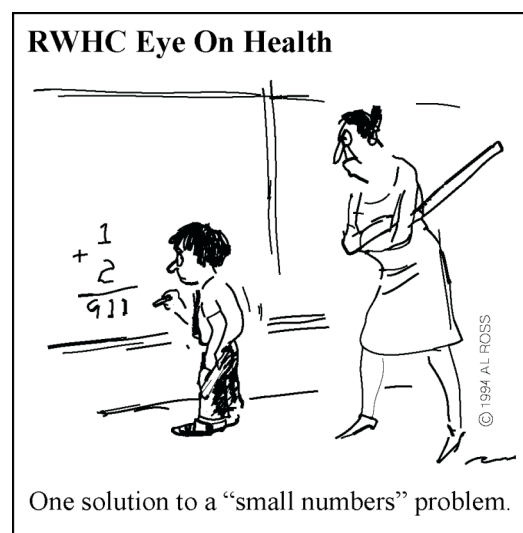


Small numbers are a big deal

by Tim Size, Executive Director, Rural Wisconsin Health Cooperative, Sauk City

(From a Commentary in the May 15th issue of *Modern Healthcare*)

A diverse crowd ranging from clinicians to academics met in Irving, Texas, in March at the wonky but well-named National Conference on Small Numbers. The purpose was to address “the measurement of indicators of quality of care in small community hospitals and rural facilities that experience small cell size issues.” Translation: The lack of sufficient data to make meaningful judgments on quality and outcomes is beginning to affect public opinion about rural health and how rural providers are paid.



Some rural providers prefer to stay out of the line of fire of pay-for-performance and public reporting of quality data; they say that they and their data should just be left alone. Some payers and quality reporters say their work is complicated enough without needing to deal with the challenge of small numbers. But all of America's healthcare providers, including those in rural America, are challenged to be publicly accountable and to demonstrate that what they do makes a positive difference.

Not playing is not an option. Saying there are no good data for rural providers is not the answer. Many patients may assume that if the data are not available it means the results are bad. Rural providers must be

given the opportunity to demonstrate that their quality of care and cost effectiveness are driven by evidence-based medicine and cost-effective leadership.

Complicating the challenge of small numbers is the national context—a dysfunctional cacophony of measurement voices. Is anyone, other than those voices, well-served with more than a dozen disparate national quality and safety standard-setters? There is an urgent need for a coherent national strategy for quality accountability. Going beyond collaborative lip service to national measurement alignment is particularly urgent for rural providers; they simply do not have the resources to waste addressing multiple versions of similar demands.

Creating a coherent national strategy requires that individuals who understand rural health be at the table. The Medicare Payment Advisory Commission is the major public forum for Medicare's new payment and reporting strategies, but it has almost no rural representation. In all settings, there is an unavoidable tension between waiting for perfect measures vs. using the best science we have at the moment. Only by fair rural representation in the process can subjective recommendations and decisions be credibly made. Appropriate rural representation increases the likelihood of confounding factors being taken into consideration.

A recently published study from the University of Iowa showed, contrary to some previous studies, that rural hospitals in Iowa do not have higher death rates when compared with urban hospitals. The study in the March-April *Annals of Family Medicine* “controlled for the finding that the sickest heart-attack patients may stay at rural hospitals (close to family) while the healthiest are transferred to an urban hospital,” according to a news release.

From a statistical perspective, “small counts” (typically fewer than 25 or 30 events in a reporting period) raise concerns about reliability and validity. Reliability looks at the repeatability of the measure and validity at whether the intended target population is being measured. Some say if you count all the patients in a rural hospital, you have described everyone so statistics don’t matter. However, if you intend to generalize from what happens during one reporting period for one group of patients to what can be expected to happen in the future for another group of patients, statistics related to small numbers do matter.

Solutions either expand sample size by aggregating data over time or create composite measures by aggregating data across metrics. Aggregating data over time is the simplest approach but slows feedback sought by providers and consumers. Composite measures can be effective but may be less informative. Nancy Dickey, president of the Health Science Center at Texas A&M University, says that when numbers are too small to show the quality of care provided, peer-review mechanisms should be used to assure appropriate care.

Rural providers, clinicians and advocates must actively engage with both public reporting and value-based purchasing as well as redefining it to include our role in promoting healthier communities. While the cost of doing so is a barrier, we must help to lead this movement, not be dragged along by it or left behind.