Measuring Your Clinic's Performance with CROWNWeb

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Introduced by the Centers for Medicare & Medicaid Services (CMS) more than a decade ago, the End-Stage Renal Disease (ESRD) Clinical Performance Measures (CPMs) Project has provided facilities with a baseline to measure their clinics' performance. Previously, the process of obtaining patient data for this effort included: two data collection forms (a four-page in-center hemodialysis [HD] form and a four-page peritoneal dialysis [PD] form) and a sample of the patient population. Additionally, the process of acquiring and analyzing these data was managed through a demanding manual procedure that could have delayed findings up to 24 months.

In February 2009, CMS released the first phase of a data management system called CROWNWeb to support the need of an electronic data collection system that would help accelerate the agency's access to patient-centric data. In addition, this system would help improve the timeliness of the CPM reporting process by more than 75%—reducing the collection period from 24 months to approximately 5 months.

Overview of CROWNWeb

CROWNWeb is a web-based data collection system that allows authorized users to submit and access patient-based data securely from virtually anywhere at any time (with the exception of scheduled downtime for maintenance). It is the tool designed by CMS to enable facilities to meet §494.180(h) of the updated Conditions for Coverage (CfCs) for ESRD Dialysis Facilities, published April 15, 2008. This section calls for the electronic submission of administrative and clinical data by all Medicare-certified dialysis facilities in the United States—a move away from the current paper-based data collection methods. CMS is leveraging this tool to streamline how the renal community will both report and access facility and patient-centric data. The system will house reports such as the ESRD CPM Reports and Vascular Access Reports among others.

CROWNWeb is currently being released to the renal community in phases, to allow the immediate collection of data from a limited number of facilities while providing future users an opportunity to complete the required steps to access the system. CMS moved into Phase II of its phase-in implementation process in July 2009.

Below is a detailed analysis of how the CROWNWeb system will impact clinical data collection, specifically in the area of ESRD CPM Annual Reports.

CPMs and CROWNWeb

The ESRD CPM Project was established in response to Section 4558(b) of the Balanced Budget Act (BBA) of 1997, which required CMS to develop and implement a method to measure and report on the quality of renal dialysis services provided under the Medicare program by January 1, 2000. To implement this legislation, CMS funded the development of clinical performance measures based on the National Kidney Foundation (NKF) Dialysis Outcomes Quality Initiative (DOQI) Clinical Practice Guidelines.[1] The ESRD CPM Annual Reports outline the results of several important clinical measures and/or characteristics of a Network via a representative random sample of adult (aged ≥ 18 years) in-center hemodialysis patients and a national representative sample of peritoneal dialysis patients.[1] Results for pediatric patients (aged < 18 years) are included as well.

This project has documented continued improvements, specifically in the areas of adequacy of dialysis and anemia management, since its inception in 1994.[1]

Historically, the data analyzed from these annual clinical reports came from a sample of 5–8% of the ESRD total patient population. These patient-level data were drawn from a random sample, which served as a close representation of the entire ESRD community. One goal of the CROWNWeb system is to provide a more accurate reflection of the entire population of dialysis patients, as the CROWNWeb "sample" will include 100% of the ESRD population in the CPM measurements.

While CROWNWeb will present a new approach to how measurements are collected and processed, the collection period for each measurement will remain the same. Similar to the current CPM sample study, data entered in CROWNWeb for HD patients will be required to be submitted for a 3-month period each year; and for PD patients, a 6-month period each year. It is currently unknown which months will be designated as the study periods for required data submittal once CROWNWeb is fully implemented.

CPMs Studies: A Glimpse of Changes to Come

Several of the CPM definitions have been changed in the CROWNWeb CPMs. In the previous CPMs (CMS forms 820 and 821) anemia management was reported as a percentage of patients with mean hemoglobins between 11.0 and 12.0 g/dL. With the advent of CROWNWeb CPMs, the anemia management goal will be between 10.0 and 12.0 g/dL to meet changes required by the Food and Drug Administration (FDA) related to labeling and use of ➲

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erythropoiesis-stimulating agents (ESA). CROWNWeb changes to the traditional CPM measures also include an additional anemia management CPM (AM CPM Ib), 2 vascular access CPMs (VA CPM IIIa, IIIb), and 12 mineral metabolism CPMs.

Despite the historical lack of CPMs specifically for the pediatric age group, previous CPM samples collected data on pediatric patients and reported several core indicators of dialysis care for this population. Going forward, although the CROWNWeb CPMs will initially only include adult patients, data for pediatric patients that are required to be entered into CROWNWeb will be available to calculate pediatric CPMs when these are developed.

Because data on every dialysis patient will be collected, CPMs reported in CROWNWeb will be specific to the facility level, unlike the current CPM sample study, which, because of the limited sample, was only able to report the CPM data at the national and Network level. Additionally, once the system is fully implemented, CROWNWeb users will be able to view the calculated CPMs as early as 45 days after the end of the reporting period.

Data Comparison

The ESRD national CPM Project, currently on hold for 2009, is expected to resume once CROWNWeb is fully implemented. Meanwhile, CMS has calculated CPM data from the participating Phase I and Phase II facilities, as well as test batch data submitters. Although the sample used for these calculations is not statistically representative of the community at large, the results of these CPMs are comparable to the values in the 2006–2007 ESRD CPM Annual Report for those CPMs where the definitions are relatively unchanged. For CPMs whose definitions have been modified in the CROWNWeb CPMs, the results are not expected to align as closely. There are also several new CPMs that do not have a previous baseline of data to use as a comparison.

During this testing period, CMS was unable to collect a complete sample of the PD CPMs entered into CROWNWeb. During Phase I, the agency was restricted to 4 months of data rather than the required

6 because the system's PD adequacy CPMs were unavailable until April, 2009. This resulted in a significantly lower calculation for all of the CROWNWeb PD CPMs. CMS expects those results to change when 100% of PD data is able to be reported.

Benefits to Facilities

In addition to providing reports in a vastly accelerated timeframe, CROWNWeb will add to the reporting process for hemodialysis adequacy by providing facilities with:

- An ability to directly input and review patients' pre-calculated Kt/V clinical values.
- An automatic internal polling of other data fields, assessment of the contents of the fields, and recognition by the programming that the facility has provided enough data to calculate a measurement (for example, urea reduction ratio, pre- and post-blood urea nitrogen [BUN] time, modality of dialysis, etc.).
- A default method to indicate a "Method of Measurement of Delivered Hemodialysis Dose" to accommodate the contracted lab's calculation method and to have this choice "remembered" for future entries.
- A manual override of the default selected measurement method at any time.

More Information

You can obtain more information on CROWNWeb by visiting the Project CROWNWeb website at www.project-crownweb.com, or by visiting the Centers for Medicare & Medicaid Services CROWNWeb Web site at www.qualitynet.org and clicking on the ESRD tab.

Disclosures

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