Dialysis for Undocumented Immigrants: Challenges and Solutions

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Introduction
Undocumented immigrants with ESKD have traditionally had very limited options for dialysis care. They are not eligible for Medicare, they are typically not able to afford private insurance, and they are not eligible for assistance through the Affordable Care Act (ACA). A handful of states provide coverage through Medicaid programs. For patients in the state of Texas, this is not an option. Consequently, these patients have no options for scheduled dialysis care and must present to the emergency department (ED) for evaluation for emergent dialysis. As a result of federal policy, inpatient dialysis units are not able to provide scheduled dialysis, so these patients can only receive dialysis when a life-threatening indication develops. Such practice exposes these patients to adverse health outcomes (including increased mortality) and impaired quality of life, as well as creating a great deal of stress on all levels of the healthcare system and providers, including trainees. As the primary safety-net hospital for Dallas County, Parkland Hospital has cared for the vast majority of undocumented immigrants with ESKD in North Texas, and the expected array of problems has been observed. Over the past several years we have engaged in several ongoing team-based, multi-disciplinary efforts to improve quality of care for this population. Through allocation of resources, collaboration with other healthcare divisions, development of educational materials, and the creation of partnerships with organizations outside our institution, we have observed improvements in the care of our patients, including increased access to scheduled dialysis, decreased catheter-related complications, and decreased mortality. Although much work remains, we have been gratified by the improvement in patient care and hope that our story can serve as an example for others faced with similar challenges and spark discussion for needed broader policy changes.

Background
Undocumented immigrants with ESKD have limited options for dialysis care. They are not eligible for Medicare or financial assistance through the ACA, and the vast majority is unable to afford private insurance. A handful of states offer coverage for dialysis through emergency Medicaid.

Local Experience in a Safety-Net Hospital
As the primary safety-net hospital for Dallas County, Parkland Memorial Hospital treats the vast majority of undocumented immigrants in North Texas with ESKD. For decades, a high volume of patients presented to the Parkland ED for emergent dialysis, peaking at a total of 193 at the end of 2014. Because of inconsistent, inadequate dialysis, they have endured impaired quality of life, frequent hospitalizations, high rates of access-related complications, and increased mortality compared with patients on scheduled dialysis (1–3). Similar experiences have been reported elsewhere (4–10).

Adverse effects of emergency dialysis have been observed locally. The Parkland ED is well known as a high-volume, high-acuity facility. At peak volume in 2013–2014, an average of 35–45 unfunded patients per day presented to the ED for emergent dialysis. In the ED, patients required urgent, prompt evaluation and, based on their clinical status (symptoms, volume, BP, electrolytes, acid base), they were evaluated and dialyzed or discharged to return again for reevaluation. The ED was overwhelmed. In one particular month, 33% of all visits to the Parkland ED were patients coming for emergent dialysis. As a consequence, care of other patients in the ED was affected. Many patients required hospitalization due to uremia and other complications from inadequate solute and volume removal, thus overwhelming inpatient services. As the number of inpatients requiring dialysis increased, the duration of dialysis treatments for all inpatients had to be shortened, ultimately affecting all patients with ESKD.
In 2013, the average cost of care (direct and indirect) was $105,259 per patient per year, with a cost of $945,828 to care for one of the sickest of these patients who could not receive regularly scheduled dialysis treatment. Clinical teams from the ED to the dialysis unit and inpatient services were also affected. As patient volume grew, continued stress was placed on the renal services (faculty, trainees, and nurses) because they were responsible for more treatments and were called at all times to provide treatments for patients (during the day and after normal working hours). This level of stress threatened the quality of education for the trainees and the quality of care they could provide to all of their patients.

The plight of undocumented immigrants with ESKD is a true healthcare crisis affecting patients, providers, and the healthcare system. In an effort to improve the situation for all involved, several interventions have been implemented at Parkland over the last several years.

**Dialysis Unit Operations, New Models of Care and Trainee Education**

In response to increased patient volume, capacity of the acute dialysis unit (ADU) at Parkland was expanded, which included the creation of new dialysis stations, extension of working hours, and hiring of additional staff. In the early 2010s, a new clinical service was created with the express purpose of caring for undocumented immigrants with ESKD. Before this, patients were managed by rotating fellows and faculty. In the new system, dedicated positions were created, initially with two full-time nephrologists and two nurse practitioners providing care to this population from Monday to Saturday from 6 AM to 10 PM. This approach has allowed for greater consistency in application of criteria for emergent dialysis, improved communication with ADU staff, improved communication with providers and staff in the ED, and greater continuity of care. The service has grown in scope with the addition of more midlevel providers and faculty. Nurses, social workers, and dietitians are shared with the regular dialysis service. An additional aim was to reduce fatigue and stress for trainees, as well as reducing the risk of exceeding work limit hours. As a result, renal fellows have drastically reduced responsibility in evaluating patients for emergent dialysis and are no longer called in for emergent, unscheduled dialysis. Trainees now have less exposure to the care of these patients and some of the advanced complications of uremia they present.

**Vascular Access and Catheter-Related Infections**

Initially, hospital policy did not allow for placement of tunneled dialysis catheters or permanent vascular access for undocumented immigrants with ESKD. Renal fellows and faculty frequently placed multiple nontunneled dialysis catheters per day. In 2008, placement of tunneled dialysis catheters was allowed. Although this was a major improvement, placement of vascular access (fistulas/grafts) was still not allowed either as an inpatient or outpatient procedure. Consequently, central line–associated bloodstream infections (CLABSI) emerged as a significant problem with high rates of infections and serious complications including endocarditis, osteomyelitis, and death. A multistep, interdisciplinary approach has been (and still is) used to address this problem. We collaborated with providers from infectious disease and interventional radiology to create a consistent approach outlining practices for diagnosis and management (including antibiotic choice and catheter management) of CLABSI in patients on dialysis. The workflow incorporated Kidney Disease Outcomes Quality Initiative and Infectious Disease Society of America guidelines adapted for the unique nature of this patient population (11,12). The intent was to improve care and reduce infection recurrence by eliminating as much variation as possible in management of CLABSI. As part of quality-improvement initiatives, gaps in patient knowledge related to catheter self-care were identified. Various interventions, including educational tools and handouts created at Parkland, were implemented. These materials are available in English and Spanish and take into account the literacy level of our patients.

In 2015, CLABSI were identified by the health system as a priority for reduction of healthcare-associated infections, and hospital policy finally allowed for placement of arteriovenous fistulas and grafts. Close collaborations between nephrology and vascular surgery established an efficient and rapid process to evaluate patients and proceed with inpatient or outpatient vascular-access surgery. In 2 years, the percentage of emergent dialysis patients dialyzing with a permanent dialysis vascular access rose from 12% to 50%, with >90% undergoing fistula creation.

As a result of these efforts, we have observed a 76% reduction in the number of infections and a 62% reduction in the adjusted rate of infection (Table 1).

**Opportunities for Scheduled Dialysis**

Although undocumented immigrants are ineligible for assistance to purchase insurance under the ACA marketplace exchanges, the ACA provision prohibiting health insurance denials based on preexisting conditions allows for purchase of off-exchange plans. However, prohibitive premiums effectively eliminate this as an option.

In January 2015, a nonprofit organization that provides premium assistance for patients on dialysis offered to provide assistance to undocumented patients. Once aware of this opportunity, the team at Parkland, led by our dedicated social workers, actively worked to secure assistance and placement in a dialysis unit for as many patients as possible. Ultimately, 108 patients were placed. A retrospective analysis comparing patients placed with those who remained on emergent dialysis showed, after 1 year, that patients converted to scheduled dialysis gained a significant survival benefit, had greatly reduced ED and hospital utilization rates, and that the cost of their care was far less expensive than those on emergent dialysis (1). Our patients experienced a clear benefit from conversion to scheduled dialysis, which has also been beneficial for the ADU, ED, and hospital system.

In subsequent years, >300 additional patients were placed during open enrollment through ACA plans. There has been variability in the number of patients placed each year based on participation of insurance and dialysis companies. Additionally, this option is only available during a finite period of time each year. Consequently, the volume of patients
seeking emergent dialysis would steadily rise each year before open enrollment.

In June 2018, Parkland entered into an agreement with a local nonprofit organization that agreed to provide funds to allow for undocumented immigrants who can demonstrate Dallas County residency to be placed at local dialysis clinics throughout the year and not have to wait for the open enrollment period. Some of these patients will eventually be enrolled in off-exchange programs via ACA. Kidney transplantation is not covered under this program.

In 2019, for the first time, peritoneal dialysis was also included as an option for scheduled dialysis. Under this program, all residents in Dallas County qualifying for Parkland Patient Financial Assistance can receive outpatient hemodialysis and 17% have switched to peritoneal dialysis. This funding mechanism now allows for patients to gain access to scheduled dialysis year round, leading to a steady, sustained decline in the number of patients seeking emergent dialysis and number of treatments in the ADU (Figure 1). The undocumented patients who gained funding and are now in outpatient dialysis units continue to seek care in our safety-net hospital, but with much lower need for inpatient and ED resource utilization. Before 2014, 70% of our dialysis treatments were for unfunded patients with ESKD compared with 30% at present.

**Conclusions**
The challenge of caring for undocumented immigrants without access to adequate dialysis has been a trying experience for the patients, providers, and staff involved. Through teamwork, determination, hard work, resourcefulness, and collaborations from many individuals and organizations, that state of care for undocumented immigrants with ESKD in Dallas Country has improved substantially. However, much work remains. Increased emphasis on home therapies will provide a more cost effective and sustainable means to provide treatment to our patients. Ultimately, policy change on the state and national level is needed to ensure that this patient population receives care that has been demonstrated to be better and cost effective. We hope that our experience serves as an example of how difficult circumstances can be improved, and that new approaches can help to inspire more and widespread improvement.

<table>
<thead>
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<th>Year</th>
<th>Number of Infections</th>
<th>Adjusted Infection Rate (per 100 treatment wk)</th>
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<tr>
<td>2019</td>
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</tbody>
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Figure 1. Decline in the average number of undocumented patients evaluated and dialyzed urgently every month and average number of dialysis treatments for all undocumented patients on dialysis per month. All patients included were dialyzed in the inpatient acute dialysis unit or in an intensive care unit (when medically indicated).
Acknowledgments
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Author Contributions
J. Berger and H. Quinones wrote the original draft and were responsible for data curation; M. Vazquez conceptualized the study, was responsible for investigation and project administration, and provided supervision; and all authors reviewed and edited the manuscript.

Disclosures
M. Vazquez is a nonvoting advisory member to the management committee of the University of Texas Southwestern Medical Center–DaVita Dialysis Joint Venture. All remaining authors have nothing to disclose.

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References