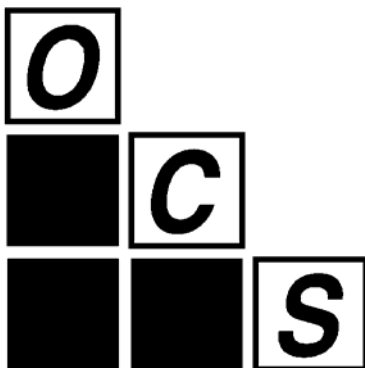


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**Understanding and Using  
CMS's (formerly HCFA)  
Case Mix and Adverse  
Event Reports**



***OUTCOME CONCEPT SYSTEMS®, INC***

# Contents

1.	Introduction	.....	page 2
2.	Benchmarking and OBQI	.....	page 2
3.	Risk Adjustment	.....	page 3
4.	Downloading Your Reports	.....	page 3
5.	Case Mix Report	.....	pages 3-4
6.	Adverse Event Reports	.....	pages 5-6
7.	Steps in Reviewing Your Reports	.....	pages 6-7
8.	Using Reports in the Survey Process	.....	pages 7-8
9.	Summary	.....	page 8

## Introduction

In January of this year, CMS (formerly HCFA) made their Case Mix and Adverse Event reports available to home health agencies. The good news is, agencies now have access to valuable information for use in planning and program development. The bad news is, CMS now requires that agencies investigate those adverse events identified in their new reports, a potentially time consuming and confusing activity. This article sheds some light on how to read your new reports and how to prioritize your investigations into adverse events, while offering some tips for being ready when the surveyor comes.

## Benchmarking and OBQI

Because CMS's Case Mix and Adverse Event reports use benchmarks to demonstrate differences between the agency and the national compare group, a good first step in understanding CMS's new reports involves understanding benchmarking and why it is important. Benchmarking is a performance improvement technique that compares an organization's processes or outcomes with those of other agencies. It may involve finding another organization with best practices, and understanding how to adapt some of their winning strategies to improve your organization's performance. Some people like to refer to benchmarking as "stealing shamelessly" because it involves using tried and true approaches from other agencies' experience, rather than "reinventing the wheel" in your own organization. Most importantly, benchmarking is the tool that agencies use to identify opportunities for improvement.

Many agencies already use benchmarks to set goals and evaluate performance. This benchmarking can be both internal and external. Internal benchmarks often involve trending. For example, some agencies will track staff productivity on a monthly basis and set benchmarks for staff performance based on a targeted productivity level. External benchmarking involves comparing your performance with another department or another organization. The advantage of external benchmarking is that it allows you to see what performance levels are possible.

How important is it to benchmark against organizations that are similar to yours in size and characteristics? For financial and productivity measures, it may be more useful to look at organizations that are dissimilar from yours—as they may have some "out-of-the-box" approaches that, with some adaptation, could result in breakthrough performance improvement in your organization. However, when comparing patient outcomes, it is important to benchmark against agencies with similar types of patients, since case mix has a significant impact on outcomes. Adjusting for different patient types through a method called "risk adjustment" can help moderate the effect of case mix and provide for a more accurate comparison of outcomes between agencies.

## Risk Adjustment

CMS's Case Mix and Adverse Event Reports are not risk adjusted—since neither case mix, nor adverse events lend themselves to risk adjustment. In general, however, outcome analysis requires risk adjustment. How does it work and why is it important? If 50% of my patients show improvement in the ADL of ambulation, while your agency only has a 30% improvement rate, we might conclude that my agency does a better job than yours. However, if we could identify that your patients are more acutely ill, or more complicated than mine, and if we could adjust the improvement rate to reflect that, we might find that your agency has a higher improvement rate given the risk factors in your patient population. Although the current reports do not lend themselves to risk adjustment, it will become an important tool in benchmarking outcomes when it is made available early next year.

## Downloading Your Reports

CMS's Case Mix and Adverse Event Reports are available to agencies on-line, using the same software that you use to transmit your OASIS data.

Before you download your reports and start analyzing the information, however, you will want to download a copy of CMS's very informative manual: *Quality Monitoring Using Case Mix and Adverse Event Outcome Reports: Implementing Outcome-Based Quality Improvement at a Home Health Agency*. This is available on CMS's website at:

<http://www.hcfa.gov/medicaid/oasis/hhtrain.htm>.

Now that you know how to access your reports, what do they mean?

## Case Mix Report

The Case Mix Report is a snapshot of your patients at the beginning of an episode of care. It is important to note that CMS's reports show the case mix of your Medicare and Medicaid patients only. In addition, CMS has chosen to define a "case" for purposes of these reports as beginning with an SOC or an ROC, and ending with a discharge or a transfer. Since a single patient can have an SOC, a transfer, an ROC and then a discharge, this could result in one patient being counted as two cases. For these reasons, you will find that the numbers in CMS's reports do not necessarily match up with the numbers you may be tracking in your agency for patients and discharges.

Looking at **Figure 1**, the excerpt from the sample report for Faircare Home Health provided by CMS in the manual, you can see that at the top of every report there is a heading that shows the name of your agency, the date range for the report, the number of cases in the period for your agency (number of cases in Current period), and the number of cases in the national database (reference sample).

In the report itself, the left-hand column describes the indicator, the next “Current Mean” column refers to the score or percentage for your agency, and the following “Reference Mean” column refers to the score or percentage for the national compare group. The last column is titled “Sig.,” and identifies whether or not the difference between your agency’s score and the national compare group is statistically significant or likely to be due to chance. You will want to focus particularly on those areas where your agency is significantly different from the compare group. This will help you understand more about the ways in which your agency is unique, which will also help you identify the special needs of your patients.

Note that the Case Mix Report is not a quality tracking report. It does not imply anything about the kind of care your agency provides. It is strictly a snapshot of your agency’s patients at the SOC or ROC during a given time period. The Case Mix Report is not only useful in program planning and evaluation, but it is also a valuable tool in helping you target your investigations into the Adverse Events.

**Figure 1**

<b>Agency Name: Faircare Home Health Services</b> <b>Agency ID: HHA01</b> <b>Location: Anytown, USA</b> <b>Medicare Number: 007001</b> <b>Medicaid Number: 999888001</b>			<b>Requested Current Period: 09/1999-08/2000</b> <b>Actual Current Period: 09/1999-08/2000</b> <b>Number of Cases in Current Period: 601</b> <b>Number of Cases in Reference Sample: 29983</b> <b>Date Report Printed: 11/30/2000</b>				
<b>All Patients' Case Mix Profile at Start/Resumption of Care</b>							
	Current Mean	Reference Mean	Sig.		Current Mean	Reference Mean	Sig.
<b>Demographics</b>				<b>ADL Status Prior to SOC/ROC</b>			
Age (average in years)	70.75	72.78	**	Grooming (0-3, scale average)	0.66	0.52	**
Gender: Female (%)	69.4%	62.9%	**	Dress upper body (0-2, scale avg.)	0.35	0.35	
Race: Black (%)	1.7%	10.7%	**	Dress lower body (0-3, scale avg.)	0.70	0.63	
Race: White (%)	97.5%	85.5%	**	Bathing (0-5, scale average)	1.33	1.20	
Race: Other (%)	0.8%	3.8%	**	Toileting (0-4, scale average)	0.39	0.38	

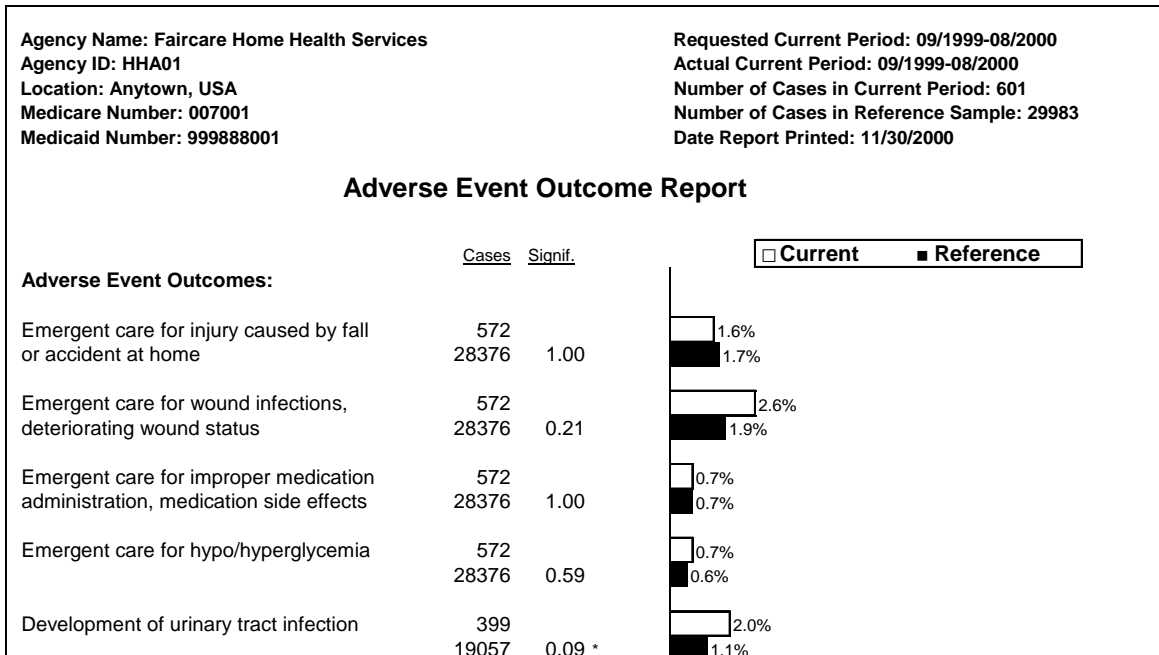
# Adverse Event Reports

Adverse Events are defined as *potential* identifiers of care problems, and they require investigation to determine whether or not the event resulted from inadequate care. They are outcome measures in that they show a change in health status from the SOC or ROC to the discharge or transfer. They are by definition infrequent, and are judged to be *potentially* serious problems in need of investigation. At this time, CMS has defined 13 Adverse Event Categories:

- Emergent care for injury caused by fall or accident at home
- Emergent care for wound infections, deteriorating wound status
- Emergent care for improper medication administration, medication side effects
- Emergent care for hypoglycemia
- Development of urinary tract infection
- Increase in number of pressure ulcers
- Substantial decline in 3 or more activities of daily living
- Substantial decline in management of oral medications
- Unexpected nursing home admission
- Discharged to the community needing wound care or medication assistance
- Discharged to the community needing toilet assistance
- Discharge to the community with behavioral problems
- Unexpected death

There are two Adverse Event Reports. The Adverse Event Outcome graphic report depicts your agency's incidence of adverse events compared with the national compare group.

**Figure 2**



This graphic report is a useful way of quickly identifying where your agency should start in its investigation into adverse events. Since the white bar represents your agency, and the black bar represents the national compare group, it is fairly easy to identify areas where your agency has a higher than normal incidence for a particular adverse event. This can help you prioritize which adverse events you want to focus on first. Although all of your adverse events must be investigated to understand if they were the result of inadequate care, you can phase your investigations to start with those events where your incidence was higher than the norm.

The Adverse Event Patient Listing shows a listing by name of those patients during the selected time period who ended up with an adverse event. A very large agency, with more than 30 patients listed in one Adverse Event category can choose to investigate a sample. However they need to investigate at least 20 in that category.

**Figure 3**

Agency Name: Faircare Home Health Services			Requested Current Period: 09/1999-08/2000			
Agency ID: HHA01			Actual Current Period: 09/1999-08/2000			
Location: Anytown, USA			Number of Cases in Current Period: 601			
Medicare Number: 007001			Number of Cases in Reference Sample: 29983			
Medicaid Number: 999888001			Date Report Printed: 11/30/2000			
<b>Adverse Event Outcome Report</b>						
Patient Listing						
<b>Emergent Care for Injury Caused by Fall or Accident at Home</b>						
Complete Data Cases: 572						
Patient ID	Last Name	First Name	Gender	Birth Date	SOC/ROC	DC/Transfer
654896104	Craig	Ron	M	05/11/1925	09/22/1999	12/27/1999
544740859	Hawk	Janet	F	08/29/1935	02/12/2000	04/18/2000
445140130	Schlue	Cindy	F	06/13/1939	03/28/2000	06/10/2000
674803196	Staloski	Mina	F	09/16/1933	05/22/2000	05/26/2000
175305360	Amador	Arnold	M	06/06/1928	11/17/1999	11/25/1999

To facilitate your investigations into adverse events, CMS recommends that agencies use a chart audit tool. A chart audit tool can make the investigation process easier, while ensuring that the same criteria is used by each of the reviewers in your agency. State surveyors will be reviewing your adverse events during the survey process, and agencies will need to show documentation that they were properly investigated. At that time, you will want to have documentation that the care was appropriate, or, if found to be inappropriate, that corrective actions were taken.

## Steps in Reviewing Your Reports

The steps to follow in reviewing the reports will be familiar to the agency that is involved in quality management. These include:

- Review each report, starting with the Case Mix report, to identify client characteristics and differences, then use the Adverse Event reports to prioritize your investigations. This is also a good time to identify areas where the information in the reports is different from what you expected. This may indicate a problem with data accuracy in the OASIS data entry, which you will want to follow up on.

- ❑ Conduct the review of care using a chart audit tool. You can develop your own chart audit tools by asking your clinicians, what should we do to prevent an adverse event from occurring? Then, use those points as a checklist to review the patients' charts. The advantage to using a chart audit tool is that you can use it in subsequent investigations and it helps to standardize investigations if you have several reviewers involved. A few vendors are beginning to offer electronic chart audit tools, which have the potential to save significant amounts of time. Some agencies that have developed their own paper chart audit tools have been willing to share them with other agencies at no cost. If using an off-the-shelf tool, be sure that it can be customized to meet the specific needs of your agency, as the checklist in your tool reflects your individual organization's quality standards.
- ❑ Identify those areas where there was problematic care. When you have investigated all of the adverse events, you will have a list of patients for whom care was appropriate and a list of patients for whom there was a problem. Where there was a problem, you will need to develop a plan to change the care processes. This plan should be similar to the QI process you already have in place, which may include changes in policies, development of clinical pathways, educating staff, and making the QI measures visible to staff. When developing a plan, it is important to have specific tasks listed, along with names of those responsible for taking the lead, and dates by which the task should be complete.
- ❑ Implement the plan. Don't assume that change will happen by itself. Staff may need training, new pathways need to be communicated, and results need to be reported back.
- ❑ Monitor the plan. The QI plan needs to be incorporated into other record review activities so that it becomes part of the fabric of the agency.
- ❑ Review the next set of reports to see if implementing your plan had the desired effect. The first time you run the Adverse Event reports, you should select a full year of cases. After the plan is in place and implemented, you should review reports on a quarterly basis. Do not expect the incidence to drop to zero, as not all of the adverse events are a result of inappropriate care. Looking at quarterly data can show interesting trending. When monitoring trends, be careful to take into consideration the fact that health care has a seasonal variation. For example, diagnoses for pneumonia and influenza are always higher in the wintertime, and comparing winter incidence to summer incidence may show variation that is due to the seasonal nature of your patient mix, rather than actual changes in how you are providing care.

## **Using Reports in the Survey Process**

The current conditions of Medicare participation call for an annual evaluation of your agency's program, policies and procedures, as well as a quarterly clinical record review. As soon as possible, you should revise your procedures to document how your agency uses CMS's Case Mix and Adverse Event reports in your clinical record review process. Your sample of clinical records does not need to be random, and should include, of course, the adverse event report investigations.

Surveyors will be looking to see how your agency reacted and responded to your reports. They will want to understand how you prioritized your investigations into the adverse events. They will look at how you reviewed your policies and procedures, and whether or not they played a role in any negative outcome. They will want to know how you use information as a part of your overall care, and how you changed your systems and procedures to prevent the problem from occurring again.

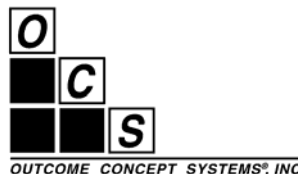
While surveyors will use the new reports to understand how your agency uses information to improve care, they will not be used in a vacuum as the sole source of information on how you provide care. They will interview staff, review the records and the plan of care, review how you collect OASIS data and assess patients, and interview patients and family members—as they have done in the past. Of course, if it is found that an Adverse Event resulted from non-compliance with the Conditions of Participation, the agency will need to correct this.

## **Summary**

CMS's Case Mix and Adverse Event Reports provide agencies with valuable information that can be used in planning and in quality improvement. While it is important to comply with the requirement to investigate adverse events, don't let that be the sole driver of your analysis of your OASIS reports. Use the Case Mix information and the Adverse Event graphic report to help you prioritize your investigations, and consider using a chart audit tool to standardize your investigations and make them easier. Finally, update your policies and procedures to incorporate the review of these reports into your existing clinical record reviews, rather than treating them as a separate investigation. This will make the requirement easier to implement within your organization.

## **About Outcome Concept Systems**

Outcome Concept Systems, Inc (OCS) is the pioneer in home care outcomes and benchmarking. OCS produces clinical documentation and software technologies to assess and quantify the effects or outcomes of home health services. OCS provides agencies with the tools they need to capture and graph outcome information, while allowing them to assess the costs associated with the outcomes achieved. OCS also owns the nation's largest and most comprehensive home care benchmark database, with more than 700 agencies actively submitting data. OCS' clients are given access to this database, in order to benchmark their agency's outcomes against system, state, regional and national norms, in addition to organizations with similar characteristics. OCS' performance measurement systems meet both CHAP and JCAHO accreditation.



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