Delivered on 04 August 2008.
\textsuperscript{10} Preliminary outcome data have been reported.
\textsuperscript{11} Based on all customers through mid-February 2009
Several factors appear to have contributed to these gaps:

- Outcome data is currently not required of the grantees - thus, for 42% of the customers, no outcome information was reported at all;
- The outcome data is not kept current, in part because the DCS accepts data on any given customer only at one point in time, (subsequent updates to outcome information are not permitted);
- Outcome data field currently mixes and accepts certain values that relate more to process status than actual outcomes - 38% of all customer records contain values representing process status (e.g., “Currently Receiving Foreclosure Prevention/Budget Counseling,”) rather than customer outcomes; and
- Current servicer loan number data are not entirely required from grantees for each customer; consequently, almost half of all customer records reported\(^\text{12}\) are missing loan numbers, even though this information is important to servicer processing of cases and NFMC tracking of outcomes.

### Distribution of NFMC Outcomes through 15 February 2009

<table>
<thead>
<tr>
<th>Outcome Category</th>
<th>Stored Outcome Value</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Grand Total</th>
<th>% Of All</th>
<th>Of Non-Null Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost Home</td>
<td>Executed a Deed-in-Lieu</td>
<td>70</td>
<td>80</td>
<td>173</td>
<td>323</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Mortgage Foreclosed</td>
<td></td>
<td>697</td>
<td>797</td>
<td>1,415</td>
<td>2,909</td>
<td>0.9%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Pre-foreclosure sale</td>
<td></td>
<td>7,764</td>
<td>514</td>
<td>917</td>
<td>9,155</td>
<td>2.9%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Sold property/choose alternative housing solution</td>
<td></td>
<td>486</td>
<td>296</td>
<td>649</td>
<td>1,431</td>
<td>0.5%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Lost Home Total</td>
<td></td>
<td>9,017</td>
<td>3,687</td>
<td>3,154</td>
<td>13,858</td>
<td>4.4%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Retained Home with Assistance</td>
<td>Initiated Forbearance Agreement/Repayment Plan</td>
<td>20,964</td>
<td>2,798</td>
<td>4,760</td>
<td>28,525</td>
<td>9.1%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Mortgage Modified</td>
<td></td>
<td>1,181</td>
<td>3,733</td>
<td>5,154</td>
<td>10,068</td>
<td>3.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Retained Home with Assistance Total</td>
<td></td>
<td>22,145</td>
<td>6,531</td>
<td>9,944</td>
<td>38,620</td>
<td>12.3%</td>
<td>21.2%</td>
</tr>
<tr>
<td>Retained thru Borrower Effort</td>
<td>Brought Mortgage Current</td>
<td>3,648</td>
<td>1,093</td>
<td>2,229</td>
<td>6,970</td>
<td>2.2%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Entered debt management plan</td>
<td></td>
<td>2,689</td>
<td>152</td>
<td>322</td>
<td>3,163</td>
<td>1.0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Mortgage Refinanced</td>
<td></td>
<td>222</td>
<td>298</td>
<td>518</td>
<td>1,038</td>
<td>0.3%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Obtained partial claim loan from FHA lender</td>
<td></td>
<td>56</td>
<td>104</td>
<td>130</td>
<td>290</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Received Second Mortgage</td>
<td></td>
<td>24</td>
<td>31</td>
<td>54</td>
<td>109</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Retained thru Borrower Effort Total</td>
<td></td>
<td>8,639</td>
<td>1,878</td>
<td>3,263</td>
<td>13,773</td>
<td>4.4%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Uncertain Outcomes (Null Values - No Outcome Data Supplied)</td>
<td></td>
<td>102,694</td>
<td>7,236</td>
<td>22,513</td>
<td>132,443</td>
<td>42.1%</td>
<td>72.8%</td>
</tr>
<tr>
<td>Bankruptcy</td>
<td></td>
<td>2,916</td>
<td>702</td>
<td>821</td>
<td>4,439</td>
<td>1.4%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Counseled and referred for legal assistance</td>
<td></td>
<td>3,065</td>
<td>650</td>
<td>1,147</td>
<td>4,862</td>
<td>1.5%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Counseled and referred to another social service or eq</td>
<td></td>
<td>22,376</td>
<td>1,020</td>
<td>3,327</td>
<td>26,723</td>
<td>8.5%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Currently Receiving Foreclosure Prevention/Budget C</td>
<td></td>
<td>21,972</td>
<td>12,065</td>
<td>15,072</td>
<td>49,609</td>
<td>15.8%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>22,793</td>
<td>1,267</td>
<td>1,946</td>
<td>26,006</td>
<td>8.3%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Withdrawn from counseling</td>
<td></td>
<td>2,686</td>
<td>2,046</td>
<td>1,409</td>
<td>6,141</td>
<td>2.0%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Uncertain Outcomes Total</td>
<td></td>
<td>178,502</td>
<td>24,985</td>
<td>46,737</td>
<td>250,225</td>
<td>79.6%</td>
<td>137.6%</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>216,303</td>
<td>34,882</td>
<td>63,088</td>
<td>314,273</td>
<td>100.0%</td>
<td>172.8%</td>
</tr>
</tbody>
</table>

Null Values, as % of Total: 47.5% 20.7% 35.7% 42.1%
Uncertain Outcomes (including Nulls), as % of Total: 82.5% 71.6% 74.1% 79.6%

- % Retained Home, of all Non-Null Values: 25.3% 29.7% 32.5% 27.6%
- % Retained Home, of All Customer Records: 13.3% 23.5% 29.9% 16.0%
- % Retained Home with Assistance: 10.2% 18.7% 15.8% 12.3%

Figure 1 - Breakout of Customer Outcome Data, based on all customer / counseling level combinations in the DCS in mid - February 2009. Nearly 80% of all customer records lack outcomes with any type of clarity.

\(^{12}\) Through 15 February 2009.
**Recommendation:**

We recommend that Management mitigate these data gap to help enhance the reliability and accuracy of data obtained and ultimately the information generated. Assuming Management intends to continue reporting or analyzing outcome data from the DCS. Alternatively Management could provide a more comprehensive provision on the limitations of the data source other than the current qualification of “self-reported data”.

This gap may be addressed through a combination of potential actions, at the discretion of management and/or subject to budgetary limitations, including:

a. Enhancement of the existing DCS interface to allow for updates of customer outcomes from grantees throughout the course of each NFMC Round;

b. Implementation of an interface / batch process that would allow for regular updates from Urban Institute / McDash throughout the course of each NFMC Round; and

c. More stringent requirements to grantees surrounding the collection and reporting of loan number information, which is key (along with servicer names) to gathering case outcome and loan status information over time.

**B. Duplicate Customers**

**Observation:**

The Funding Announcement states that NWA will not allow duplicate billing for identical services to the same customers. There are various issues related to this requirement:

1. The DCS does not have retrieval functionality in place for grantees and sub-grantees to check customer information against historical service records prior to accepting and rendering service to new customers. Such functionality could serve as a preventive control by reducing the likelihood that limited program resources would be expended redundantly on the same customers, rather than on new customers in need of assistance; it would also help avoid grantees being financially penalized when they cannot bill for customers they advised but that have already been billed by others. However, upon request, the Office of the General Counsel has reviewed related confidentiality aspects and advised that the risks to customer privacy infringement (by the accessibility of customer personally identifiable information to all grantees / sub-grantees participating in NFMC) outweigh the prospective benefits described above.

2. More than 4,150 duplicate customer records were identified during our audit as having bypassed current DCS controls, representing more than $850,000 in over-
payments. 13. The DCS’ design includes functionality to detect duplicate customer counseling in an ex-post context; in fact, 20.1% (82,518) of records submitted by grantees through mid – February 2009 had been identified as duplicate. However, its current validation processes check for matches in a binomial (“Yes” / “No”) manner, requiring the contents of three – four compared data fields in multiple records to be virtually identical in order to be flagged as duplicates. This rigidity creates a gap that contributed to the unidentified duplicates identified above, even after having been subjected to the Grey-Zone process 14. A sample of duplicates identified is included in the figure below.

13 A list of these duplicate records will be provided to Management in parallel with this report. 
14 The Duplicates Grey-Zone is a supplemental and partially manual process established by management to help identify and address duplicate customer records that manage to bypass the DCS’ first layer of validation and were successfully posted. Through the Grey-Zone process, potentially duplicate customer record pairs are identified (based on matching last names, street numbers and zip codes) and placed in a queue for analytical review and action; the queues are then periodically examined by NFMC staff to determine whether the pairs are indeed duplicate and (if so) to flag duplicate records in the DCS, accordingly.
<table>
<thead>
<tr>
<th>Pair</th>
<th>Rec</th>
<th>a.Street</th>
<th>a.Street_</th>
<th>a.Last_Name</th>
<th>a.First_Name</th>
<th>Similarity</th>
<th>unique_id</th>
<th>Level</th>
<th>Age</th>
<th>Current Servicer</th>
<th>Loan Number</th>
<th>CredScore</th>
<th>PITI</th>
<th>HH Income</th>
</tr>
</thead>
</table>

Figure 5 - Sample of Un-Flagged Duplicates in DCS, mid – February 2009. The method employed to identify the duplicates is laid out in Attachment D.
**Recommendation:**

1. We recommend that the customer validation functionality in the DCS update batch processes be enhanced to allow for a more comprehensive and labor-efficient identification of likely duplicate customer records. This could be achieved through the implementation of more sophisticated methods involving character-based similarity metrics, such as those produced by edit distance algorithms\(^\text{15}\). These can be applied on a broader set of supplementary data attributes / fields (including customer age, servicer name, loan account number, credit score) to better identify likely duplicates while helping to make the Grey-Zone process more labor-efficient. Implementations of such algorithms have been developed in Python\(^\text{16}\) and are available in the open source domain, thereby facilitating their implementation in the DCS.

2. We also recommend that Management obtain / execute credits from the grantees for the dollar amounts (estim. $850,000+) associated with the duplicates identified during this audit.

**C. Enhanced Process Timestamps:**

**Observation:**

The DCS database design is currently missing a few key timestamps that could serve to better track the progress of each counseling case over its respective life cycle. These timestamps would help to isolate and separately measure grantee, servicer / creditor and homeowner efficiencies important to the resolution of homeowner cases. Key among these would be the Date that Homeowner / Hardship packages are sent by the grantees to the appropriate servicers for action.

A typical example of cycle time analysis is that of the time taken in the resolution of cases handled by different grantees. The chart below illustrates, for three Round 1 grant awardees handling sizable volumes, the distribution of Level 2 cases across the number of days to reach their respective outcomes (excluding those cases where the outcomes are not determinable, as described above). Although there are clearly contrasting overall levels of efficiencies in cases handled for the three organizations, it would be valuable to be able to isolate the embedded process timeframes during which the cases were being reviewed by the servicers / creditors.

A similar analysis could be performed across the servicers and creditors to isolate patterns of delays among their cases.

---

\(^{15}\) Edit distance between two character strings is calculated as the minimum number of edit operations (insertions, deletions or replacements) that would be required to make one string value equal to the other.

\(^{16}\) See Attachment D.
Figure 6 – Distribution of Level 2 Cycle Times for Small Sample of Major Grantees. Almost 50% of NFCC Level 2 customers had outcomes defined within 5 calendar days vs. 18% for Homefree and 3% for ACORN Housing (this sample excludes customers with uncertain outcomes in the DCS).

This topic shall be revisited in audit projects covering topics under the umbrella of quality control.

**Recommendation:**

In order to better gauge the progress of individual cases and assess process bottlenecks between the homeowners, grantees/sub-grantees and creditors/servicers, we recommend that additional timestamps be collected per customer. This would help to better allocate process cycle (lead) times for which homeowners, grantees and creditors, are respectively responsible and enhance the measurement of efficiencies between grantees, creditors and homeowners in the processing and resolution of customer cases. However, to manage the cost and effort involved in its implementation (including changes in both the DCS and individual grantee front-end systems), this recommendation can be considered a best practice and implemented as part of the next major release of CounselorMAX\(^1\).

Suggested additional timestamps could be:
- Date Customer/Hardship Package is Sent to Servicer/Creditor (most important);
- Date Materials Received from Homeowner (if applicable);
- Date of First Customer Arrearage (if possible).

\(^{17}\) CounselorMAX is a web-based client management system which, amongst other activities, tracks counseling activity. All interests in this product line were purchased by NeighborWorks America in December 2007. The next major release is roughly expected in November 2009.
D. Defined Requirements:

*Observation:*

We noted that numerous enhancements to the design and functionality of the DCS have been requested following procurement and implementation of the system in mid-2008. We understand that these enhancements were unavoidable, given the constrained timeframe within which the system had to be implemented and the resulting limited scope of functionality. We also recognize that Management maintains a spreadsheet-based inventory of desired features along with estimated corresponding costs. Nonetheless, a rapid series of enhancements could not only potentially escalate costs and time delays but also risks compromises in design as business needs and assumptions are revisited and related changes forced back through the development cycle.

*Recommendation:*

In preparation for Round 3 implementation, we recommend that Management integrate and rationalize all pending needs into one comprehensive requirements and planning document to address all current design deficiencies / limitations and needed / anticipated enhancements. These requirements could then be assigned transparent priorities, ranked and balanced against estimated costs, accordingly.

E. IM Department Oversight:

*Observation:*

NFMC internal information systems expertise is represented by a contractual staff seconded / lent by the IM Department to the NFMC project. In addition to the provision of technical advice, IM occasionally has collaborated in some DCS-related deliberations. We have however been unable to determine the extent and authority of the IM’s formal oversight of the technical management of the DCS. Outsourcing contracts not managed effectively could lead to not realizing the benefits and efficiencies of outsourcing and also a rise in unplanned costs.

*Recommendation:*

Given that the life of the DCS is clearly being extended beyond the one year that had originally been anticipated for NFMC Round 1 and that numerous enhancements are being proposed for the system through Round 3, we recommend a more formal oversight (if not direct management) role by IM to better assure that system support and development activities related to the DCS are executed in a more systematic and structured manner. Formal oversight could be implemented with the provision of bi-weekly project status reports on project milestones and activities between IM and the contracted party. Internal audit would be undertaking a more comprehensive review in
this area when it initiates another scheduled project titled “Management of Outsourced Services”.

General Observations

Information Security

The following information security controls currently surrounding the DCS came to our attention as we undertook this review:

- **Physical Access Controls** – physical access to the servers, located at [redacted] facility, requires a cardkey swipe and PIN for entry through the outer door, the data center foyer and the same plus biometric fingerprint scan to gain entry to the data center floor; the rack on which the servers sit is locked and includes numeric keypads on the front and back panels;

- **Logical Access Controls** – Remote access to the DCS is protected through the use of a network protocol referred to as Secure Shell (or SSH), that allows a secure channel for data to be exchanged between two networked devices. The protocol employs public-key cryptography and the use of both public and private keys to authenticate remote computers / users.

- **Back-ups and Redundancy** – Back-ups of the DCS database are created on a bi-hourly basis, while midnight versions are transmitted offsite to [redacted] office; permanent copies are made semi-monthly. There is redundancy in the webserver hardware through which the net traffic is handled and in key elements of the database, which has two additional clone copies (one for reporting and another for development and regression testing) beyond the production version.

- **Confidentiality** – Personally Identifiable Information (PII), such as names and addresses of customers / homeowners from both cloned versions of the database that are accessible to selected NWA staff, is encrypted prior to making data available to DCS users, through a widely-used hash function algorithm known as MD5 (Message-Digest algorithm 5)\(^{18}\).

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\(^{18}\) It may be worth noting that the information security community for the past five years has considered MD5 no longer secure and recommends transition to other hash function algorithms, such as the SHA-2 family designed by the National Security Agency (NSA) and published by the National Institute of Standards and Technology (NIST); MD5’s security weakness has been demonstrated through collisions, i.e., when two different messages result in the same exact hash.
**Attachment A**

**COBIT Information Criteria**

Information Criteria are a core component of the COBIT Framework that describes the intent of the objectives, specifically the control of:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Deals with information being relevant and pertinent to the business process as well as being delivered in a timely, correct, consistent and usable manner.</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Concerns the provision of information through the optimal (most productive and economical) use of resources.</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>Concerns the protection of sensitive information from unauthorized disclosure.</td>
</tr>
<tr>
<td>Integrity</td>
<td>Relates to the accuracy and completeness of information as well as to its validity in accordance with business values and expectations.</td>
</tr>
<tr>
<td>Availability</td>
<td>Relates to information being available when required by the business process now and in the future. It also concerns the safeguarding of necessary resources and associated capabilities.</td>
</tr>
<tr>
<td>Compliance</td>
<td>Deals with complying with the laws, regulations and contractual arrangements to which the business process is subject, i.e., externally imposed business criteria as well as internal policies.</td>
</tr>
<tr>
<td>Reliability</td>
<td>Relates to the provision of appropriate information for management to operate the entity and exercise its fiduciary and governance responsibilities.</td>
</tr>
</tbody>
</table>
## COBIT Control Framework

### Summary - Domains & Processes

#### 4.1 Plan and Organize
- Define a Strategic IT Plan and direction
- Define the Information Architecture
- Determine Technological Direction
- Define the IT Processes, Organization and Relationships
- Manage the IT Investment
- Communicate Management Aims and Direction
- Manage IT Human Resources
- Manage Quality
- Assess and Manage IT Risks
- Manage Projects

#### 4.2 Acquire and Implement
- Identify Automated Solutions
- Acquire and Maintain Application S/W
- Acquire and Maintain Technology Infrastructure
- Enable Operation and Use
- Procure IT Resources
- Manage Changes
- Install & Accredit Solutions & Changes

#### 4.3 Deliver and Support
- Define and Manage Service Levels
- Manage Third-party Services
- Manage Performance and Capacity
- Ensure Continuous Service
- Ensure Systems Security
- Identify and Allocate Costs
- Educate and Train Users
- Manage Service Desk and Incidents
- Manage the Configuration
- Manage Problems
- Manage Data
- Manage the Physical Environment
- Manage Operations

#### 4.4 Monitor and Evaluate
- Manage Data
- Monitor and Evaluate IT Processes
- Monitor and Evaluate Internal Control
- Ensure Regulatory Compliance
- Provide IT Governance

## ISO/IEC 27002

### Summary of Sections

1. Risk assessment
2. Security policy - management direction
3. Organization of information security - governance of information security
4. Asset management - inventory and classification of information assets
5. Human resources security - security aspects for employees joining, moving and leaving an organization
6. Physical and environmental security - protection of the computer facilities
7. Communications and operations management - management of technical security controls in systems and networks
8. Access control - restriction of access rights to networks, systems, applications, functions and data
9. Information systems acquisition, development and maintenance - building security into applications
10. Information security incident management - anticipating and responding appropriately to information security breaches
11. Business continuity management - protecting, maintaining and recovering business-critical processes and systems
12. Compliance - ensuring conformance with information security policies, standards, laws and regulations
Attachment C

Outcome Values

Below are outcome values accepted by the DCS for Round 1:

- Bankruptcy
- Brought Mortgage Current
- Counseled and referred for legal assistance
- Counseled and referred to another social service or emergency
- Currently Receiving Foreclosure Prevention/Budget Counseling
- Entered debt management plan
- Executed a Deed-in-Lieu
- Initiated Forbearance Agreement/Repayment Plan
- Mortgage Foreclosed
- Mortgage Modified
- Mortgage Refinanced
- Obtained partial claim loan from FHA lender
- Other
- Pre-foreclosure sale
- Received Second Mortgage
- Reduction in income
- Sold property/chose alternative housing solution
- Withdrew from counseling
Duplicate Record Identification Methodology

The methodology employed during this audit for identifying and analyzing potential duplicate customer records in the DCS comprised several steps.

After excluding customer records already identified as duplicates by the DCS, we sought to identify common patterns in the following fields:

<table>
<thead>
<tr>
<th>Personal Identifiers (60% Weight)</th>
<th>Supplementary Information (40% Wt.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Street Name</td>
<td>• Age</td>
</tr>
<tr>
<td>• Street Number</td>
<td>• Servicer Name</td>
</tr>
<tr>
<td>• Last Name</td>
<td>• Account Number</td>
</tr>
<tr>
<td>• First Name</td>
<td>• PITI</td>
</tr>
<tr>
<td></td>
<td>• Household Income</td>
</tr>
<tr>
<td></td>
<td>• Credit Score</td>
</tr>
</tbody>
</table>

Metrics were heavily based on an algorithm commonly referred to as Smith-Waterman Distance and made use of a Python implementation to maximize its portability to the DCS.

The Zip Code was defined as the blocking index for records compared; numerous duplicates were later identified by substituting City as the blocking index.

Personal Identifiers were employed during the first stage of the analysis. A simple algebraic average of the Smith-Waterman similarity vector scores for the four Personal Identifier fields was derived for each record pair and only those record pairs with average

---

19 The Smith-Waterman algorithm was originally published in 1981 to support molecular biology research by measuring the similarity of protein and DNA sequences. However, since that time, it has been widely employed to deduplicate databases for many types of applications. Internal Audit adapted this algorithm as a utility for duplicate searches in the DCS database.

20 The Febrl implementation was developed in Python and is maintained by the Australian National University. Febrl (current release version 0.4.01) offers a range of algorithms and draws on other open-source packages also registered under the GNU Project.

21 The blocking index represents the field that has to be exactly equal between compared records.

22 The Smith-Waterman vector is a quantitative measure of similarity between two substrings. As an extension of an edit distance metric, it is also calculated as a function of the amount of work that would have to be performed to make two character strings equal, but it places less of a dissimilarity penalty on differences at either end of the strings (e.g., prefixes, suffixes). The Smith-Waterman vector value could range between 0 (meaning no similarity) and 1 (representing identical values).
Smith-Waterman vector values greater than or equal to 0.35 were allowed to filter through to the next stage\textsuperscript{23}.

The second stage of analysis included a comparison of the Supplementary Information fields cited above. For numeric fields Age, PITI, Household Income and Credit Score, the values of the variances between the two compared records were calculated and ranked in percentile terms across all prospective duplicate pairs; these fields (except for Age) were also subjected to Smith-Waterman to allow for transposition errors and a weighted average (70% Variance Percentile, 30% Smith-Waterman) was derived.

From the above process, a combined similarity index was constructed, based on both Personal Identifier and Supplementary Information fields, with 60% of the weight placed on the former. All record pairs were sorted in descending similarity index order for efficient identification of duplicates. All record pairs with similarity index values greater or equal to 0.80 were indeed duplicates; those with similarity index values below 0.35 yielded relatively few real duplicate pairs. Record pairs with values in-between could be analyzed within the framework of the current Grey-Zone process.

\textsuperscript{23} For prospective Febrl implementation purposes, the configuration employed was as follows: (a) Blocking index was selected with no encoding of index fields; (b) Field comparisons were based on the Smith-Waterman algorithm / function, using a threshold value of 0.25, disagreeing value weight of 0, agreeing value weight of 1 and missing value weight of 0, (c) The weight vector classification selected was KMeans with Canberra, applying a sample of 50 and a maximum iteration count of 1000, Min/Max Centroid Initialization and a Fuzzy Region threshold value of 0.20; (d) Output options employed a weight cut-off threshold of zero.
ATTACHMENT A: MEMO TO OFFICERS

March 20, 2009

To: Ken Wade, Eileen Fitzgerald, Jeff Bryson, Mike Forster
From: Jeanne Fekade-Sellasse
Re: Recommended Modifications to NFMC Duplicate Client Procedures

I am recommending modifications to the NFMC duplicate client procedure, as follows (see pages 4-5 of this memo for additional detail):

1) “Restart” duplicate check on March 4, 2009. Anyone with an intake date of March 4\textsuperscript{th} or later can receive Level 1, 2 or 3 service again if they had previous intake date prior to March 4\textsuperscript{th}.

2) When “Level 4” is implemented, the duplicate check will only run against itself (i.e., a borrower having previously received Level 1, 2, or 3 counseling will not impact grantees’ ability to report same client for L4; however, client can only receive L4 from NFMC once)

3) We recommend allowing up to 3\% of a grantee’s overall non-self-duplicated clients to be counted toward production goals. These units will only count toward the overall dollar amount and unit goals, not MSA goals – we cannot manually pick and choose which duplicates are counted and which are not.

**Background and Current Practice:** Currently, NFMC will not allow a client to receive NFMC-funded counseling for the same level of service more than once, regardless of time lapse or service provider. The first agency to submit the client is the one who would receive credit for having counseled the client. The intention was to discourage borrowers from “shopping” for services and to discourage counselors from working with borrowers who had already received NFMC services elsewhere.

**Issue:** Prior to the Administration’s announcement of the Making Home Affordable program, NFMC grantees are reporting valid reasons for serving duplicate clients, aside from the consumer shopping issue the rule was intended to deter. Common reasons clients seek multiple foreclosure intervention counseling sessions from different counseling agencies are:

- Dissatisfaction with initial workout offered
- No progress made towards resolution with first agency, or modification review takes too long
- Media and rumors - clients hear of new programs and think a different agency may have more up-to-date information
- Clients call city or state hotlines and are given the contact information for all HUD housing counseling agencies in the area. Desperate borrowers contact all agencies. Even if counselors are aware that the client has received counseling elsewhere, often clients do not bring Level 1 information and counselors must start all over with Level 1 work
- Re-default due to loss of income or job, divorce or new health issues
- Borrower fulfills special forbearance and comes back to get help with modification process

Additionally, with the advent of a Level 4 post-modification counseling level, we do not want to discourage borrowers who may have received a modification or refinance under less favorable terms prior to March 4, 2009 to receive counseling from NFMC grantees to determine whether they would qualify for the new refinance or modification programs.

**Impact on Grantees:** The duplicate issue affects virtually all grantees to various extents. If we remove the self-duplicates (many of which were reporting errors – grantees accidentally uploading same client for same service date more than once), the following analysis shows us the extent of the affect on grantees.

Non Self-Duplicates as a percentage of overall units uploaded, as of February 13, 2009:

<table>
<thead>
<tr>
<th></th>
<th>NWOs</th>
<th>HFAs</th>
<th>HCIs</th>
</tr>
</thead>
<tbody>
<tr>
<td># rejected as non-self-duplicates</td>
<td>4,483</td>
<td>3,659</td>
<td>13,122</td>
</tr>
<tr>
<td>% of total units rejected as non-self-duplicates</td>
<td>16%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Average % of total units rejected as non-self-duplicates</td>
<td>12%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Average number of non-self-duplicates per grantee</td>
<td>60</td>
<td>114</td>
<td>937</td>
</tr>
<tr>
<td>Median</td>
<td>25</td>
<td>59</td>
<td>415</td>
</tr>
<tr>
<td>Range of non-self-duplicates</td>
<td>0 to 411</td>
<td>2 to 1,138</td>
<td>17 to 4,407</td>
</tr>
</tbody>
</table>

The following Grantees have over 10% of their clients returned as duplicates. In parentheses are the organizations that most often submitted clients first:

**Intermediaries**

**Housing Finance Agencies**

**NeighborWorks Organizations:** Notes: % of duplicates returned to NWOs had already received services from the

2 of 5
An analysis of which levels were duplicated follows. By and large, grantees are most often having duplicates returned because they provided Level 1 or Level 3 service after another grantee had provided Level 1 service. Intermediaries also have a relatively high percentage of clients who come to them for Level 1 counseling after having received Level 3 elsewhere.

<table>
<thead>
<tr>
<th></th>
<th>NWOs</th>
<th></th>
<th>HFAs</th>
<th></th>
<th>HCIs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of Level 1s reported after Level 1s</td>
<td>2,244</td>
<td>50%</td>
<td>1,563</td>
<td>43%</td>
<td>7,458</td>
<td>57%</td>
</tr>
<tr>
<td># of Level 1s reported after Level 2s</td>
<td>-</td>
<td>0%</td>
<td>-</td>
<td>0%</td>
<td>6</td>
<td>0%</td>
</tr>
<tr>
<td># of Level 1s reported after Level 3s</td>
<td>296</td>
<td>7%</td>
<td>211</td>
<td>6%</td>
<td>2,001</td>
<td>15%</td>
</tr>
<tr>
<td># of Level 2s reported after Level 1s</td>
<td>278</td>
<td>6%</td>
<td>12</td>
<td>0%</td>
<td>23</td>
<td>0%</td>
</tr>
<tr>
<td># of Level 2s reported after Level 2s</td>
<td>133</td>
<td>3%</td>
<td>165</td>
<td>5%</td>
<td>263</td>
<td>2%</td>
</tr>
<tr>
<td># of Level 2s reported after Level 3s</td>
<td>309</td>
<td>7%</td>
<td>115</td>
<td>3%</td>
<td>323</td>
<td>2%</td>
</tr>
<tr>
<td># of Level 3s reported after Level 1s</td>
<td>967</td>
<td>22%</td>
<td>1,076</td>
<td>29%</td>
<td>1,970</td>
<td>15%</td>
</tr>
<tr>
<td># of Level 3s reported after Level 2s</td>
<td>36</td>
<td>1%</td>
<td>137</td>
<td>4%</td>
<td>225</td>
<td>2%</td>
</tr>
<tr>
<td># of Level 3s reported after Level 3s</td>
<td>220</td>
<td>5%</td>
<td>380</td>
<td>10%</td>
<td>853</td>
<td>7%</td>
</tr>
</tbody>
</table>

There is some ambiguity about why those who receive service at Level 1, 2, or 3 seek Level 1 service again from other agencies. An analysis of those who helped Level 1 borrowers before they sought Level 1 services elsewhere shows that:

- — 13.5% of its clients sought Level 1 services elsewhere after having received Level 1 services from Grantee
- — 8.6% of its clients sought Level 1 services elsewhere after having received Level 1 from Grantee
• show that 4-5% of their clients sought Level 1 services elsewhere after having received Level 1 from Grantee

• If we aggregate NWOs, NeighborWorks America is at [blank]%

An analysis of those that reported Level 3 borrowers who then sought Level 1 services elsewhere shows that:

• [blank] – 3.77% of their Level 3 clients sought Level 1 services elsewhere after having received Level 3 services from Grantee

• had between 2% and 3% of their Level 3 clients seek Level 1 services elsewhere after having received Level 3 services from Grantee

• If we aggregate NWOs, NeighborWorks America is at [blank]%

Recommendation:
The following are recommendations to allow for some flexibility with the duplicate rule because of the reasons listed above. Most of these will require adjustments to the Data Collection System, so may not be implemented immediately.

Procedural Changes that will apply to both R1 and R2:

1) “Restart” duplicate check on March 4, 2009. Anyone with an intake date of March 4th or later can receive Level 1, 2 or 3 service again if they had previous intake date prior to March 4th, subject to the conditions above.

2) When “Level 4” is implemented, the duplicate check will only run against itself (i.e., a borrower having previously received Level 1, 2, or 3 counseling will not impact grantees’ ability to report same client for L4; however, client can only receive L4 from NFMC once)

3) We recommend allowing up to 3% of a grantee’s overall non-self-duplicated clients to be counted toward production goals. These units will only count toward the overall dollar amount and unit goals, not MSA goals – we cannot manually pick and choose which duplicates are counted and which are not.

Data Collection System Enhancements:

1) Allow access for grantees and sub-grantees to search the DCS to determine whether client has received service yet, and intake date of that service. If so, grantee would use other source of funds to serve client if parameters above were not met. (note: this may have legal/privacy implications and we may not be able to do this. If you agree we should pursue this, we will work with OGC to determine whether we can do this with disclosure/terms of use language)

2) Create report for grantees to allow them to easily resubmit duplicates – if grantee submits a level 3, but a level 2 or 1 was already submitted by another grantee,
have data collection system create a report for grantee to resubmit for partial credit for that client (this would eliminate the need for grantees to manually cull through the duplicates and resubmit for partial credit)

Other options considered for future implementation:

*Note: we do not know cost of implementing or what is technically possible. We will re-evaluate in three-four months to determine whether these options should be explored.*

1) Allow duplicates to be counted toward grantee production if intake date is greater than 6 months after the original (or most recent subsequent) client intake date. (applies to R1 and R2, both after date DCS development is complete) *(note: we may be able to apply this retroactively)*

2) For those clients who don’t meet the 6-month intake test, allow grantees to submit clients who re-default and come back for additional foreclosure counseling, whether with same agency or not, with an affirmative confirmation that is the case. This applies to R2 only, and requires adjustments to DCS such that when grantee submits their upload and receives a duplicate report, there will be a checkbox if grantee can affirmatively confirm that client came in for counseling due to re-default. Grantee can resubmit those they confirm have come back due to re-default, and will have to ensure proper documentation of such is in file. (Alternatively, though not recommended, we could (a) add values to Data Point 41 and make it read “Primary reason for default or redefault, or (b) add a new data point asking, was client in re-default at time of intake. Both of these would take reprogramming in the Client Management Systems, however. We can also program the DCS to limit the number of re-defaults per address/household.)
ATTACHMENT B: ANNOUNCEMENT TO GRANTEES

June 12, 2009

PLEASE READ THIS ENTIRE MESSAGE FOR IMPORTANT INFORMATION FROM THE NATIONAL FORECLOSURE MITIGATION COUNSELING (NFMC) PROGRAM REGARDING:

- Upcoming NFMC Funding Round
- Round 1 Recapture and De-obligation
- Duplicate Reset
- Duplicate Allowance
- Eligible Applicant Briefings for NFMC Round 3

Upcoming NFMC Funding Round
The Omnibus Appropriations Act of 2009 (P.L. 111-8) appropriated additional funds to NeighborWorks America to continue the National Foreclosure Mitigation Counseling (NFMC) Program. Of these funds, $43 million is available for grants to HUD-Approved Housing Counseling Intermediaries, State Housing Finance Agencies, and NeighborWorks Organizations.

NFMC will be competing these funds in mid-July. Award decisions will be announced on or before September 30, 2009. Details will be announced during the eligible applicant briefings scheduled for June 25 and June 26. Please mark your calendar and plan to participate. If you cannot participate, the Web-Ex sessions will be recorded and posted for later viewing. Details of these briefings are at the end of this message.

A few very important Round 3 details to note:

- NeighborWorks will add funds recaptured or de-obligated from Round 1 Grantees which were not previously obligated in Round 2 to the $43 million which will be competed. This additional amount will be announced shortly after July 15, 2009; however, it is not expected to exceed $15 million.

- Round 3 funding is for counseling-related activities only. No additional Legal Assistance funds were appropriated through The Omnibus Appropriations Act of 2009.

- The Round 3 grant term will be July 1, 2009 through June 30, 2010. Although funds will not be disbursed until Grant Agreements are ratified following award announcements, Grantees that receive Round 3 funds will be able to retroactively upload clients they have served as early as July 1, 2009 into the Data Collection System once Grant Agreements have been executed.

- Current Grantees that have sufficient funding under Round 2 to carry them through June 30, 2010 must make a strong case for the need for additional funding in their Grant Application.
• In response to your requests, we have considered and will be offering a streamlined application process for current NFMC Grantees that meet one of the following criteria:

(a) Grantee received Round 2 funds and has spent down at least 25% of its Counseling Award (in dollars, not units) by July 10, 2009, or

(b) Grantee received Round 1 funds only and has submitted a complete Round 1 Final Report by July 15, 2009.

Applicants that are first time applicants or do not meet either of the criteria above will be required to complete the full NFMC Grant Application.

Round 1 Grant Recapture and De-obligation
In accordance with the Round 1 Extension Agreements, all Round 1 Counseling funds not accounted for by June 30, 2009 will be recaptured or de-obligated, as will the commensurate Program-Related Support and Operational Oversight funds, if applicable. Grantees will have until July 15, 2009 to upload client data for those counseled on or before June 30, 2009 for credit. After July 15, 2009, grantees will no longer be able to upload Round 1 clients, and recapture and de-obligation proceedings will begin. Grantees that are impacted by this will receive direct communication from NFMC staff regarding their specific cases after July 15, 2009.

Duplicate Reset
All Grantees have received several communications from NFMC staff regarding the March 4, 2009 Duplicate Reset and how to determine whether any clients previously rejected as duplicates are eligible for resubmission. NFMC hosted a Web-Ex on this topic on June 4, 2009. If you were unable to attend or would like to review the session, please visit one of the following links to stream or download the video.

Streaming video link:
https://hw.webex.com/nw/ldr.php?AT=pb&SP=MC&rID=12255882&rKey=723B761C19CE90A5

Download recording link:
https://hw.webex.com/nw/lr.php?AT=dw&SP=MC&rID=12255882&rKey=D7AD7C284D5BB190

Duplicate Waiver
Additionally, NFMC recognizes that there are legitimate reasons why clients may seek the same level of service from more than one Grantee and will now allow up to 5% of a Grantee’s Counseling Award to cover non-self-duplicated clients. A separate communication about this program change is forthcoming; however, this allowance:

• Is effective immediately
- Will be based on the dollar amount of the Counseling Award, not on the units of counseling
- Will be calculated individually for each Grantee by NFMC staff prior to a Grantee receiving Draw 4 of its current Funding Round, based upon the actual dollar value of non-self-duplicated clients reported into the Data Collection System. For example, a Grantee has reported non-self-duplicated clients totaling just 3% of its Counseling Award, only a 3% waiver will be granted.
- Will not be retroactive

Round 3 Eligible Applicant Briefings
NFMC will conduct three Eligible Applicant Briefings.

Thursday, June 25, 2009, 2:00 pm – 4:00 pm EDT: Briefing for HFAs and Intermediaries that have received previous NFMC funds only. Applicants are welcome to attend in person at NeighborWorks’ office (1325 G Street, NW, Suite 800, Washington, DC) or to attend via Web-Ex. If you plan to attend in person, please RSVP to Jordene Truex at jtruex@nw.org before Monday, June 21, 2009.

Thursday, June 25, 2009, 4:30 pm – 6:30 pm EDT: Web-Ex briefing for NeighborWorks Organizations that have received previous NFMC funds only.

Friday, June 26, 2009, 2:00 pm – 4:00 pm EDT: Web-Ex briefing for first time applicants only – Intermediaries, HFAs, and NWOs.

Web-Ex Call-in Information:

**Thursday, June 25, 2009 2:00 pm – 4:00 pm EDT session for Intermediaries and HFAs that have received previous NFMC funds:**

**NFMC Eligible Applicant Briefing**
Date: Thursday, June 25, 2009
Time: 2:00 pm, Eastern Daylight Time (GMT -04:00, New York)
Meeting Password: NFMCround3

1. Go to https://nw.webex.com/nw/i.php?ED=114374727&UID=0&PW=82b68a7b3d22277a051e000b0429
2. Enter your name and email address.
3. Enter the meeting password: NFMCround3
4. Click "Join Now".

To join the teleconference only

US Toll-Free: 1-866-910-4857
Participant Passcode: 538656
Thursday, June 25, 2009 4:30 pm – 6:30 pm EDT session for NWOs that have received previous NFMC funds:

NFMC Eligible Applicant Briefing
Date: Thursday, June 25, 2009
Time: 4:30 pm, Eastern Daylight Time (GMT -04:00, New York)
Meeting Password: NFMCround3

1. Go to https://nw.webex.com/nw/j.php?ED=114375037&UID=0&PW=38d01d0a0909333c452a5d01
2. Enter your name and email address.
3. Enter the meeting password: NFMCround3
4. Click "Join Now".

To join the teleconference only

US Toll-Free: 1-866-910-4857
Participant Passcode: 538656

Thursday, June 26, 2009 2:00 pm – 4:00 pm EDT session for First Time Applicants

NFMC Eligible Applicant Briefing
Date: Friday, June 26, 2009
Time: 2:00 pm, Eastern Daylight Time (GMT -04:00, New York)
Meeting Password: NFMCround3

1. Go to https://nw.webex.com/nw/j.php?ED=114375397&UID=0&PW=0c002d6b7d7a435c475a0e5f
2. Enter your name and email address.
3. Enter the meeting password: NFMCround3
4. Click "Join Now".

To join the teleconference only

US Toll-Free: 1-866-910-4857
Participant Passcode: 538656

For all Web-Ex sessions, Assistance is available as follows:
1. Go to https://nw.webex.com/nw/mc
2. On the left navigation bar, click "Support".

The playback of UCF (Universal Communications Format) rich media files requires appropriate players. To view this type of rich media files in the meeting, please check whether you have the players installed on your computer by going to https://nw.webex.com/nw/systemdiagnosis.php

IMPORTANT NOTICE: This WebEx service includes a feature that allows audio and any documents and other materials exchanged or viewed during the session to be recorded. By joining this session, you automatically consent to such recordings. If you do not consent to the recording, do not join the session.
Intermediaries and HFAs is $8.7 million, and for NWOS is $1,305,000. If just $43 million is made available, the cap for Intermediaries and HFAs is $6.45 million and for NWOS is $967,500. No organization (HFA, Intermediary, or NWO) will be allowed to request less than $50,000. This is an increase from prior rounds and mostly affects NWOS. We have found that some of the organizations with the smallest awards struggle to spend those awards since they never really build the program or the infrastructure. Additionally, it costs the same to process the grant and grant agreement and to do off-site monitoring. Therefore, we believe $50,000 is a more appropriate floor.

Round 2 provisions which will not be included in Round 3 grant consideration
The statute governing the Round 3 funds did not contain the following provisions which were included in the Round 2 statute. Therefore, these provisions shall not carry forward to Round 3:

1) None of the funds made available shall be distributed to an organization which has been indicted for a violation under Federal law relating to an election for Federal office or an organization which employs applicable individuals (contained in Section 2304 of PL 110-289)

2) Not less than 15 percent of the funds shall be provided to organizations that target counseling services to minority and low-income homeowners or neighborhoods (contained in Section 2305 of PL 110-289) Note: although this provision was not contained in the statute governing Round 3 funds, NFMC will continue to ask questions about this in the grant application, as we are aware of the keen interest Members of Congress have in ensuring services are provided to low-income and minority people and communities. In Round 2, 41% of funds were allocated to organizations that met this criterion.

3) Funds shall be used to make grants for legal assistance (contained in Section 2305 of PL 110-289)

4) Consideration for whether applicants have implemented written plans for providing in-person counseling and for making contact, including personal contact, with defaulted mortgagors (contained in Section 2306 of PL 110-289)

5) Consideration for whether applicants work to identify and coordinate with non-profit organizations operating national or statewide toll-free foreclosure prevention hotlines (contained in Section 2402 of PL 110-289)

Grant Term
Because a few Grantees will have entirely spent their Round 2 awards by July 1, 2009, the Round 3 grant term will be July 1, 2009 through June 30, 2010. Although funds will not be disbursed until Grant Agreements are ratified following award announcements, once their grant agreements are executed, Grantees that receive Round 3 funds will be able to retroactively upload clients who have received service after July 1, 2009 into the Data Collection System. Current Grantees that estimate they have sufficient funding under Round 2 to carry them through June 30, 2010 must make a strong case for the need for additional funding in their Round 3 Grant Application, which would have to include a plan for increasing their capacity to provide additional counseling services during the grant term.
Streamlined Grant Application for Good Performers

Two rounds of NFMC funding have been awarded within the past 16 months, and NeighborWorks has collected a large amount of relevant information from Grantees that has been considered in previous grant rounds as recently as six months ago, in addition to the information that we have on the performance of current Grantees. For Round 3, we will be offering a streamlined application process for current NFMC Grantees that meet one of the following criteria:

(a) Grantee received Round 2 funds and has spent down at least 25% of its Counseling Award (in dollars, not units) by July 10, 2009, or

(b) Grantee received Round 1 funds only and has submitted a complete Round 1 Final Report by July 15, 2009.

Applicants that are first time applicants or do not meet either of the criteria above will be required to complete the full NFMC Grant Application.

Levels of Counseling

We are considering whether we should eliminate the designation of Level 3 Counseling from Round 3. Although individuals who receive Level 3 counseling receive the same service as those who receive Level 1 and Level 2 from two different providers or at two points in time, NFMC has consistently received feedback since the beginning of the program that the Level 3 designation is unnecessary and confusing to some Grantees and to the public at large. This feedback was received primarily from stakeholders who are not NFMC Grantees, but also from some NFMC Grantees who report most of their units of counseling first as Level 1 and later as Level 2. When we polled Grantees that upload a large percentage of their counseling units at Level 3 to determine whether there would be unintended burden placed on them if we remove the Level 3 designation, the majority (60%) agreed that it would make sense to eliminate Level 3. The biggest drawback of this approach would be that organizations that are used to uploading Level 3's would now have to upload those clients twice (once at Level 1 and again at Level 2), but only 4 of the 27 respondents raised that concern.

NFMC has also received feedback questioning the effectiveness of Level 1 counseling. Additional research is being conducted, but preliminary data shows only a minimal difference in outcome between Level 1, Level 2, and Level 3:

<table>
<thead>
<tr>
<th>Counseling Level</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>All loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of matched loans</td>
<td>40,981</td>
<td>9,807</td>
<td>19,196</td>
<td>69,984</td>
</tr>
<tr>
<td>% foreclosure started</td>
<td>17.7%</td>
<td>20.2%</td>
<td>18.2%</td>
<td>18.2%</td>
</tr>
<tr>
<td>% foreclosure completed</td>
<td>6.1%</td>
<td>7.2%</td>
<td>5.4%</td>
<td>6.1%</td>
</tr>
<tr>
<td>% mortgage paid off</td>
<td>2.5%</td>
<td>3.3%</td>
<td>3.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>% mortgage brought current</td>
<td>8.0%</td>
<td>12.6%</td>
<td>10.2%</td>
<td>9.2%</td>
</tr>
<tr>
<td>% mortgage became delinquent</td>
<td>10.8%</td>
<td>8.0%</td>
<td>10.7%</td>
<td>10.4%</td>
</tr>
<tr>
<td>% mortgage remained current</td>
<td>17.5%</td>
<td>10.5%</td>
<td>14.0%</td>
<td>15.6%</td>
</tr>
<tr>
<td>% mortgage remained delinquent</td>
<td>37.4%</td>
<td>38.2%</td>
<td>38.5%</td>
<td>37.8%</td>
</tr>
</tbody>
</table>

Data analysis conducted by Urban Institute using a representative sample of NFMC clients, matched to servicer-reported outcome in the McDash Analytics data set.
Duplicate Waiver
As a follow up to our last phone conversation, NFMC recognizes that there are legitimate reasons why clients may come back to receive service again, or to receive the same level of service from more than one Grantee. For example:
- Dissatisfaction with initial workout offered;
- No progress made towards resolution with first agency, or modification review takes too long;
- Media and rumors - clients hear of new programs and think a different agency may have more up-to-date information;
- Clients call city or state hotlines and are given the contact information for all HUD housing counseling agencies in the area. Desperate borrowers contact all agencies. Even if counselors are aware that the client has received counseling elsewhere, often clients do not bring Level 1 information and counselors must start all over with Level 1 work;
- Re-default due to loss of income or job, divorce or new health issues; and
- Borrower fulfills special forbearance and comes back to get help with modification process

We discussed a 3% duplicate waiver, but upon further research and input are now recommending that we allow up to 5% of a Grantee’s Counseling Award to cover non-self-duplicated clients. This:
- Will be based on the dollar amount of the Counseling Award, not on the units of counseling;
- Will be calculated individually for each Grantee by NFMC staff prior to a Grantee receiving Draw 4 of its current Funding Round, based upon the actual dollar value of non-self-duplicated clients reported into the Data Collection System. For example, if a Grantee has reported non-self-duplicated clients totaling just 3% of its Counseling Award, only a 3% waiver will be granted; and
- Will not be retroactive

As outlined in our March 2, 2009 memo to you, we have implemented a hard reset of the duplicate client check as of March 4, 2009, the date when the details of the Administration’s Making Home Affordable program were announced. Many homeowners who received assistance previously under the NFMC program may be eligible for a better loan modification or refinancing now under the President’s plan. Therefore, any homeowner who received counseling assistance from an NFMC grantee prior to March 4th would be eligible to be counseled again by an NFMC grantee on or after March 4th at any level. However, a borrower cannot receive “Level 4” counseling more than once through NFMC.

Cost of Counseling
We continue to receive feedback that agencies are struggling to provide services within the cost parameters that NFMC will fund. As interest earnings and endowments have decreased, so has philanthropic giving to nonprofit organizations in general. In particular, nonprofits in the housing industry have relied on contributions by the financial sector, and many of these funding sources have dried up or decreased as lending institutions merge or close. NeighborWorks America is responding in two ways. First, NeighborWorks America, together with the HOPE NOW
Alliance, is making progress on its discussions to implement a servicer invoicing system for NFMC Grantees. Second, NeighborWorks has hired a third party to survey NFMC Grantees about the true cost of providing foreclosure counseling and expects to have results by late summer. These results will examine variation in such attributes as service delivery model, geography and cost of living, etc. Results will be shared with you, and will also inform future NFMC training courses, as effective and efficient business models are identified.

Making Home Affordable
As is the current practice, NFMC Grantees will be allowed to use up to 30% of their NFMC counseling award to provide “Level 4” counseling, in accordance with the Administration’s Making Home Affordable program which requires borrowers that receive temporary loan modifications but have high back end debt-to-income ratios to indicate their intention to receive counseling. NFMC has provided many opportunities for its Grantees to learn about the MHA program. We have:

- hosted Web-Ex sessions for direct grantees and sub-grantees together with Treasury, Fannie Mae, Freddie Mac, and HUD;
- hosted in-person trainings at our February and May Training Institutes together with Treasury, Fannie Mae, Freddie Mac, and HUD;
- incorporated MHA into the curricula of relevant courses offered through the NeighborWorks Center for Homeownership Education and Counseling and NFMC; and
- continue to send updates to the 2,400 subscribers to the NFMC Members web site as the program evolves and post updated documentation on the NFMC Members site.

NFMC is modifying its Data Collection System and is working with the primary client management system vendors to incorporate Level 4 into their systems. Grantees have been trained in which data they should collect so they can submit Level 4 clients for NFMC credit once the Data Collection System is able to accept them. This will be fully operational in July of 2009.
## ATTACHMENT D: LIKELY DUPLICATES DETERMINED BY INTERNAL AUDIT

<table>
<thead>
<tr>
<th>POODE</th>
<th>Grantee</th>
<th>Round Final Report Submission Date</th>
<th>Total value of counseling completed by Grantee in Round 1</th>
<th>Total value of duplicates identified by IA</th>
<th>% of total counseling duplicates represent</th>
</tr>
</thead>
</table>

**GRANTEES THAT WERE NOT AFFORDED THE 5% DUPLICATE WAIVER BECAUSE THEY COMPLETED ROUND 1 PRIOR TO JUNE 12, 2009**

<table>
<thead>
<tr>
<th>POODE</th>
<th>Grantee</th>
<th>Round Final Report Submission Date</th>
<th>Total value of counseling completed by Grantee in Round 1</th>
<th>Total value of duplicates identified by IA</th>
<th>% of total counseling duplicates represent</th>
</tr>
</thead>
</table>

**GRANTEES THAT COMPLETED ROUND 1 AFTER JUNE 12, 2009**

<table>
<thead>
<tr>
<th>POODE</th>
<th>Grantee</th>
<th>Round Final Report Submission Date</th>
<th>Total value of counseling completed by Grantee in Round 1</th>
<th>Total value of duplicates identified by IA</th>
<th>% of total counseling duplicates represent</th>
</tr>
</thead>
</table>

Median: 1.21%
Average: 1.56%
MEMO

To: Fred Udochi  
From: Eileen Fitzgerald, Jeanne Fekade-Sellassie  
Cc: Michael Forster  
Re: Internal Audit report on NFMC Data Collection System  
Date: January 6, 2010

With this memorandum, Management is providing additional information as clarification to the NFMC Data Collection System (DCS) audit which was issued on September 2, 2009.

In particular, there is one issue in the report which Management feels deserves additional consideration and context. The report states:

“More than 4,150 duplicate customer records were identified during our audit as having bypassed current DCS controls, representing more than $850,000 in over-payments. The DCS’ current validation processes are binomial in nature and relatively rigid, requiring data from multiple records to match virtually identically in 3-4 data fields in order to be flagged as duplicates. This rigidity creates a control gap that contributed to the unidentified duplicates identified above.”

As a result, IA recommended, “that Management obtain/execute credits from the grantees for the dollar amount ($850,000 +) associated with the duplicates identified during this audit.”

While Management does not disagree that duplicate clients were accepted into the DCS, it does not agree that $850,000 should be recaptured from grantees for the following reasons:

1) The duplicate rule was not legislative; rather, it was a program parameter that Management put into place during the short time that it had to design the NFMC program. At the time, the rule seemed logical; however, as the program was implemented, it became very clear that there are legitimate reasons why borrowers would return to receive foreclosure counseling more than once. Examples follow:

- Borrower re-defaults due to loss of income or job, divorce, or health issues.
- Borrower fulfills special forbearance and returns to get assistance with the modification process.
- Borrower is dissatisfied with the initial work-out offered by the servicer, and goes to another counseling agency with the hope that that agency’s relationships could help the borrower to receive a better work-out.
The Administration’s *Making Home Affordable* plan, announced March 4, 2009, might offer a more sustainable and affordable solution than what borrowers were previously offered.

2) A memo was issued to the officers on March 20, 2009 (see Attachment A: Memo to Officers) with the recommendation to implement changes to the duplicate rule. Rationale for these changes is in the attached memo, so I will not detail it again here. The two changes approved by officers were to:
   - “restart” of duplicate check as of March 4, 2009
   - Institute a 3% duplicate waiver

3) Management had a phone conversation with staffers on the U.S. Senate and House Appropriations Committees who agreed that a duplicate waiver made sense and left it up to Management to decide an appropriate waiver amount.

4) In May of 2009, Ken Wade testified at a hearing on the role of intermediaries in the foreclosure crisis called by the House Financial Services Committee. During that hearing, and in subsequent meetings with staff of this Committee’s membership, we were urged to implement a less stringent duplicate requirement. This resulted in the announcement of a 5% duplicate waiver which was announced to grantees on June 12, 2009 (see Attachment B: Announcement to Grantees).

5) To formally notify Hill Staff of these changes, we sent a memo to them outlining the changes in a memo dated June 12, 2009 (see Attachment C: Memo to Hill).

6) Of the $856,700 in likely duplicates that were identified by Internal Audit, 63% ($542,700) were duplicates of grantees that were not able to take advantage of the duplicate allowance because they had completed their Round 1 grant prior to the June 12, 2009 duplicate allowance implementation date. These funds represent just 1.1% of those grantees’ overall production, well below the 5% waiver allowed (see Attachment D: Likely Duplicates Determined by Internal Audit).

7) The remaining $314,000 represents just 0.7% of those grantees’ Round 1 production. Although the 5% duplicate allowance was applied to these organizations because they finished Round 1 after June 12, 2009, not all of them had more than 5% duplicates rejected from the system, so some of these would have been allowed anyway. To recapture these funds would require an amount of staff time and resources, and would cost NeighborWorks reputational risk far above the amount in question, as Round 1 is completely closed-out and reconciled.

8) Due in part to Internal Audit suggestions and input, substantial improvements have been made to the DCS’ duplicate check, which have increased
Management’s confidence in the duplicate check’s ability to identify duplicates going forward. These enhancements are outlined below.

**Enhancements to the Data Collection System Made after Internal Audit’s Sample was Examined**

Management appreciates Internal Audit’s suggestions for improving the duplicate check system. Their recommendations have resulted in Management’s ability to substantially improve the DCS. Because the vast majority of duplicates must be identified in real-time as grantees upload their data, Management must weigh the risk of catching 100% of the duplicates with the risk of compromising the performance of the entire DCS. Management wishes to provide the following context for the record:

1) The duplicate check system has already identified over 178,000 duplicate records, totaling over $39 million. The 4,143 clients IA found to be duplicates represent 1.04% of the clients in the dataset sampled (n = 396,791), and 0.5% of the clients in the overall dataset.

2) The data Internal Audit used to construct the testing was from program start date through early February 2009. The DCS was not available for upload until early May 2008, so many of these clients (647, or 15% of those IA reported as duplicates) would have been served between January 1 and early May, before the DCS was functional. The majority of grantees took a month or two to align their systems with the DCS and begin reporting in earnest, so this 15% is a very conservative estimate.

3) There was no time to extensively beta test the DCS before roll-out. Once we recognized that the automatic duplicate check was too sensitive and was allowing some duplicates into the system, we instituted improvements to the duplicate check process which Management believes are doing a good job now of identifying duplicate clients that would not have previously been known.

In November of 2008, the DCS was enhanced to include, at IA’s suggestion:
- Current servicer, loan number, PITI, case sensitivity
- Identification of probable duplicates by including counseling levels, enhanced checks for last name, street number and zip code inequality; checks for conflicting counseling levels and combinations of branch ID and client ID numbers

These improvements increased the likelihood of “false positives” so we instituted a secondary manual duplicate check process which began in early December 2008. The majority of the clients (57%) identified by Internal Audit as duplicates were uploaded into the system prior to the manual duplicate check and enhanced duplicate check processes becoming active. It is very likely that some of these would have been caught in that process. Even with the manual dup check, it is sometimes hard to determine which borrowers are duplicates.
4) In December of 2009, Management added the following features to further improve our duplicate checks:
   a. Levenshtein-tolerant tests against servicer and loan number in combination with zip code (as recommended by IA)
   b. Tests against inverted last names
   c. Tests to include tolerant misspellings

These enhancements have resulted in the identification of 90% of the duplicates identified in the Internal Audit sample without compromising the speed or performance of the system which must be designed to work in real-time.

With the enhancements described above, Management is confident that more duplicates are now being identified – 90% of those identified in the Internal Audit sampling would now be identified as duplicates upon upload under the improved DCS. Weighing the risk of catching 100% of the duplicates against the risk of compromising the performance of the entire DCS, Management feels the DCS is now sufficiently improved to identify an acceptably high number of duplicates going forward.
To: Audit Committee  
From: Frederick Udochi  
Cc: Jeanne Fekade-Sellasie, Eileen Fitzgerald, Ken Wade, Mike Forster, Jeffrey Bryson, Mia Sowell Bowman  
Re: Memo from Management regarding “Internal Audit Report on NFMC Data Collection System”

Internal Audit accepts Management’s response\(^1\) relying on the new information made available in items 2, 3, and 5 on page 2 of their memo which collectively refers to a 5% duplicate waiver implementation.

It is important to note that the 4,150 duplicate customer records identified during our audit was performed once against records accepted into the NFMC Data Collection System (DCS) through the 15\(^{th}\) of February 2009. This analysis was performed during the period of May 2009 with client records placed on a stand-alone computer.

Internal Audit also reviewed the 3/20/09 memo on the “Recommended Modifications to NFMC Duplicate Client Procedures” proposed and adopted by Management. Internal Audit held two meetings with Management, on 2/23/09 and 3/5/09, specifically to discuss anticipated testing of the DCS’ ability to identify and prevent customer duplicates. Internal Audit was not made aware, at that time, of the specific enhancements being planned to the policies or processes governing duplicate customers. Such information if known at the time would have significantly influenced Internal Audit’s final report analysis.

Nonetheless, the enhancements which Management has made after implementing Internal Audit’s recommendations for improvement have been noted, and we are pleased that a significantly larger percentage of duplicates can be identified earlier in the process and prior to crediting and disbursement. Internal Audit will consider performing a review of enhancements made to the Data Collection System during the revision of the NFMC program audit plan later this fiscal year.

\(^1\) See Management Response dated January 6, 2010 in respect of Internal Audit Report on the NFMC Data Collection System.