

# Empowering Ryan White service providers with data: Implementing a web-based tool to validate and generate client-level data for federal reporting

Julia Cohen<sup>1</sup>, Jacinthe Thomas<sup>1</sup>, Mary Irvine<sup>1</sup>, Emily Alexy<sup>1</sup>, Jesse Thomas<sup>2</sup>

<sup>1</sup> New York City Department of Health & Mental Hygiene, <sup>2</sup> RDE Systems, LLC

Contact: Julia Cohen, MS  
(jcohen8@health.nyc.gov)  
NYC DOHMH Bureau of HIV/AIDS Prevention and Control

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## Background

- The Ryan White HIV/AIDS Program Services Report (RSR) is an annual client-level data report submitted to the Health Resources and Services Administration (HRSA) by Ryan White grantees and service providers (sub-grantees).
- The New York City Department of Health & Mental Hygiene (DOHMH) acts as Part A grantee for the New York Eligible Metropolitan Area (NY EMA), which includes over 120 service providers from the 5 boroughs of New York City and Rockland, Putnam and Westchester counties.
- Since 2011, all RSR data from the DOHMH proprietary web-based reporting system, eSHARE (Electronic System for HIV/AIDS Reporting & Evaluation), has been submitted to HRSA by DOHMH on the service providers' behalf.
- In 2012, DOHMH was awarded a HRSA Special Projects of National Significance (SPNS) grant under the Health Information Technology Capacity Building Initiative for Ryan White HIV/AIDS Program providers.
- The SPNS grant was used to integrate an RSR Validations Report and an XML Extract Generator feature in eSHARE.
- For the first time, service providers were required to submit their own RSR directly to HRSA in 2013.

## Aims

- To enable Ryan White Part A providers to conduct data quality assurance seamlessly within the web-based system by which they report to the DOHMH.
- To empower service providers to access their own data on demand and submit directly to HRSA.

## Methods

**Figure 1. Development of an RSR reporting tool within eSHARE**

RDE Systems, LLC was selected to develop the RSR Validations Report and XML generator tool, based on their expertise with RSR reporting through web-based systems in multiple jurisdictions nationally.

NYC DOHMH's Division of Informatics and Telecommunications, which hosts and maintains eSHARE, assigned staff to provide technical resources for the project.

The NYC DOHMH assembled a subject matter expert team to develop specifications for the eSHARE RSR features.

Specific project worksheets, templates, and specification tools were used to ensure complete federal compliance and coordinate project execution among disparate teams.

Information on the reporting feature was disseminated to service providers through webinars and emails. Downloadable documents describing the feature were made available in eSHARE.

A service provider survey was conducted to inform the 2014 RSR process. Findings were presented to users in a newsletter and at provider meetings.

**Figure 2. Project Tools**

### Project RSR Data Dictionary

The Data Dictionary was used to map RSR data elements to eSHARE tables and fields.

Category	Field name	Data field description	RSR data types	RSR allowed values/options	Table name in eSHARE database
System Variables	Unique provider ID	unique provider number	<integer>	Not required for XML generation	dbo.AGENCY

### RSR Validations Matrix

The RSR Validations Matrix was used to document specifications for the RSR Validations Report and display which validations were applicable to each Ryan White service category in eSHARE.

Client-level data elements requirements	RSR upload validation messages	Display on screen (formdate+formtype+ enrollment date + service category)	Alert (A), Error (E), Warning (W)
Client Demographics		"Common Demographics"+(intake or PCSM)+form date+(service category & enroll date only if Intake)	A
Year of birth	Birth year after the AIDS diagnosis year	"Common Demographics" + "enrollment screen"+ enrollment date+ service category	A

### XML of RSR Client-level Data

The XML client-level data files were tested on HRSA's XML test site to ensure conformity with HRSA's RSR XML schema.

**eSHARE 2013 XML Schema**

```
<XmlVersion>
<schemaVersion>3.0.0</schemaVersion>
<originator>eSHARE</originator>
<versionNumber>6.0</versionNumber>
<technicalContactName>NYC Dept. of Health and Mental Hygiene</technicalContactName>
<technicalContactEmail>eshareinfo@health.nyc.gov</technicalContactEmail>
<technicalContactPhone>888,692,6339</technicalContactPhone>
```

### RSR Feedback Report

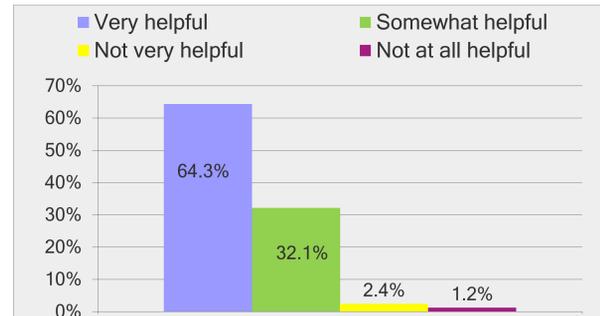
The RSR Feedback Report was used to report issues found in testing and keep track of corrections made by developers.

Description					
There are duplicate validation messages listed in some of the reports. See below for an example. A validation message should be listed once per system assigned ID.					
System assigned ID	Issue type	Enrollment service category	Enrollment date + form type + form date	Field	Issue description + state
AAS0030119258	Unknown / missing poverty level Alert	N/A	10/20/2012 Intake Assessment 10/26/2012	What is your annual household income	Unknown / missing poverty level Alert
AAS0030119258	Unknown or missing demographics	N/A	10/15/2012 PCSM 01/31/2013	What is your annual household income	Unknown / missing poverty level Alert

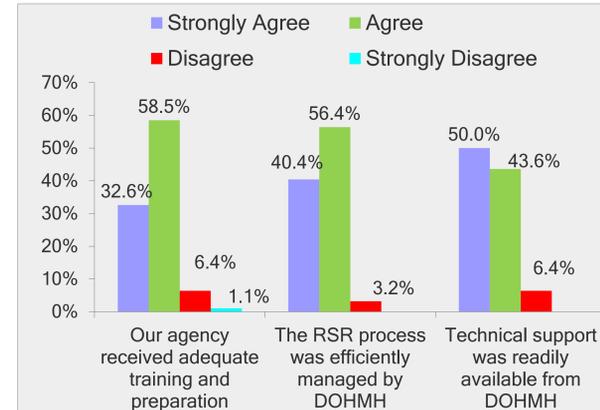
## Feedback

**Figures 7. & 8. Results of 2013 RSR Feedback Survey Distributed to Providers in May 2014**

**How helpful was the RSR Validations Report in assisting you with identification of unknown, missing or erroneous RSR data elements in eSHARE?**



**Please indicate your level of agreement with the following statements related to the 2013 RSR:**



## Results

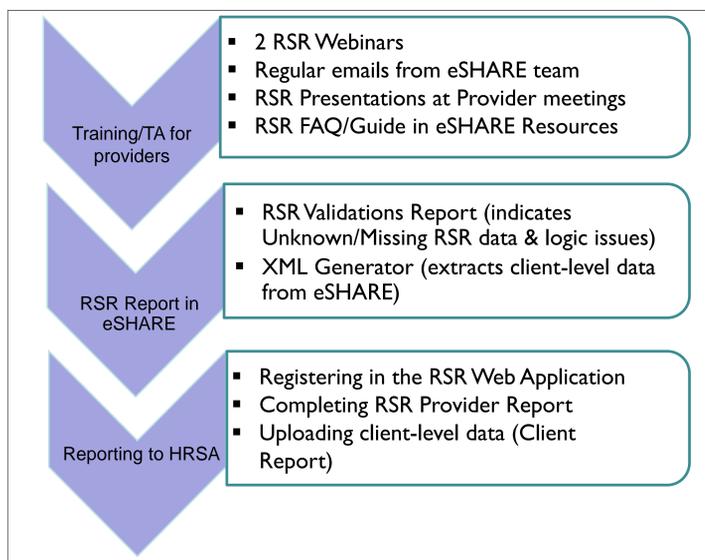
**Figure 3. The Final Product: RSR Report in eSHARE**

- 1 Produces RSR Validations Report on-screen for selected agency and time period.
- 2 Creates XML file of RSR client-level data for user's agency
- 3 Exports Validations Report into Excel allowing providers to sort and filter data

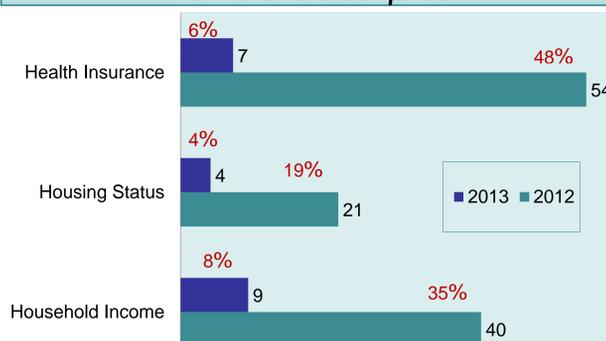
HRSA validations of Alert, Warning or Error are color-coded

System Assigned ID	Enrollment Service Category	Enrollment Date + Form Type + Form Date	Issue Type	Field	Issue Description + State
MCMW		01/02/2012 Intake Assessment 03/12/2012	Demographics logic issue	HIV Status, AIDS Diagnosis Date	AIDS diagnosis year without an HIV/AIDS status of CDC-defined AIDS Alert

**Figure 4. The New RSR Reporting Process for Providers**



**Figure 5. Number of Providers with Incomplete RSR Data on Any of Three\* Core Demographic Data Elements\*\* 2012 and 2013 Compared**



\*Remaining 2 core data elements are Viral Load and CD4 test results, required for Outpatient/Ambulatory care service providers, of which our EMA has none.  
\*\*Number of providers that had over 10% Unknown or Missing responses for at least one of three core data elements: Household Income, Housing Status or Health Insurance.

**Figure 6. Scope**

**Client-level Data Submitted for the 2013 RSR**

**27,570 clients**  
From 145,000+ enrollments processed.

**635,728 services**  
From 1,148,000+ (927000+ individual services and 220,000+ group services) processed.

## Discussion

- The early experience of this project suggests that engaging service providers as active participants in the federal reporting process may improve the quality of client-level data reported.
- The outcomes achieved indicate high levels of user adoption of the reporting feature, and substantial promise for future years of direct provider reporting to HRSA.
- Integrating and automating the RSR Validations Report within the system that collects RSR data elements offers an effective and efficient way for providers to manage their own client-level program data.
- Well-designed data system features for accomplishing required grant activities can save significant staff time, which can be redirected to other critical program activities.

### Acknowledgements

Many thanks to all our Ryan White Part A service providers for their diligence and patience during the 2013 RSR process