# CROWNWeb: Electronic Access to Patient-Centric Data

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*In June 2012, the Centers for Medicare and Medicaid Services (CMS) implemented the national launch of its CROWNWeb data collection system as a means to transform the way end-stage renal disease (ESRD) facilities report care provided to their patients. Fulfilling requirements outlined in Section 494.180(h) of CMS' updated Conditions for Coverage for ESRD Facilities (CfC) published in 2008, CROWNWeb is currently used by more than 6,000 Medicare-certified dialysis facilities and approximately 30 kidney transplantation centers throughout the United States and U.S. territories. The system serves as a central database in which clinical and administrative information can be entered and obtained by qualified users.*

*Since its national release, CROWNWeb has served as a universal resource that nephrology social workers, Patient Services Directors (PSDs), other ESRD Network personnel, and CMS employees use to access near-real-time patient treatment data. These data are aiding the renal community with its ongoing commitment to work toward improving the quality of life for people with chronic kidney disease. CROWNWeb stores data for hundreds of thousands of patients, archives digital versions of completed CMS forms, compiles various reports and patient treatment data, and provides patient management capabilities that allow facilities to determine if their patients are continuing to receive treatments in the case of a disaster.*

*This article focuses on the CROWNWeb system's impact on the duties of social workers and the interdisciplinary teams (IDTs) that are outlined in CMS' updated CfC. This article provides real-world examples from both nephrology social workers and ESRD Networks of how CROWNWeb has assisted them with managing the patient data used to capture care efforts. In addition, this article delves into how the system has aided with reducing barriers that social workers and PSDs may face in obtaining key data regarding patients.*

## CROWNWEB OVERVIEW

CROWNWeb is a data management system that allows Medicare-certified dialysis facilities to securely submit patient-based data to CMS from virtually anywhere at any time (with the exception of scheduled downtime for maintenance). Enabling facilities to comply with Section 494.180(h) of CMS' updated CfC, which require all Medicare-certified dialysis facilities to submit data electronically, the system allows authorized users at facilities to submit their patient and facility data directly to CMS (Centers for Medicare & Medicaid Services, 2008).

A move away from the historic practice of submitting paper-based data to geographically assigned ESRD Networks, CROWNWeb was designed to help increase the efficiency of the processes used by both facilities and CMS to collect and evaluate data, to help improve the quality of the data that are submitted, and to provide a platform to which future enhancements and data evaluations can be added (CMS, 2008). It provides a way of expediting how patient information is reported, thus assisting with some of the requirements placed on renal social workers and IDTs by the updated CfC. Examples of these requirements include:

- Awareness of admission status

- Assurance that CMS patient and facility overview forms and reports are completed correctly

- Awareness of modality, educational level, and vocational rehabilitation status

## DATA REPORTING

"The tasks performed in CROWNWeb by social workers vary from facility to facility. However, most use the system to complete CMS forms, such as the CMS-2728 Medical Evidence, CMS-2746 Death Notification, and CMS-2744 Annual Facility Survey forms; to ensure that patient activity reports are accurate; and, in some cases, to input monthly clinical data," stated Helen Rose, MSW, LCSW, the Patient Services Director for FMQAI: The Florida ESRD Network in an email interview. "At the Network, we use CROWNWeb to review patient characteristics and admission data, generate population reports, as well as to provide technical assistance to patients and facilities."

If tasked with keying data into CROWNWeb, social workers or other facility representatives have immediate access to pertinent patient treatment data, and have the ability to submit and access required data once the patient has been admitted to a facility that is within the user's scope.

The method by which data are entered into CROWNWeb and the individuals who manage data reporting vary from facility to facility, based on facility preference or organizational affiliation. CROWNWeb data reporting is handled via three channels:

1. **CROWNWeb Single User Interface (SUI)**: Data entry through this format is done directly in CROWNWeb at a facility level. It empowers the unit to have full ownership of the data reported to CMS. Primarily managed by small or medium-sized dialysis facilities, data reporting through this format includes patients' admission to the facility, the completion of CMS forms, and monthly labs.

2. **Electronic Data Interchange (EDI, also known as "Batch Data"):** Since CROWNWeb's early developmental and pilot phases, CMS has been able to work with DaVita, Fresenius Medical Care (FMC),

and Dialysis Clinics Incorporated (DCI) to develop a means of electronically uploading patient admission and monthly clinical data from their respective corporate systems into CROWNWeb. While submission via this channel assists facilities by allowing their corporate offices to complete the aforementioned tasks, facilities are still responsible for completing the forms and verifying the accuracy of all reported data.

3. **The National Renal Administrators Association's Health Information Exchange (NRAA-HIE)**: Similar to EDI, patient admission and clinical data reported by participating facilities through the NRAA-HIE are electronically uploaded into CROWNWeb. However, data are funneled through what is known as the Nationwide Heath Information Network (NwHIN) gateway.

### REDUCED BARRIERS

ESRD Networks and facility social workers have identified numerous CROWNWeb features that have helped reduce the barriers that both groups may have encountered when dealing with patient data procurement. Since CROWNWeb serves as a universal system used by Medicare-certified facilities, the ESRD Networks, and CMS, the system helps eliminate the obstacles met by social workers and the IDTs by allowing them instant access to required data once the patient is affiliated with the facility in CROWNWeb. Based on the admit reason and the patient's treatment history, CROWNWeb informs the user if a CMS-2728 form must be completed, or it includes a completed copy of the

CMS-2728 form if it was submitted by another facility in CROWNWeb. Additionally, the system seamlessly transfers the patient's admit/discharge history and treatment records to the current facility in order to assist the social worker and other staff with obtaining details regarding changes in the patient's modality. This historical documentation of patient treatment helps provide instant knowledge of how to best communicate with and care for the patient.

"Some social workers report using CROWNWeb to look at a patient's previous record of admissions and the treatment summary section within the system to obtain additional information in order to meet the needs of the patient," said Ms. Rose.

### THE POWER OF REPORTS

Collectively, facility-level users and the ESRD Networks have access to 44 built-in reports in CROWNWeb. Renal social workers can use the "Patient Roster Report" to ensure that the proper patients are assigned to their facilities in CROWNWeb. This report includes all patients associated with the user's facility during a selected timeframe. This also provides information regarding discharge dates and discharge reasons, if applicable.

CROWNWeb also provides facilities with the ability to work with their individual ESRD Networks to run reports such as the "Gap Patients Report" to determine if a transfer patient is in a "gap" status. A "gap" patient is an individual who is not currently associated with a facility, has not been associated with any facility within the past 30 days, and is not reported to be deceased.

Figure 1: Sample CROWNWeb Reports

**Facility Report**

**Facility Personnel Report**
The Facility Personnel Report allows users to run and print a report which includes facility details including location, status, shifts and services. It also provides a detailed list of a Personnel associated with the selected facility including full name, position, UPIN, email, and contact information for selected in Scope facilities.

**Patient Report**

**Patient Roster Report**
The Patient Roster Report allows users to run and print a report which includes all patients present at the selected facility(ies) within the user scope as of a specific date or date range.

**Audit Report**

**Audit Forms Report**
The Audit Forms report allows users to run and print a report for 2728, 2746, or both form types submitted by specified facilities within an entered date range.

**Audit Additions Report**
The Audit Additions report allows users to run and print a report by module to show any newly submitted records within the selected module(s) by specified facilities within an entered date range.

**Audit Deletions Report**
The Audit Deletions report allows users to run and print a report by module to show any deleted records within the selected module(s) by specified facilities within an entered date range.

**Audit Updates Report**
The Audit Updates report allows users to run and print a report by module to show any updated records within the selected module(s) by specified facilities within an entered date range.

Each built-in CROWNWeb report provides specific information that can be used by facilities and ESRD Networks in various ways. Understanding the importance of these reports, CMS reviews the accuracy and validity of the data presented as part of these reports on an ongoing basis. Further, the agency works towards implementing enhancements and updates to each report if any technical issue arises. All reports are housed on the "Reports" screen in CROWNWeb. See Figure 1 for a sample of the reports used by facilities in CROWNWeb. Visit **http://www.projectcrownweb.org/assets/crownweb_info/CROWNWeb_Facility_Reports.pdf** and **http://www.projectcrownweb.org/assets/crownweb_info/CROWNWeb_Network_Reports.pdf** for a complete list of facility-level and Network-level reports in CROWNWeb.

## MANAGING ADMISSION/DISCHARGE STATUS

CROWNWeb can help simplify the patient discharge documentation process by allowing facility staff (including social workers) to log in to the system and process a patient discharge, entering a reason of "Discontinue," "Acute," "Lost to Follow Up," "Transplant in the U.S.," or "Death" in a matter of seconds.

Furthermore, the system allows users to indicate if the discharge was "Involuntary," and to provide a justification for the discharge. Section 494.70(b)(2) of the updated CfC notes that a patient has the right to receive written notice 30 days in advance of a facility terminating his/her care involuntarily, and requires that the procedure described in Section 494.180(f) be followed. Only in the case of an immediate threat to the health and safety of others may an abbreviated discharge procedure be followed (CMS, 2008). Social workers may enter any involuntary discharge into CROWNWeb once the requirements outlined by the updated CfC have been met.

## DISASTERS AND TRANSIENT PATIENT TRACKING

CROWNWeb can assist social workers with ongoing patient care efforts by providing a better method of tracking patients after disasters that result in the displacement and relocation of dialysis patients. The system includes a "Transient Status" feature that has allowed facilities to locate displaced patients and ensure that they are continuing to receive treatments during a disaster.

In 2005, Hurricane Katrina forced the evacuation and relocation of more than one million residents of New Orleans and the Gulf Coast of the United States. There were almost 6,000 patients with ESRD on life-sustaining dialysis treatment in the region affected by the storm (Anderson et al., 2009). In an interview with the *Wall Street Journal*, then-acting CMS Chief Medical Officer Barry Straube said an "accurate guesstimate" was that "hundreds" of patients were still missing (Jeffrey, 2005). According to the ESRD Networks in that region, the majority of the missing patients were located through the efforts of dialysis providers and ESRD Networks; however, it took months to document the patients' statuses.

Learning from this tragedy, CMS designed CROWNWeb to provide facilities and ESRD Networks with a common means of tracking all patients who are in a "Transient Status," i.e., receiving treatments at a temporary facility for 13 or fewer treatments, or 30 days or less.

In late 2012, CROWNWeb assisted dialysis facilities, the ESRD Networks, and CMS with monitoring treatment efforts in the Northeastern part of the United States when Superstorm Sandy devastated that region. According to IPRO ESRD Network of New York, as many as 300 facilities in the Network's geographic area used CROWNWeb during Superstorm Sandy to help ensure that displaced patients continued receiving the appropriate care. "CROWNWeb actually helped our Network office find some patients whose local facility could not locate them to make sure they were safe," reported Bernadette Cobb, Assistant Director of Information Management for IPRO.

## ADDITIONAL INFORMATION

For more information regarding tasks completed by users, the system's data reporting capabilities, or the steps that must be followed to obtain a CROWNWeb account, visit **www.projectcrownweb.com** or visit the CMS CROWNWeb website at **www.qualitynet.org** and click on the "ESRD" tab.

## DISCLAIMER

## REFERENCES

Anderson, A. H., Cohen, A. J., Kutner, N. G., Kopp, J. B., Kimmel, P. L., & Muntner P. (2009). Missed dialysis sessions and hospitalization in hemodialysis patients after Hurricane Katrina. *Kidney International, 75*(11), 1202–1208.

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