AIS – Data Quality

Final Report

Issue Date: 21 January 2017

**Working in Partnership to Deliver Audit Excellence**

Contents

Executive Summary

This section provides an overview for senior management to understand the main conclusions of this audit review, including the opinion, significant findings and a summary of the corporate risk exposure.

Findings and Outcomes

This section contains the more detailed findings identified during this review for consideration by service managers. It details individual findings together with the potential risk exposure and an action plan for addressing the risk.

Appendices:

Audit Framework Definitions

Support and Distribution

Statement of Responsibility

Executive Summary

Overview

As part of the 2016/17 audit plan a review has been undertaken to assess the adequacy of the controls and procedures in place for AIS – Data Quality across Somerset County Council. A previous audit of AIS carried out by SWAP in 2013 focused on the application itself. Issues identified in this audit included data quality being undermined by a lack of robust input validation within the application. The Adults & Health Operations Director requested that any future audits of AIS focused on data quality.

Data input to AIS is completed across multiple teams and users, ranging from social workers inputting care assessments to finance staff using the system for managing Direct Payments (via interface to Council's Financial Management system – SAP). Due to the multiple points of access to the AIS system and data fields being used by these staff, this audit has primarily focussed on how data quality is assured centrally and how the system is meeting the current and future demands of the system.

Access to the system is controlled by all users being required to complete online training prior to accessing the data and are set up in accordance with set security user groups and these provide differing levels of access according to job role. New users are also required to provide a Disclosure and Barring Service certificate prior to access being granted. System Administration access is limited to only seven members of staff.

Further Adults audits are being undertaken within the 2016/17 audit plan including audits on Safeguarding, Personal Finance Contributions and Residential Placements. These services all utilise AIS for managing their processes and for generating reports. Any potential weaknesses in data input identified at an operational level within these audits will be reported as a finding within the associated audit report.

The AIS system contract with the supplier, Northgate, has been managed by South West One. With the re-integration of services from South West One from December 2016 this contract will subsequently be managed by SCC. Recommendations identified from this review will support in any future contract management.

Objectives

To ensure there are effective processes in place that ensure data input on AIS is accurate and valid.

To ensure that reports generated from AIS are sufficient and support business decisions.

Significant Findings

Finding:	Risk
There is no guidance in place detailing the service's approach to validating data, determining priority items for validation and timescales for clearing exceptions identified. Validation reports showed a high number of exceptions being reported, some data fields	The care needs of individual or statutory obligations are not met through data error or omission.

appear to have been open for long periods of time.	
There is no strategy in place to determine what system functionality is expected from AIS and how it will be achieved limiting Adult Services to ad-hoc system development.	System reporting is unable to support business decisions and performance monitoring.

Audit Opinion:	Partial

I am able to offer partial assurance in relation to the areas reviewed and the controls found to be in place. Some key risks are not well managed and systems require the introduction or improvement of internal controls to ensure the achievement of objectives.

Although there are resources in place to validate and ensure data quality is managed weaknesses were identified in relation to the following:

- User rights being clearly defined and subject to regular review
- Training and guidance in place to support staff in editing system data
- The use of validation reports to improve data quality
- The ability to monitor individual/team data input quality to improve processes
- The use of system audit data

The opportunity to review system capability against business need has not been undertaken, and although system reporting has been developed through the use of scorecard data, long-term outcomes have not been identified and there is no strategy in place to ensure that the full use of the AIS system is realised.

It is noted that the AIS system contract has previously been managed by South West One, with the re-integration of services from December 2016 there is opportunity to review how the contract has previously been managed and to establish a new relationship with Northgate.

Well Controlled Areas of the Service

There are processes in place with regard to granting access rights that involves personnel checks, training and access requests. The guidance provided to support staff with data input is well-written, concise and clear.

Corporate Risk Assessment

Risks	Inherent Risk Assessment	Manager's Initial Assessment	Auditor's Assessment
1. The care needs of individual or statutory obligations are not met through data error or omission.	High	Medium	Medium
2. System reporting is unable to support business decisions and performance monitoring.	High	Medium	Medium

Findings and Outcomes

Method and Scope

This audit has been undertaken using an agreed risk based audit approach. This means that:

- the objectives and risks are discussed and agreed with management at the outset of the audit;
- the controls established to manage risks are discussed with key staff and relevant documentation reviewed;
- these controls are evaluated to assess whether they are proportionate to the risks and evidence sought to confirm controls are operating effectively;
- at the end of the audit, findings are discussed at a close-out meeting with the main contact and suggestions for improvement are agreed.

Due to the number of individuals that have access to the system with ability to create/edit data, this review has focussed primarily on the centralised resources to ensure data quality is sufficient.

We were unable to access reports that would indicate the timeliness with which data is input into the system due to the way the system records this data. For example, data on assessments is recorded using the date of the actual assessment, rather than the date input and there is no system date stamp to record when users have input data, this prohibits audit from identifying the timeliness of data input into the system e.g. reviewing when care assessments occurred and when this data was entered into AIS.

Validation reports are run periodically, however these are contained within the Business Objects system and evidence of previously executed reports is not retained. Therefore we were unable to assess how often these are run and reviewed and the timescales for amending identified exceptions could not be checked.

This audit has focused on data contained within the AIS system, however, it is acknowledged that there is a SWIFT finance platform that interfaces with AIS. Audit testing has not covered data quality, guidance and validation of data input through SWIFT.

Risk 1	The care needs of individual or statutory obligations are not met through data error or omission.	Medium

1.1 Finding and Impact

Defined job roles in relation to user roles have not changed since the AIS predecessor (Swift) was in place. Verbal assurance was provided by the Senior Business Process Co-ordinator (Adults & Health) that access rights/security groups were reviewed when SCC went over to AIS in 2012. However no evidence was provided to substantiate how access rights were originally determined or to support any subsequent review.

There is a risk that data quality could be compromised if users are given access rights that are not applicable to their job role.

A sample of ten AIS users were checked against the system with the Technical Support Officer (Swift Team) to ensure their user roles had been set correctly. Data Security and Access Forms are submitted by Line Managers (this sets out the security group/job role profile they will be assigned to in AIS), along with confirmation of a DBS check and completion of the applicable e-learning modules for the prospective AIS user. Once the Technical Team has all three elements then they

will set up the employee with a user profile and the associated access rights for this profile (Security Group 1-9). The DBS forms are retained but the Data Security Forms are not and so we were unable to substantiate whether users had been set up with the correct security access requested for their job role.

These forms should be retained to ensure that they are available for audit purposes or if there was a query over access rights.

1.1a	Proposed Outcome:	Priority 3

I recommend that the Business Support Manager – Adult Social Care ensures all access rights for AIS are reviewed against required need on a periodic basis. Maintaining a record of the Data Security Forms would support reviewing access rights against requested functionality.

Action Plan:

Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	31 March 2017
Management Response:	Agreed		

1.2	Finding and Impact

New users must complete e-learning modules for AIS and sign the Data Security and Access Forms prior to being given access. The type and number of modules to be undertaken depends upon the job role of the individual. A matrix called the 'AIS & Swift e-learning Curricula' is used by the IT Learning & Development Team to determine what training is required by an individual according to their job role. The relevant e-learning modules must be completed within the first week of employment for new starters.

New users are assigned a security group within AIS that determines what access they have to create, edit and delete data held within specified parts of the system. A sample of four out of nine security groups were tested to ensure that staff are required to undertake training to support the edit rights available to them. It was found that staff undertake e-learning for the majority of edit rights available to them. However, e-learning modules were not provided for the following permissions:

- **Group 1 (Operational & Support Staff)** - No training provided for 'Create Person' (this group able to add, insert, update, and delete information). Additionally no training is provided for 'Care Plan' despite this group being able to read, insert and update a Care Plan (note - this group are unable to delete Care Plans).
- **Group 5 (Support Maintenance Group)** - No training provided for 'Care Plan' despite being able to add, insert, update and delete a Care Plan. Additionally, no training provided for being able to edit 'Hazards (add, insert, update and delete).

The IT Training Officer stated that there has not been a joined-up approach with the Swift Team in terms of linking the edit permissions available to the various security user groups with the e-learning Curricula. There is therefore a risk that the users will have edit/right access to parts of the system without receiving relevant training.

1.2a	Proposed Outcome:	Priority 3

I recommend that the Business Support Manager – Adult Social Care ensures that a joined-up approach is implemented between the Swift Team and the IT Learning & Development Team with regards to training requirements for AIS edit permissions. (This should be completed in line with a review of access rights stated above).

Action Plan:

Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	31 March 2017
Management Response:	Agreed – this has previously been two teams with one managed by South West One. Now South West One staff have returned to SCC there is opportunity to review a more joined up approach.		

1.3	Finding and Impact

There are a total of 370 validation reports which are run automatically on a regular basis by the Information Reporting Team via the Business Objects data reporting tool. Whilst these are available to support staff in validation these are not downloaded and retained by officers to demonstrate that validation work has been undertaken and although run may not actually be used. Operational Teams are responsible for validating their own data however much of this work is done by the Business Support Team but a cited lack of resources has meant that the validation of data has slipped as a priority over 'client care'.

Areas of validation considered during this review focussed on identification of duplicate users, identification of unlikely data and matches with other sources (e.g. NHS Rio data). Unlikely data tends to be identified by chance in the course of operational work rather than being reported as falling outside agreed parameters and included in an exception report. Although informed during testing that there are validation processes in place, no evidence of the duplicates report or data matching exercise was provided and is therefore noted as a limitation of testing.

Whilst a large number of validation reports are available within Business Objects, discussion with the Senior Information Analyst suggests that many of the validation reports are not being utilised for validation purposes and data that requires validation is not being checked and amended due to the significant pressure on resources. It is also understood that the Senior Business Process Coordinator will input amendments to data rather than returning data to the responsible operational teams and there is therefore a risk that performance improvement opportunities are not being realised.

The Senior Business Process Co-ordinator stated that his team will provide support where repeated data input errors point to a gap in understanding as they will walk through the correct process with the user. Evidence of this was not available during testing.

1.3a	Proposed Outcome:	Priority 4

I recommend that the Business Support Manager – Adult Social Care ensures that high priority validation reports are identified, run and downloaded to an agreed timeframe. All exceptions appearing on reports should be cleared to zero by local teams on a routine basis and an explanation for outstanding items should be documented.

Action Plan:			
Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	31 March 2017
Management Response:	The number of validation reports is high and will require review. There is a need to identify high priority reports to be included in a rolling validation programme with consideration as to which teams resolve exceptions. The Director of Adult Services has tasked senior managers on reviewing data in teams, including the number of outstanding reviews within teams to ensure that there are no reviews outstanding for more than three years.		

1.4	Finding and Impact

Due to validation reports not being retained it was not possible to determine how long identified exceptions remain on the system. Furthermore, there are no set timescales in place to investigate and correct exceptions reported. Out of the 370 reports, a sample of ten validation reports run during November 2016 was downloaded to identify whether exceptions were at a minimum. The following findings were made:

Number of exceptions	Number of reports
Zero exceptions	1
0-10 exceptions	0
11-99 exceptions	4
100-199 exceptions	3
200+ exceptions	2

These findings demonstrate that although there are a high number of validation reports, exception reporting is not minimal. Whilst there may be reasons for these exceptions occurring, where reports are generating 200+ items there is a risk that data held on AIS is not valid.

Of the reports detailed above we were informed the Current Open Clients - Date of Birth (DOB) Validation report, validates clients' date of birth which considered essential information and is required for statutory returns (such as Short And Long Term Care), ASCFR (Adult Social Care Finance Return), surveys and there is a business need to know this information as clients are divided into 18-64 and 65+ years old populations. Inputting this data is the responsibility of the Social Care Teams and the Senior Information Analyst stated that historically there would be few clients with this data missing but the report run from the system on 9 November 2016 indicated **52** clients with no DOB recorded.   Of these records, the oldest exception dates back to 2013 however there were 20 exceptions awaiting validation from 2014 & 2015 and 31 from the current year.

Considering the stated frequency of the validation reports being run, outstanding items should be minimal if being remedied. Implementing timescales would assist in prioritising data validation where resources are limited.

1.4a	Proposed Outcome:	Priority 4

I recommend that Business Support Manager – Adult Social Care ensures that guidance is put in place that details the service's approach to validating data and timescales for review. Performance against timescales should be monitored on a periodic basis to ensure compliance.

Action Plan:

Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	31 March 2017
Management Response:	To be delivered in line with recommendation 1.3a.		

1.5	Finding and Impact

There is no system in place to identify individual or team data input performance but the Senior Business Process Coordinator believes that running the validation reports identifies users that make a high number or repeated data input errors and that the Business Support Team would address this with the user concerned as a learning point. It should be noted that this was a verbal assurance.

AIS is not able to time-stamp data and therefore there are no reports that can be produced from the system to demonstrate timeliness of data input e.g. when a care assessment is input on the

system the only identifiable date is the date of the assessment, however it may have been input three months after the assessment had been completed. Without this data, it is not possible to report on the timeliness of data input or currency of reporting data held within the system. This data, available in reportable format, would aid in improving data quality, specifically in areas highlighted as not having robust data input such as Safeguarding.

In addition to this, there are no mandatory fields in AIS, even for information that is considered essential for both business need and statutory reporting such as client D.O.B. Through discussion with relevant officers it was established that there would be a large cost involved with creating mandatory fields in AIS (although I was not made aware of the actual figure). Although there would be an initial cost to setting up this functionality in the system it may prove beneficial in reducing the amount of resource required to report on information in AIS that is incomplete or missing.

1.5a	Proposed Outcome:	Priority 3

I recommend that the Business Support Manager – Adult Social Care undertakes a review of system functionality with Northgate to verify whether timestamping data and mandatory fields can be incorporated into the system to support business reporting and performance management.

Action Plan:

Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	28 February 2017
Management Response:	There has been an ongoing weakness with using the AIS system where system functionality has not been available as a result of using a tailored package and developing the package further with Northgate will have a cost. There is currently a planned review of the AIS system which will outline the future system requirements to support business need. The first meeting is planned for December. Following a meeting on 19/01/17 – we are now going to test 'audit' functionality provided by Northgate which will enable us to track entries/changes on AIS and who has made them. This won't help with mandatory fields on AIS, which still aren't possible, but will help with accuracy of data.		

1.6	Finding and Impact

A previous 2012/13 audit finding determined that the audit log/trail within the AIS database had been switched off to improve system response times. Through discussion with relevant officers during this audit it was established the audit log function remains disabled due to the impact of enabling it on performance.

Partial audit records are available in the form of 'significant events'. These records show amendments made to assessments, reviews and case notes but not all areas of AIS are covered by this and so it cannot be relied upon as a true audit trail. In addition, no regular reports are run of the significant events and they would only be accessed in response to a query over data. There is a risk that in not viewing significant event data on a periodic basis that the Council is unable to identify potential data errors at the earliest opportunity.

Database Administrators are able to access the database and view who last updated a record but this would not identify a data input error as such. Any investigation would hinge upon a data input error being identified in the first instance.

1.6a	Proposed Outcome:	Priority 3

I recommend that Business Support Manager – Adult Social Care ensures that significant events are reviewed on a periodic basis to identify potential events that require further investigation.

Action Plan:			
Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	28 February 2017
Management Response:	Agreed – to undertake a review to determine what information is available particularly with regard to identifying if there are high numbers of deletions and determining rationale. See above update – we will be able to track all deletions/amendments as well as identify 'out of hours' access to the system and actions undertaken during these times.		

Risk 2	System reporting is unable to support business decisions and performance monitoring.	Medium

2.1	Finding and Impact

Through discussion with relevant officers on this audit it was established that has been no assessment of the system development required to support Adults operational requirements and future priorities. Without an improvement plan in place on how Adults Services will use AIS there is a risk its utilisation will be developed ad-hoc and not in line with priority business needs.

Through discussion with the Service Manager – Information it is acknowledged that future use of the AIS system is currently still being reviewed as the version (29.1) may not be supported by in the near future if they do not upgrade to the latest version. He stated that SCC has decided not to upgrade until plans for the SWO succession had been finalised and it was certain that the AIS application would continue to be used by Social Care services. One upgrade has been missed so far.

Developing a business plan that outlines system expectations and required development would support in determining AIS suitability going forwards.

2.1a	Proposed Outcome:	Priority 4

I recommend that Business Support Manager – Adult Social Care creates a business improvement plan that ensures full system realisation of AIS for the business. This should include identifying future requirements of the system.

Action Plan:			
Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	30 September 2017
Management Response:	As stated in 1.5a there is an Adults System review commencing as part of the Technology and People programme being undertaken by SCC. There is also further work being undertaken as part of the Performance Improvement Meetings where they are linking up with Nottinghamshire Council and will be able to look at how they record scorecard data.		

2.2	Finding and Impact

The Information Reporting Team estimates that it takes two to three days of one analyst's time to produce the monthly scorecard based on current reporting requirements. Reports are collated primarily from data contained within AIS (which is assumed to be accurate) however some data is also drawn from other externally held sources e.g. Deprivation of Liberties or Mental Capacity Act data where AIS is not able to meet their reporting requirements. There is a risk where data is not held within AIS that the alternatives used, commonly spreadsheets, hold data less securely and provide reduced assurance regarding their integrity.

In addition if all data was recorded in AIS it would reduce the resource required to produce the scorecard.

2.2a	Proposed Outcome:	Priority 3

I recommend that Business Support Manager – Adult Social Care undertakes a review with Northgate to identify what system development can be undertaken to ensure all reportable data is held within AIS.

Action Plan:

Person Responsible:	Business Support Manager – Adult Social Care	Target Date:	See below.
Management Response:	To be undertaken with 2.1a – the AIS contract has previously been managed by South West One which has prohibited SCC from being able to manage the contract effectively. The contract is now managed in-house and may facilitate improvements in the system. Due to the ongoing review of current database use, the delivery of this recommendation will be dependent on the Technology and People project outcomes and timescales. Whilst these are still being determined no implementation date has been set.		

Audit Framework and Definitions

Assurance Definitions

None	The areas reviewed were found to be inadequately controlled. Risks are not well managed and systems require the introduction or improvement of internal controls to ensure the achievement of objectives.
Partial	In relation to the areas reviewed and the controls found to be in place, some key risks are not well managed and systems require the introduction or improvement of internal controls to ensure the achievement of objectives.
Reasonable	Most of the areas reviewed were found to be adequately controlled. Generally risks are well managed but some systems require the introduction or improvement of internal controls to ensure the achievement of objectives.
Substantial	The areas reviewed were found to be adequately controlled. Internal controls are in place and operating effectively and risks against the achievement of objectives are well managed.

Definition of Corporate Risks

Risk	Reporting Implications
High	Issues that we consider need to be brought to the attention of both senior management and the Audit Committee.
Medium	Issues which should be addressed by management in their areas of responsibility.
Low	Issues of a minor nature or best practice where some improvement can be made.

Categorisation of Recommendations

When making recommendations to Management it is important that they know how important the recommendation is to their service. There should be a clear distinction between how we evaluate the risks identified for the service but scored at a corporate level and the priority assigned to the recommendation. No timeframes have been applied to each Priority as implementation will depend on several factors, however, the definitions imply the importance.

Priority 5	Findings that are fundamental to the integrity of the unit's business processes and require the immediate attention of management.
Priority 4	Important findings that need to be resolved by management.
Priority 3	The accuracy of records is at risk and requires attention.

Priority 2 and 1 Actions will normally be reported verbally to the Service Manager.

Support and Distribution

Report Authors

This report was produced and issued by:

Hayley Knief, Auditor
Adam Williams, Senior Auditor
Lisa Fryer, Assistant Director

Support

We would like to record our thanks to the following individuals who supported and helped us in the delivery of this audit review:

Jon Padfield, Business Support Manager – Adult Social Care
Karen Griggs, Senior Business Process Co-ordinator
Dave Martin, Service Manager - Information
Claire Croome, Senior Information Analyst
Tom Blake, Information Analyst
Diana Fraser, Technical Support Officer (Swift Team)

Distribution List

This report has been distributed to the following individuals:

Stephen Chandler, Director of Adult Social Services
Mel Lock, Adults & Health Operations Director
Martin Gerrish, Strategic Manager (Finance Governance)
Pip Cannons, Service Manager - Adults &. Health Business Management
Jon Padfield, Business Support Manager – Adult Social Care
Karen Griggs, Senior Business Process Co-ordinator

Working in Partnership with

Devon & Cornwall Police & OPCC	Somerset County Council
Dorset County Council	South Somerset District Council
Dorset Police & OPCC	Taunton Deane Borough Council
East Devon District Council	West Dorset District Council
Forest of Dean District Council	West Somerset Council
Herefordshire Council	Weymouth and Portland Borough Council
Mendip District Council	Wiltshire Council
North Dorset District Council	Wiltshire Police & OPCC
Sedgemoor District Council	

Statement of Responsibility

Conformance with Professional Standards

SWAP work is completed to comply with the International Professional Practices Framework of the Institute of Internal Auditors, further guided by interpretation provided by the Public Sector Internal Auditing Standards.

SWAP Responsibility

Please note that this report has been prepared and distributed in accordance with the agreed Audit Charter and procedures. The report has been prepared for the sole use of the Partnership. No responsibility is assumed by us to any other person or organisation.