



North Sound Mental Health Administration

Information System Review

Appendix B: Recommendations



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Recommendations

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Recommendations

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I. Overview

Prior to reading this section, please review the terms we defined in the full *NSMHA IS Review Report* in the section *Organizations and Terms Related to the NS-CIS*, in order to better understand this section.

Information services have evolved considerably over the last two decades and especially over the last several years. Initially, computers were used in mental health centers to maintain accounts receivable in a fee-for-service environment and to meet minimum state data requirements. Computer equipment is now faster and more capable so that it is important for organizations to set goals and priorities to use technology to support efficient practices. That is the current state for mental health agencies throughout the state and nation. New electronic functions are being developed and perfected for the mental/behavioral health industry. This is the situation with the Consumer Information System since it works well to collect and report required data and new functionality is being reviewed and implemented. During this stable time between significant system changes, provider agencies and NSMHA can set goals, prioritize projects, and continue work to improve practices. The NSMHA IS Review has been conducted at an opportune time to evaluate what's working and what needs improvements and to set goals for moving forward.

The following recommendations are based on feedback from agencies involved with the entire NSMHA CIS and have been broken into three sections:

- A. Communications
- B. Organization Relationships
- C. Process Revisions and Documentation

These recommendations are in no particular order. The decision of which should be addressed and the prioritization of those tasks should be developed in concert with the directions set by the board and their planning committee. We have outlined the recommendations in two separate sections. The first list found in section II below, provides a brief summary of each recommendation. The second list found in section III below, contains the same recommendation categories with more detail and specific ideas for each category.

Although Communications is a separate section, many of these recommendations fall back to communications as the root challenge. Improving communications will ultimately support all of the other sections, but was found to be the main issue to improve. One of the challenges when there are breakdowns in communications is the need to go above and beyond normal reactions to rebuild the trust that has broken. Saying "you are wrong, there is no problem", or simply correcting previous problems isn't adequate until relationships and interactions have been improved to the point that trust is the norm, and that caution, questioning motives, and anticipation of negative reactions, dissipate.

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II. Recommendations: Summary

A. Communications	
1) Standardize Terminology	<p>Define and clarify terms used to describe the NSMHA Consumer Information System (CIS). We define the CIS as all information systems for all NS mental health organizations).</p> <p>We often found the same term being used to describe very different things. Not only were we confused ourselves, which could be expected as people outside of the system, but over and over we found people and organizations confused about terminology in common use within the North Sound region.</p>
2) Meetings	<p>Work within each existing meeting to obtain feedback about the effectiveness of each meeting and how it can be improved.</p> <p>Define a specific "Steering" committee to make decisions, set goals, and consider recommendations from staff and groups that rely solely on the NSMHA Consumer Information System. Be careful to not rely on end users to set goals and policies just because they have traditionally been the main users of the CIS.</p>
3) Announcements	<p>Continue to use the Intranet to update agencies on important changes, requirements, and deadlines. Make sure that not only is information available to people that "need" it, but that others are aware of what is happening.</p>
4) Working Perceptions	<p>We encourage all participants to move past historic perceptions and working relationships and to focus on common goals and partnering to improve the system and processes together.</p>

B. Organization Relationships	
5) Provider Service Agreement	<p>Both Sound Data, Inc and Sound Data Services should work together to revise the current service agreements.</p>

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B. Organization Relationships	
6) Charge Model	<p>Sound Data, Inc. should form a work group to evaluate options for a different method of sharing costs, to evaluate if it is fair and reasonable.</p> <p>Sound Data Services (SDS) should document and distribute to provider agencies all of the support that is included in their existing monthly charge since agencies have expressed concern about being charged extra for support that is already included in the support agreement.</p>
7) Sound Data/ Compass Health Affiliation and Board Involvement	<p>The Sound Data, Inc. Board of Directors should take a more active role in directing the future and development of their Provider RT DB and consider a number of changes. The potential changes range from minor to quite significant and it is suggested that stakeholders read the detail¹ elsewhere in this report for this item rather than relying just on this summary. Our suggestions for the board to consider include opening board membership to other agencies and industry experts, and options to discuss regarding the contract to run their system.</p> <p>Total costs and trust factors would be important considerations to evaluate as they all work to improve the current relationships.</p>
8) RSN Information System(s)	<p>NSMHA should evaluate alternative RSN information systems to reduce costs. The RSN information system needs to allow agencies to use any information system that can support transmission of required data and NSMHA should work to clearly define reasonable standard file formats.</p> <p>Prior to any changes in the RSN information system, it is very important for NSMHA to evaluate those functions that should be maintained and supported in the RSN platform. Some functions that the Provider RT DB fulfills may be considered an RSN responsibility, particularly as agencies choose to use their own information system rather than participating in the Provider RT DB.</p>
9) Supporting VOA and Integrated Crisis Response	<p>Supporting Access and Integrated Crisis Response services is an important aspect of the CIS. As organizations choose to use their own information system, the current model using the Provider RT DB begins to have gaps in the data available for those teams. This critical issue needs to be addressed as NSMHA and providers continue to improve their systems.</p>

¹ Please see the corresponding detail in section IV-B, item 7.

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C. Revision and Documentation of Processes	
10) New Agencies and Staff Changes	<p>NSMHA and Sound Data Services should take this opportunity to document steps and minimum requirements for new agencies coming into the system. Documentation should incorporate what went well during the October 2007 transition and ways to improve things that didn't go well.</p> <p>Changes in staff within organizations may be anticipated or unplanned. The transition may be smooth and orderly, quick and potentially disruptive, or anywhere in-between. These changes require a plan for a smooth and successful transition. Documentation and new staff checklists should be reviewed for completeness.</p>
11) NSMHA Invoice/ Payment Reconciliation	<p>NSMHA should work with providers to determine what invoicing detail agencies desire to meet their needs and to respond to the concerns mentioned in the <i>NSMHA IS Review Report</i>.</p>
12) Enhancements	<p>Sound Data Services and provider agencies can use this report of the Information Systems Review and the <i>Raintree Issues Identified</i> listed in Appendix A to create or add to an existing list of enhancement requests and training needs. The enhancement list should be prioritized by the Steering Committee and updates should be published and available at appropriate meetings as well as on the Intranet. A specific review of the screen design and layout to improve productivity could support workflow issues.</p>
13) "Named User" Logins	<p>There seems to be confusion about the login process that needs to be clarified and possibly changed to reduce the steps required by end users during login. Although this may not seem important to those that stay logged into the system for long periods, the users that are logging in and out of the system to minimize their "minutes used" and thus their monthly invoice experience more frustration due to the number of times they are logging in and out. HIPAA requirements also emphasize logging out of the system to reduce the possibility of compromising protected health information.</p>
14) Ability to Make Corrections	<p>SDS work with agencies to make sure that certain users are allowed to make corrections to data entered in error.</p>
15) EMR Implementation	<p>All organizations should work together to first understand the Raintree Electronic Medical Records (EMR) module² and then to determine which agencies want to move forward to begin developing an implementation plan.</p>

² Consider scheduling webinars and/or an overview of the EMR module and options available for the EMR.

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C. Revision and Documentation of Processes	
16) Training	It is clear that many of the concerns end users expressed could be resolved with additional training. Training needs to be fine tuned for new staff, new agencies, and continuing opportunities for existing users.
17) Reports	Reports from an information system are important to verify the accuracy of data, manage errors, review trends, manage caseloads, identify and investigate challenges to come up with solutions, and make decisions. We believe that reports should be fine tuned to reflect the needs of each organization and to be clear about: the purpose, audience, meaning ³ , required follow-up, who runs them, when they should be run ⁴ , what is included (detail/summary), formatting ⁵ , HIPAA regulations around privacy, etc. We encourage organizations to not run reports just for the sake of having reports but to make sure the reports are useful to the recipient and occur at the proper frequency and detail for FYI type updates ⁶ .
18) Forms and Business Practices	Clarify if NSMHA or SDS should provide standard forms and how/what is acceptable for each agency to edit or update the standard forms to meet their business processes.
19) Data Verification	Work at both organization and staff levels to ensure data verification in order to feel confident about data at the state, RSN, and agency levels.
20) Regular Updates (annual?)	<p>Each application and database within the Consumer Information System requires regular patches and upgrades in addition to implementation of new functionality. These changes require planning and testing to support end users.</p> <p>Certain business processes need to be reviewed regularly (at least every biennium). Providers and NSMHA should clarify expectations about required policies, procedures, and organization details.</p>

³ Being careful to **not** draw incorrect conclusions.

⁴ Factors to consider include: timing (is all of the data in), frequency, for what time period, etc.

⁵ Formatting should be clear to identify the scope of the report and what it includes/excludes as well as using colors or graphs to make the information easy to comprehend and identify significant trends or results (increases, decreases, problems, etc.).

⁶ I.E.: Don't run monthly reports or monitor programs that never change and could be monitored quarterly or less. All users could receive annual or quarterly updates as long as they knew that one person would review report results and be required to share updates only if there are problems.

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C. Revision and Documentation of Processes	
21) Data Dictionary	NSMHA should add a printed version of the <i>NSMHA Data Dictionary</i> to the existing electronic <i>NSMHA Data Dictionary</i> available on-line. NSMHA should get feedback from users on formatting and layout for the printed version. NSMHA, Sound Data, and agencies should improve communications and implementation for data dictionary changes.
22) TXIX Eligibility Files	NSMHA should work with providers and Sound Data to develop a list of desired elements that NSMHA would make available from the TXIX files they get from MHD. This recommendation should be held until after the Provider One changes that are expected to replace the existing process in the near future.

III. Recommendations: Detail

A. Communications

1. Standardize Terminology

NSMHA and “Sound Data” need to clarify and standardize terminology used when referring to the NS CIS and each of the existing players. For example, the term “Sound Data” is very confusing since it is used to describe different things:

- Sound Data, Inc. (SD, Inc.), the corporation that purchased the Raintree licenses and maintains a Bailment Agreement with Compass Health to run the system.
- Sound Data Services (SDS), the department within Compass Health that maintains the system and charges participating agencies for both Raintree annual support and costs associated with SDS staffing, offices, etc.
- Sound Data MIS or Sound Data Raintree Database (RT DB), the information system that provider agencies use to collect and transmit required data. We have chosen to use the term “Provider RT DB” since it is the information system used by NSMHA providers.

2. Meetings

Existing meetings are working to disseminate and share information with agencies but may need some fine-tuning. It would be wise to get feedback for each meeting about what is working well and what could be improved. NSMHA and SDS could ask participants to share ideas about meetings: frequency, attendees, topics to include or exclude, format, scheduling⁷, notification⁸, agendas, and minutes. Written input could be gathered to produce a list of ideas to discuss at each meeting. There should be a way for participants to provide anonymous feedback since it can be difficult for some people to share their thoughts in a group setting.

⁷ What days work/don't work? What times of day is best?

⁸ How much notice is preferred/required?

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Participation in meetings should be based on job function rather than job title since each agency may define specific roles differently.

Review the best ways to support new, smaller, or specialty⁹ agencies to determine how to share information with them. We suggest clarifying and sharing expectations for their participation in various meetings. Consider highlighting minutes or debriefing with new or smaller agencies to bring specific items to their attention. It may even be appropriate to consider a separate meeting for specific users, or to invite them for only a portion of the larger meeting, taking care to discuss all of their items together.

Create a Steering Committee to include NSMHA and all agencies to make IS/data decisions and set directions and goals. Section seven below discusses ways that the SD, Inc. board could expand and fulfill the role of a Steering Committee. It is important to provide avenues for system users to make recommendations to the Steering Committee, but that the Steering Committee should be responsible for making the final decisions.

It is important to not rely solely on the general users for establishing goals and directions for the Provider RT DB. Historically, staff supporting state data requirements have taken on the task of setting IS/IT goals since accounting and data integrity/data entry staff have been the primary users. As clinical tools continue to develop, it is important to rely on executive teams to make IS/IT decisions. Although that is a useful role for the SD, Inc. Board of Directors, a broader group would be useful for making recommendations to SD, Inc. from all agencies using the system and from specific specialty groups such as clinical managers, medical records, QA/QI staff, data analysts, accounting/billing, and data entry staff.

SDS and participants in the “general” user group could consider having agendas that separate items by interests such as: data entry, receptionists, medical records, clinical managers, accounts receivable, and other accounting so that not all attendees need to sit through the entire meeting. Consider having both joint portions of the “general” meeting, and also splitting into job-related groups to discuss issues specific to each group.

Brainstorm ways to improve meeting efficiencies and reduce travel time and costs. Some options could include:

- Offering regularly scheduled training or scheduling meetings on the same days as other meetings so people can travel together and have the opportunity to share ideas during travel time.
- Encourage carpooling between agencies and between staff within an agency as long as that does not leave agencies too short-staffed back at the office.
- Less frequent, but longer meetings.

Continue to investigate ways to hold meetings and/or training with remote attendees using internet technology and sharing computer screens.

⁹ Specialty agencies may provide limited programs or specific services that may not have the same data requirements as other agencies.

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3. Announcements

Continue to use the Intranet to update agencies on important changes, requirements, and deadlines.

Share correspondence from Raintree with all users for training opportunities, enhancements and upgrades, and other announcements. Post items on the Intranet and include a list of correspondence at user meetings. It is unclear how many users have access to log into the Raintree Intranet to see training opportunities and other Raintree information, but it would be good for all users to be aware of those announcements.

SDS should share summaries of Mantis help requests at meetings and on-line:

- the number of requests (preferably by category and by agency or user)
- the number of resolutions
- the number of outstanding tickets that require Raintree support
- Other details so that users are aware of the type of challenges other agencies are having and when/how they are resolved.

4. Working Perceptions

NSMHA management should consider how the working relationship between Sound Data Services and NSMHA could improve if the issue of a lack of a contractual obligation between them was minimized and the common goals of both organizations were the focus of communications.

People participating in the implementation of recommendations are encouraged to be opened to all feedback obtained through this process and to not discount issues. It is hoped that this is an opportunity to work on new ways of working with other entities and to help users that don't yet fully understand the system.

B. Organization Relationships

5. Provider Service Agreement

Sound Data should revise the current service agreements. Preferably, there would be one agreement with separate addendums outlining charges for Tier 1, 2, and 3 service levels. The new agreement should give agencies a clearer cancellation clause more favorable to providers and would state specific service levels for system uptime, enhancement requests, support availability, report requests, "bug fixes", extra charges, etc.

6. Charge Model

Sound Data, Inc. should form a work group to evaluate options for a different method of sharing costs. Similar shared provider or RSN systems have adopted models for sharing costs that could be considered. Options to replace the current percentage of login time could include

- the percentage of consumers and services in the system
- number of logins into the system

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- disk space used or disk space greater than a defined base amount

These can be investigated further to get details on how they were developed, with the goal that Sound Data Service's method of charging should be simplified, advancing the benefits noted in the full *NSMHA IS Review Report*.

As Sound Data, Inc. reviews the SDS actual costs compared to the original budget, they should analyze revenue from new agencies and consider how to incorporate revenue into the costs shared by all SD, Inc. members.

Sound Data, Inc. should also conduct a study to determine if the current model for sharing costs seems fair based on available statistics for each agency:

- Compare minutes used by agency to the size of the agency (# of consumers, # of services, and # of hours of service) and share with all agencies to see if the ratios seem reasonable.
- Clarify what the minutes used includes/excludes:
 - Includes daytime minutes used only, excludes night minutes. What times of the day are considered “daytime”?
 - What does “logged in” mean? Does it include all Intranet activities, only the live Provider RT DB, Raintree Training and/or Test databases, MySQL Report DB?
 - How many or what percentage of “minutes used” are excluded from the ratios used to distribute costs? These should include night minutes as well as Raintree staff logged into the system.
- Continue to share the usage patterns by agency every 6 months or year with all agencies that use the system.
- Calculate, review, and publish the Sound Data Services charges per consumer and per service for each agency.
- Request a time study from each SDS staff to determine what activities and staff is required to “maintain” the Raintree system. Should the shared cost model include all eight¹⁰ of the SDS staff, or should another method be used for SDS time supporting specific users but not “maintaining” the system? Should any of the seven Sound Data Services staff positions be billed 100 percent or some percentage to Compass Health or specific SDS customers directly and not embedded in the SDS budget for Sound Data, Inc. agencies to share?

Sound Data Services should:

- Remind all agencies and users that requests for support¹¹ are included in the basic support agreement and that SDS notifies customers if and when their questions will generate charges. SDS indicated that charging extra is not common and is only used when significant programming time is required or when a request would only support a few agencies. SDS requires a purchase order from

¹⁰ Only .25 of the Compass Health CIO is charged to Sound Data Services.

¹¹ Telephone, Mantis, e-mail, etc.

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agencies before they begin working on these types of projects so everyone is very clear about additional charges involved.

- Clarify support models for each of the tier levels and publish rates (include them in contracts?) for performing extra work outside of the contract.
- Schedule at least an annual or semiannual site visits to each office to talk to customers about what's working well and what problems or questions they have. Try to include a full range of agency functions¹². Try to get separate feedback from several specific types of clinical staff about how they envision an information system that could support and streamline their work.
- Make sure that the monthly invoices include enough detail such as the agency's total minutes used and the entire system minutes used. This would help agencies anticipate changes to their monthly bill if their usage goes up or down. This could alleviate some of the fear of agencies that they have to stay out of the system or they'll be charged (significantly) more.

7. Sound Data/ Compass Health Affiliation and Board Involvement

We have earlier described the organization of Sound Data Services, in the current configuration as a department of Compass Health, while Sound Data, Inc. is the non-profit corporation that owns the Raintree licenses. This relationship has been described as troubling in various ways to several of the provider agencies.

Providers and NSMHA have great influence over whether to continue to contract with Sound Data Services/Compass Health for maintenance of the Provider Raintree system. Providers have influence through the monthly payments made to Sound Data and through oversight by Sound Data, Inc. NSMHA has influence through the funding to providers. Therefore, NSMHA and providers are in a position, to help influence the future of the Sound Data Inc. and Sound Data Services.

In order to improve a company's customer satisfaction, efficiency, effectiveness, or to make other improvements, sometimes organizations or company ownership must change. We believe there is a great deal of effectiveness that can be gained prior to considering such drastic measures. Many different steps can be taken to resolve concerns voiced during the IS review, however Sound Data, Inc. needs to work as a board to determine the best solutions and should include input from all agencies, including NSMHA as they review current arrangements to create improvements in the future.

We recommend first that the makeup of the Sound Data, Inc. Board of Directors be changed and that they consider the following:

- Each organization that uses the Provider RT DB should have membership and a vote on decisions affecting the system, which has the potential of bringing new ideas to the mix.
- Incorporating new agencies could be handled a number of different ways to protect the original investment of the Sound Data, Inc.

¹² Such as: receptionists, data entry, clinical managers, medical records, accounting, and other administration.

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- This could be similar to that of a cooperative organization.
- The original investors could realize a discounted percentage of the costs of running the system, or conversely new agencies could pay a surcharge since they did not pay to capitalize the original purchase.
- New providers could be assessed an initial “buy-in” of “shares” to SD, Inc. in order to receive discounted rates (or not pay a surcharge). The board should set the discount and buy-in amounts.
- Each new organization's membership could be for the same term as the current board and each organization should choose their CEO, CFO or COO to represent them.
- Different types of membership in the organization could be granted different rights. For example, original Sound Data, Inc. agencies could be given two votes to “new” or “non-capitalized” member’s single votes. The goal should be for simplicity while preserving original or “capitalized” investor’s control of the corporation.
- Sound Data, Inc. and NSMHA should consider how including NSMHA on the Sound Data, Inc. board could help the goals of both organizations. NSMHA could reduce costs by combining their RT licenses with Sound Data, Inc. Raintree licenses. Provider agencies would have another organization to help share total costs. SD, Inc. and NSMHA could work together to maintain the necessary VOA and Integrated Crisis Response access to all data.
- Further, we recommend that several board positions be recruited outside of the provider organization, from industry leaders in information systems and/or healthcare administration, to provide a wider perspective of issues and solutions in use in the greater healthcare field. These membership terms would be for a determinate period and membership recruitment would be added as a responsibility of the board president and president elect.
- The board should be expected to amend their bylaws to reflect an increase in the frequency of their meetings, to publish agendas and minutes for the wider provider audience and should become a more fully guiding force in setting goals, priorities and expenditures of the Sound Data Inc. organization.
- One of the first agenda items of the expanded board should be fully review the articles of incorporation for Sound Data Inc. and make needed modifications.
- The entire board should carefully review existing cost sharing and statistics described in recommendation number six Charge Model to make sure that the costs distributed appropriately reflect the costs to “run” the system and that the charges to each agency are reasonable and fair. Our experience with other RSNs indicates that the support fees paid to Raintree for the Provider RT DB seem appropriate for the number of user licenses, although the group is paying support for far more licenses than are actually used. The charges and staffing for running the system and help desk functions seem high compared to other small to medium sized agencies around the state, but we do not know what type of software maintenance is required for this particular system.
- Sound Data, Inc. could also consider taking on other agencies or RSNs to bring in revenue and share system costs.

The Sound Data, Inc. board could consider other arrangements for running the system and providing Help Desk functions, however it is important to create solutions that are not too

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disruptive. There are several issues¹³ that can be monitored as changes are implemented to see if concerns are resolved. An important consideration is how disruptive any change will be. Other alternatives for running the system and providing Help Desk functions could include NSMHA, Sound Data, Inc. employing staff, Raintree Support Services, an independent consultant/organization, a NS provider other than Compass Health, etc. Total costs, Raintree skills, and trust factors would be important considerations to evaluate, regardless of what organization Sound Data, Inc. contracts with to run their Raintree information system.

The biggest question is how many people are required to run the system and how much should that cost. Specific duties and tasks need to be clarified and defined in order to answer that question. The time study suggested earlier would help to specify exact requirements. Clearly, NSMHA participates in the Consumer Information System, both directly and indirectly through mental health service contracts and data requirements.

Within our recommendations, NSMHA is being asked to increase their participation in the CIS applications to support specific end users. Given these increased responsibilities, Sound Data, Inc. could change the Bailment Agreement with Compass Health for running their system and contract with NSMHA IS¹⁴ to run¹⁵ the Provider RT DB system. Given the concerns that some agencies have with Sound Data Services/Compass Health having access to their data, we anticipate that agencies may have similar concerns about NSMHA access to “non-RSN” related agency data.

In our interactions with RSN and mental health center organizations, we have observed that there are four basic models for running information systems or combinations of the four. Each of the models is dependent on being able to maintain, upgrade, and program required data changes and to meet the prioritized goals and objectives of the agencies involved. Each of the four features various advantages and disadvantages which are often unique to their specific situations. These four models include:

- Each agency uses a separate information system of their choice.
- One provider (usually the largest), runs the information system for the entire group.
- The RSN runs the information system for the entire group.
- An independent consultant or organization is used to run the system for the group or for an individual organization.

Whichever model is used, meeting state and RSN data requirements is critical. Sound Data Services and NSMHA have a track record of being successful at fulfilling data requirements. It is most important to have reliable support for using the information system. It is also important that each agency takes ownership for the accuracy of their data.

¹³ Such as: communications, increased board involvement, “steering” committee functions, total costs split and cost sharing between agencies, revised Provider Service Agreements, publishing regular system performance indicators, etc.

¹⁴ Ultimately, Sound Data, Inc. could contract with any number of agencies or consultants to run their system. As stated earlier, there are advantages and disadvantages to any arrangement.

¹⁵ “Running” the system needs to be defined but at a minimum includes: data exports to NSMHA, data dictionary changes, and help desk functions. Implementation and customization of specific functions could be tackled by individual agencies or the organization responsible for “running” the system.

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8. RSN Information System(s)

NSMHA should evaluate alternative RSN information systems. The current cost of data processing by Raintree Systems for NSMHA data is not justified given the small amount of functionality of the system that NSMHA requires to conduct business. An evaluation of alternatives should include looking at separate EDI translator software, which can provide more flexibility than one integrated into a larger vendor product, and other managed care organization “MCO” software products that can perhaps provide needed RSN functionality at much lower costs.

Another option worth considering should be for NSMHA to share in the Sound Data, Inc. pool of licenses to reduce RT support costs. This shared model could possibly include the Sound Data model using server’s housed at AT&T while bringing management of the MHD data exports in-house or less expensive hourly contracted support.

The current costs to maintain a separate NSMHA RT application and licenses is much higher than either the Provider RT DB model of sharing RT support costs or of using an EDI translator.

Replacing the NSMHA RT DB with an EDI translator would probably require an extra staff person to process batches; however entry level staff would be able to maintain the batches and could help programming staff with other duties. Advanced IS staff time would then be available to troubleshoot, handle problems that arise, and to program required data dictionary changes. Our experience with EDI software is that it is very easy to use and to make changes.

Regardless of the information system used by NSMHA, an essential feature is to be able to import/process and export native and HIPAA defined electronic batches. The emphasis of any evaluation should include methods of cross-system communication for essential data so that disparate vendor systems could easily communicate the data needed to continue to provide good continuity of care.

Naturally, the ability to meet existing and upcoming cross-system data communications should be requirements for whatever information software is adopted. Software capability should include using ANSI X12N¹⁶ upcoming standard electronic health care transactions, HL7¹⁷ real-time plus batch messaging standards, and local custom transactions should be considered as the “envelopes” to carry essential data between systems regardless of the systems used by providers, Sound Data, NSMHA and future providers, rather than relying on all providers using the same system.

During the evaluation of the NSMHA information system, it is important to clarify NSMHA DB versus the Provider RT DB functions since there are some things currently maintained in the Provider RT DB that could be considered an RSN function. Although the Provider RT DB works fairly well to support the entire range of services, it is a model that breaks down as agencies prefer to use their own information system rather than the shared RT system. The review of responsibilities should include each type of data and functions performed and should include: Unique¹⁸ Consumer ID; Access; Integrated Crisis Response; E&T services; County Care Management; Authorizations¹⁹; Crisis Plans; Provider Invoices/payments; Data Dictionary

¹⁶ American National Standards Institute, X12N is the subcommittee working on electronic healthcare data transmission standards for healthcare claims, authorizations, eligibility, etc.

¹⁷ Health Level 7 real-time and batch messaging protocols between health information systems. Example: Immediate lab results transmitted to medical records at each participant information system for that patient’s care.

¹⁸ Unduplicated consumer ID.

¹⁹ Both inpatient and outpatient authorizations.

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changes; Help Desk functions²⁰ ; Errors & corrections²¹; TXIX Eligibility; QA/QI; Audits; Reports; Consumer Grievances; and possibly even data that is “unique” to NSMHA/Washington State such as 90/180 day reviews, sexual orientation, etc.

9. Supporting VOA and Integrated Crisis Response

One of the excellent designs in the Provider RT DB is the real-time data available to VOA for access and for Integrated Crisis Response. The challenge with using the Provider DB instead of the NSMHA DB is incorporating data for providers that don't use the Provider RT DB when an agency wants to use their own information system so that their data is not included for VOA and crisis staff.

It seems that VOA and Crisis staff should be using the NSMHA DB, rather than the Provider RT DB, in order to have information on all consumers if any agency chooses to not use the Provider DB. This critical issue needs to be addressed as NSMHA and providers continue to improve their systems.

Currently NSMHA care managers do not have access to consumer crisis plans. This should also be resolved so that care managers can review crisis plans as needed.

C. Revisions and Documentation of Processes

10. New Agencies and Staff Changes

Both adding new agencies and changes in staff within agencies require a plan for a smooth and successful transition. During this IS review, we heard concerns about both types of changes.

Having recently experienced the addition of new agencies to NSMHA, this is an excellent time for NSMHA and SDS to document steps required when a new agency contracts to provide mental health services. It would be wise to plan ways to shepherd new agencies (as well as new staff). Assigning a data and clinical contact person would be supportive for new people during attendance at meetings and as a resource while they learn to maneuver through all of the clinical and data requirements.

We suggest documenting minimum requirements for all aspects of the system, including but not limited to: network and computing equipment, data exports and data dictionary changes, insurance contracts for mandated third party billing²², and skills required for specific staff functions.

In addition to documenting the process for adding new agencies or office, it would be useful to ensure complete documentation for training requirements during staff transitions²³. Training plans should be stepped over a period of time for optimum retention and understanding. Documentation and checklists should be fully developed for each aspect of the organization, such as:

²⁰ Raintree or other information systems.

²¹ MHD or NSMHA error reports.

²² Third party/insurance billing is required to ensure TXIX is the payer of last resort.

²³ New hires, staff promotions, staff leaving the agency (both planned and unplanned), staff terminations.

Recommendations

- Clinical Staff by Category²⁴
- IS/IT
- Accounting
- Receptionists
- Data Entry
- QA/QI
- Managers: Clinical and Admin
- Etc.

NSMHA and agency documentation should include a summary of specific data required along with the frequency (admit, discharge, 90 or 180 day review, or upon change) data should be reviewed or updated. It should also include forms and for staff entering data, screen prints of the corresponding data entry screens and how to get to that screen.

NSMHA documentation should include specific data requirements for transmitting staff, consumer, and encounter data as well as which databases (Provider Raintree or NSMH Raintree) need to be populated so that NSMHA, the MHD, access and crisis staff can quickly locate required demographic, crisis plans, last visit(s), and other pertinent data.

11. NSMHA Invoice/ Payment Reconciliation

- NSMHA should work with providers to determine what invoicing detail agencies desire to meet their needs and to respond to the concerns mentioned in the *NSMHA IS Review Report*. This should occur prior to any discussion on modifying the information systems towards a full claims processing methodology, unless the work group outcome strongly recommends this as the best and only solution.
- Recommend that NSMHA provide monthly electronic reports:
 - Summary of total paid: Consumers, Staff, Services, and Time (hours or minutes).
 - Summary of total denied services: (same detail as above).
 - Detail list of services paid to include: Date, service, consumer, staff, time (hours or minutes), location, and amount paid.
 - Detail list of services denied (same detail as above).
- NSMHA should also share formulas and/or spreadsheet as a tool for providers to plug-in services by staff provider type/credentials in order to determine the monthly payment they can expect for services rendered during any given month. Providers could then check on the 5th and 10th of each month to make sure all services have been entered and to increase efforts to get all services entered and corrected before the final deadline.
- Presumably, since all invoice requirements for data is required by the end the month following the date of service, each agency could be given a report of the amount they have “earned” much sooner. The current delay to four months is caused by the split between TXIX and State funding, however since the rate is the same for

²⁴ Access, Crisis, E&T, Medical, Case Managers, Therapists, Residential, etc.

Recommendations

both TXIX and State services, the total earned by each agency is available much sooner than they receive the final distribution by TXIX and State funding.

- NSMHA (and/or SDS) should generate a report and distribute to each appropriate provider every 3 months (or longer if late services are rare) for the previous year, to list services submitted after the deadline and services without a service authorization. Providers should also receive benchmarks for comparison to show the total services excluded and the average per provider submitting late services.
- NSMHA indicated they are willing to consider a proposal by provider agencies about how to handle typical fluctuations in funding caused by normal seasonal service patterns. Provider agencies should make a reasonable proposal that might include the provision to be paid five or ten percent over or under the monthly average. NSMHA and providers would need to make sure that all of the money is not spent in the first few months that could leave no money available at the end of the year.

12. Enhancements

Sound Data Services and provider agencies can use this report of the Information Systems Review and the Raintree Enhancement Requests and User Frustrations listed in Appendix A to create or add to an existing list of enhancement requests and training needs.

SDS should publish a description of:

- What constitutes an enhancement?
- What types of changes are implemented quickly without getting group feedback?
- How/who prioritizes lists of enhancements?
- When users should call Raintree directly and when they should call Sound Data Services?

Sound Data Services should publish a prioritized list of enhancements (including report requests) with expected completion dates, anticipated staff time required, stumbling blocks/prerequisites, and regular updates available on-line and discussed at meetings:

- User Groups
- Board of Directors
- Agency Directors (Steering Committee?)
- Clinical Program Managers

We recognize that many of the user enhancement requests and frustrations are training issues that don't always need programming changes. SDS has already indicated they will focus on training at the next several User Group meetings. This should include a plan to provide "refresher" training classes on use of the current system at no cost or at a reduced one-time cost. The members of the User Group should assist SDS in developing and providing refreshers courses, training materials, and documentation on the use of the system.

Since provider dissatisfaction was substantial around the general usability of screens, work flow between screens, the need for more user screen prompts and highlights to focus data entry staff on required fields, etc, we recommend a "usability study." User feedback could be very helpful if time is set aside to review each process; however it is important for people to feel comfortable asking questions and sharing feedback. Often in a group setting, people may be uncomfortable sharing their concerns or may be afraid they don't know enough to contribute to the conversation. Those are the people that may need more training or clarification of processes

Recommendations

but you may never hear about it. This is where our recommendation for visits to provider offices would give SDS staff the opportunity to answer questions and clarify best practices for entering data.

We have had experience using such organizations as Blink Interactive (<http://www.blinkinteractive.com>) for an independent review of the software work flow. They provide very useful feedback about screen design and layout to improve productivity. This type of study would typically take 4-5 weeks and generally costs \$25,000.

13. “Named User” Logins

There seems to be confusion about the login process. In order to make the login process easier, Sound Data may need to change user logins (at least some) to utilize the “named user” Raintree licenses. The goal should be to eliminate the frustration and confusion of end users during the login process so they don’t have to navigate through an extra screen to select the station.

This policy could be reconsidered if there comes a point when “named user” logins are all assigned after the EMR implementation, but this change could go a long way in decreasing the frustration of existing users. Since Sound Data currently has significantly more user licenses than end users, this model would work until the system has more end users than Raintree licenses.

SDS indicated that users are only asked to not use stations 1-10. It sounds like the frustration may be with having an extra step during the login process.

14. Ability to Make Corrections

SDS work with agencies to make sure that the correct users are allowed to make corrections to data entered in error.

Similarly, SDS could allow specific staff at each agency to make name, AKA, DOB, and gender changes, rather than only VOA and SDS staff making these changes. This seems to be more challenging for new admits into the system.

SDS could provide staff with clear instructions about how and when corrections could be made and even consider “certifying” specific users in each office to make these types of corrections after training and possibly even passing a “certification” type test. If an agency or user incorrectly changes data, they could be reminded and re-trained if necessary or worst case could even have the ability to make corrections removed if excessive errors continue.

15. EMR Implementation

We have a number of ideas to consider about implementing an electronic medical record (EMR). Some of the things to consider include:

- It would be helpful for Sound Data Services and NSMHA to host a meeting to demonstrate the Raintree EMR and gather information about provider interest and readiness to being an EMR project. As interested providers are identified, a work group could be created to define the charter and plan for EMR implementation.

Recommendations

- As we discussed earlier, for any aspect of an EMR to succeed, a project plan must be formulated that defines at least the charter, scope, major milestones, project owner, project manager, stakeholders, and budget.
- In order to be successful, it is important to realize that leadership for an EMR project must come from an agency or clinical need and not be pushed from Sound Data Services or IS staff.
- The EMR project plan needs to include an inventory of network capacity and load testing. Network capabilities will likely influence budget decisions on any needed network infrastructure upgrades, typical in such projects.
- The project plan should also include an inventory of the number and type²⁵ of staff at each agency along with basic computer skills²⁶ and existing computer equipment. Consider regular updates to these inventories (possibly annual or every other year?).
- Address the concerns and questions about how an EMR would work for staff that provide most of their services in the community instead of in the office.
- Provide avenues for inter-agency communications and work on the EMR project to brainstorm and share implementation/training costs. Discuss how to pay for/share the costs associated with the implementation.

16. Training

A number of the issues that were discussed indicated there is a need to improve training processes in the future and to work with existing staff to ensure proper training. We understand that the provider User Group hosted by Sound Data Services has already started working on these issues. We have included a number of items that could be incorporated to improve the current and ongoing training need to support the information system.

- Implement regular work parties²⁷ (quarterly?): reports, data entry, streamlining work flow, paper forms, replacing paper forms with immediate data input, etc.
- Sound Data/Help Desk staff should visit each office at least once or twice/year to: answer questions, discuss enhancements, and get input about what's working and what's not.
- Video training and improved Provider RT DB documentation available on-line.
- Share training materials between provider agencies.
- Share a written plan of how all Raintree patches/upgrades, new features, and new requirements will be released and shared with all users for timely implementation. Include appropriate overview and specific training to maximize the use of new features and requirements. Consider the use of webinars to reduce training whenever possible and using any available webinars by the Raintree office to introduce users to the new functionality (more of an overview).
- Agency staff could take ownership of training and schedule time to pull training materials from all agencies together so as not to leave everything up to Sound Data Services.

²⁵ Medical, case manager, therapists, clinical managers, crisis, access, E&T, medical records, receptionists, data entry, accounts receivable, etc.

²⁶ Keyboarding, navigation, mouse, word processing, file storage/management, etc.

²⁷ Work parties where staff brings actual work to enter in a group setting to see how others enter the same type of data and ways to improve efficiency.

Recommendations

- Consider compiling and publishing a staff expertise inventory (general categories like: Data Entry, Reports, Receptionists, Medical Records, QA/QI, and Network/Communications) so that users can call each other about how other agencies do specific tasks.
- Consider office-to-office training from one agency for another to reduce Sound Data Services charges.
- SDS should make sure that all users are aware of Raintree training opportunities so that users can participate as appropriate.
- Make sure each agency knows how to use Mantis to report help desk reports and more importantly, to check the status of help desk functions and to search for similar help desk requests to see how previous situations have been resolved.
- Encourage users to call SDS with questions. Often SDS can answer questions quickly and prevent data problems.
- In preparation for completion of the upgrade to MySQL, SDS should schedule testing and prepare an implementation plan for the much anticipated and new Appointment Module. Dates for the implementation plan should be well publicized with as many people as possible being able to participate in webinars or any available RT promotional materials. The implementation plan would need to include testing and set-up of the new features along with training and the roll-out to end users. Getting dates on the calendar now would be useful since the MySQL completion is scheduled during the holiday season.

17. Reports

We have several ideas that NSMHA and agencies could implement in order to improve end users' experience with reports.

- In order to prevent reporting errors or drawing inappropriate conclusions from data, NSMHA should collaborate with SDS staff before publishing reports. Sound Data Services staff should help by reviewing the goal of reports; review the query/output, to determine if the results are reasonable before they are published. All parties need to be very careful about drawing conclusions from reports before there has been an opportunity to investigate the results.
- Put together/review a form used for requesting reports so that all of the parameters are considered and that there is a plan for what the output should look like.
- Conduct a brainstorming session to suggest additional standard reports that all users are able to generate as needed. For example, there were some people that could use reports on recidivism but did not think they were available.
- Create a group to review and fine tune reports and help each agency develop a list of reports run regularly and distributed for their organization that includes:
 - Report name, purpose, and description.
 - Position/person responsible for generating the report.
 - Instructions: when²⁸ and how to run and distribute the report, frequency, and parameters²⁹ required. Parameters might include date ranges, detail or summary of data, specific populations, specific programs³⁰, etc.
 - Audience and outcome: which people should receive each report and what they are expected to do with the report?

²⁸ Such as: “after the 10th of the month” or “must be run on the 1st of the month to match the NSMHA reporting.

²⁹ Such as: “all consumers for the previous 3 months” or “all consumers in this specific program”.

³⁰ For example, consumers **seen** in a specific county could be very different than consumers that **live** in a specific county.

Recommendations

- A sample of the report output that includes the use of color coding or formatting to draw the audience's attention to outliers whenever possible.
- For some reports, have a key staff person write a brief summary about the results with comments to indicate if the data is normal/expected or unusual, specific areas to pay attention to, and recommended follow-up.
- Create a list of all or most of the existing 150+ reports with sample output to include the name of the report, what it does, how to run it, and the parameters used to run the report. This list could be similar to the list above, but would include all or most of the reports and the previous list focuses on those reports that are actually run for distribution.
- NSMHA and SDS should host one or more trainings for agency staff about how to read and interpret dashboard and other reports. Trainings could be offered for different audiences such as administrators, clinical managers, quality/data analysis, and support staff.

18. Forms and Business Practices

Clarify if NSMHA or SDS should provide standard forms and how/what is acceptable for each agency to edit or update the standard forms to meet their own business processes. It sounds like this function may have been managed by APN but that may have gotten lost when APN discontinued.

It would be useful for NSMHA and SDS to work together to clarify data requirements and to discuss the need for each agency to develop business practices that support required regional processes. Agencies could brainstorm best practices for efficiently meeting data and clinical requirements and when/at what point to collect each piece of required data.

19. Data Verification

Conduct a data verification planning session(s) to identify useful reports to ensure accurate data, present clear guidelines on timing of reports to match NSMHA and MHD reports, and recommends dates and date ranges for regular verification. Consider incorporating items listed below and throughout the *NSMHA IS Review Report*.

- Provide easy to generate, standard reports from the NSMHA and Agency CIS so that each agency can verify that services they provided match the NSMHA DB. Reports could include summary or detail per staff or consumer depending on how well the data matches between systems. Include clear guidelines about when to run the reports in the Provider RT DB to match the NSMHA RT DB based on data exports and imports.
- Schedule regular (two/year) MHD/NSMHA data verification opportunities:
 - Include clear guidelines and advanced notice with reminders for dates run and cut-off dates so that each agency can produce the same reports for the same time frame in their CIS.
 - Work with agencies to develop and know which reports to run for comparison and how to automate comparisons using standard database or spreadsheet software.
 - Provide each agency with MHD detail or summary and corresponding NSMHA reports by consumer by month to verify: number of services, number of hours (minutes) of service, TXIX eligibility, types of service.
 - Provide needed data for Invoice reconciliation on a monthly basis and an appeal process for data discrepancies.

Recommendations

- Promote clinical staff verification reports (weekly?) to have staff confirm correct number of services and consumers each day/week to improve ownership and therefore accuracy and get out of “the data is wrong” mentality.

20. Regular Updates

Sound Data Services should develop a testing plan for application changes³¹ that includes multiple providers, specific dates and times, specific testing protocols and functions, load testing and standardized feedback of testing results. SDS indicated that this is not needed very often and that they do schedule group testing of new functions when needed.

Certain business requirements need regular updates. Providers and NSMHA should clarify expectations and work together to review and update the following:

- HIPAA Security Inventory
- Disaster Recovery/Business Continuity Plans
- Reports³²
- Basic Equipment and skills inventory³³
- Staff skills inventory³⁴

21. Data Dictionary

NSMHA should create a printed version of the *NSMHA Data Dictionary* and get feedback from users on formatting and layout.

The Data Dictionary should specify data elements (education, employment, etc.) and programs (crisis, jail, and request for service) where it is acceptable to submit the option “unknown”.

When there are changes to the Data Dictionary/data requirements:

- **Notification of Changes:** release a summary of additions, changes, and deletions of required data elements and changes to reporting practices (such as exclusions listed in the *MHD Reporting Guidelines*). Also provide a redline/strike-out version of the *Data Dictionary*.
- **Implementation Plan:** NSMHA meet with programmers to workout efficient implementation of Data Dictionary changes **prior to the monthly CIS meeting**. Work

³¹ Patches, upgrades, and programming changes.

³² Report needs change with program and data dictionaries revisions. There are many types of reports to include in the evaluation and make sure they are still meeting administration and staff needs: Board of Directors and stakeholder reports, clean-up and error reports, data verification reports, caseload, high utilize, and program management reports, community impact reports, etc.

³³ This basic equipment and skills inventory could include the number of staff from each organization with and without access to computers, general information about types of computers (processor/RAM) that would probably be included as part of EMR implementation planning.

³⁴ This staff skills inventory would provide a helpful list of resources to turn to when people have questions and should include designated super users or staff with strong skills in each office or organization for specific functions. The functions would be related to any information system an agency is using such as reports, appointment book, EMR, accounting by category, data entry, clinical requirements, etc.

Recommendations

together to develop the implementation plan for as many of the changes as possible and identify any changes that present an immediate challenge for putting into place.

- **CIS Meeting:** We suggest that at the CIS meeting, NSMHA/Sound Data already have a unified plan for implementation that should include: forms, data entry screens, timing, data entry rules and training, clinical staff training as needed, new data verification, new data clean-up reports, etc. Discuss the need to further work on any items that SDS is hesitant about implementing. Do not introduce changes in data requirements to the group without already having worked on a plan for implementing them. Work at the CIS meeting to get feedback about improving the implementation plan by identifying additional factors to take into consideration.
- Publish data requirements that allow providers to use the information system of their choice and determine what data is submitted to which system: the Provider Raintree Database for access and crisis services or the NSMHA RT DB for NSMHA and MHD data requirements.

22. TXIX Eligibility Files

NSMHA should work with providers and Sound Data to develop a list of desired elements that NSMHA would make available from the TXIX files they get from the MHD.

NSMHA should also explain how existing TXIX eligibility files are used, document, and post the explanation onto the NSMHA website. NSMHA indicated that they start by using the MHD eligibility files to match all consumers with services for a given month. Any consumer that does not appear to have TXIX based on the MHD eligibility files is checked against the WA Med file to find additional eligibility.

Since Provider One will be changing the current state TXIX eligibility files, we suggest waiting until after the Provider One implementation to make changes to this process.