PEPPER Sessions Chapter 4 Percents Percentiles HHA

In this session, I'll review how we calculate the target area statistics in the *Home Health Agency PEPPER*. I'm going to review percents, rates, and percentiles, and how percentiles are used in PEPPER to identify outliers.

Home health data are summarized by target area and by time period in three basic ways. We generate the target, or numerator count, and denominator count for each target area and for each time period. The numerator and denominator counts are used to calculate the home health areas target area percent or rate, which is an important statistic in PEPPER.

We also summarize payment information to provide the average Medicare payment and the sum of Medicare payment for each time period. Note that this is not applicable for the average case mix in the outlier payments target area.

Lastly, we provide statistics related to average length of stay for the numerator and denominator. However, the length of stay statistics are not applicable to the numerator for the average case mix in the target area or denominator for the average number of episodes in the target area. You'll see these three basic statistics on the data report for the remaining target areas.

The numerator and denominator counts are used to calculate target area percents, or rates which are used to calculate percentiles. Percentiles are at the heart of the PEPPER. However, it's easy to confuse percents with percentiles because they sound alike, and a lot of people don't have a clear understanding of what percentiles mean. So I'm going to clarify the definition of percent and percentile, as well as rate. And then I'll talk about how they relate to each other in the PEPPER.

Let's start with the calculation of a target area statistic. To calculate the target area statistics in the PEPPER, we need a numerator and denominator. In the PEPPER, the numerator is the count of target area episodes, dollars, or case mix weight as per the target area definition. The denominator is the count of episodes, dollars, or beneficiaries as per the target area denominator definition. Remember that, because we have that data restriction imposed, the numerator and denominator will not display if they are less than 11.

When we calculate target area percents, we divide the numerator count by denominator count, and then we multiply by 100. So let's use, as an example, the episodes with five or six visits target area. The numerator is the number of episodes where the beneficiary received five or six visits. In this example, we have 16 numerator episodes. The denominator is the count of all episodes, which is 98 in this example. Here we're comparing the number of episodes with five or six visits to a larger comparison group, which includes all episodes. So 16 divided by 98 multiplied by 100 results in a target area percent 16. That tells us that of all the episodes that ended during that time period, 16% had five or six visits. But standing alone, we have no way to know if that target area percent is high. Is it low? Is there something we should be concerned with or not? We need some context to help us figure that out. And that's where the percentiles come in very handy.

Before I talk about percentiles, though, let me cover target area rates. We calculate target area rate, instead of percent, for target areas, which are the average case mix and the average number of episodes

per target area. We calculate rates when the unit of measure in the numerator is different from that in the denominator. So here, when we're calculating rates, let's use as an example the average number of episodes per target area. In the numerator, we have the number of episodes paid through the home health agency during the report period, which is 97 in this example. The denominator is the account of the unique beneficiary served by the agency during the report period, which here, in this example, is 84. So 97 divided by 84 results in a target area rate of 1.2. So that tells us that for the unique beneficiaries served during that time period, they receive, on average 1.2 episodes. But again, when you sit back and think about it, what does that really mean? Is that high? Is that low? Again should we be concerned? We need some context to help us figure out where we stand as compared to other providers.

So that's where the percentile value becomes very helpful. It provides the context so that we can see where we stand in the big picture. The percentile tells us the percentage of all health agencies in the comparison group, below which our home health agencies' rate, or percent value, ranked. So the percentile gives a us a point of reference, a way to think about how our agency's target area value, whether it be percent or a rate, compares to that of other home health agencies.

To calculate percentiles for all home health agencies in a comparison group, which could be all agencies in the nation, it could be all in the jurisdiction, or it could be all agencies in the state, the target area percents or the rates for all of the agencies in that group are sorted from largest to smallest for each time period. A percentile is the number that tells us the percentage of agencies that have a lower target area percent or rate than we do. So for example, if 40% of agencies' target area percents for the episodes with five or six visits target area were lower than agency A, then agency A would be at the 40th percentile.

Let's look at a simple picture to help reinforce this method. Each rung of the ladder represents one home health agency's target area percent, which you can see in the box to the right of each rung. Note that these percents are sorted from highest to lowest. Now, keep in mind that this is a very simple example. We only have 10 agencies in this comparison group because 80% of the Home health agencies in this group are below the target area percent of 16, 16% is at the 80th percentile. And any percent greater than 16% are above the 80th percentile and would be identified as higher risk for improper payment. We would handle the comparison of rates in the same way, the point below which 80% of the agency's rates fall would be identified as the 80th percentile. And essentially, those providers in the top 20% would be identified as outliers in the PEPPER.

Let's take a look at a simple picture to help us understand the concept. Here we have a ladder. And in our example, each rung of the ladder represents a SNF target area percent for one target area and one time period. You can see the percent in the box to the right of each rung. Note that the target area percents are sorted from highest to lowest. Keep in mind that this is a very simple example. We only have 10 providers in this group. Because 80% of the skilled nursing facilities in this comparison group are below the target area percent of 52, 52% is at the 80th percentile. And any target area percent at, or above 52% would be above the 80th percentile, and would be identified as high outliers in the PEPPER, or at higher risk for improper payments.

Now it's time to talk about how the risk for improper Medicare payments is identified in the PEPPER. we take the target area percents, or the rates, for the three comparison groups. We sort them from highest

to lowest, and then we calculate the percentiles for each comparison group. We identify the target area percent, or the rate, that's at the 80th percentile. And if a home health agency's target area percent, or rate, is at or above the national 80th percentile, or target area, then it's identified as at risk. While we do compare the home health agencies to all three comparison groups, in the PEPPER, we use the national comparison groups to identify outlier status. Your status is found by reviewing your compare and target area report.