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September 26, 2018

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Via Federal Express

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**HEALTH FACILITIES &
SERVICES REVIEW BOARD**

Ms. Courtney Avery, Administrator
Illinois Health Facilities &
Services Review Board
525 West Jefferson Street, 2nd Floor
Springfield, Illinois 62761

Re: Additional Information for Melrose Village Dialysis (Proj. No. 17-029)

Dear Ms. Avery:

Polsinelli represents DaVita Inc. and Adiron Dialysis, LLC (collectively, the “Applicants”) in the above-referenced proposal to establish a 12-station dialysis clinic in Melrose Park, Illinois (the “Proposed Clinic”). In this capacity, we are writing to provide additional information regarding the Proposed Clinic pursuant to Section 1130.670 of the Illinois Health Facilities and Services Review Board’s (the “State Board”) procedural rules. We also write to request the State Board establish July 31, 2020 as the new completion date for the Proposed Clinic.

As the Applicants have previously described and as further discussed in this submission, there is a compelling need for additional dialysis stations in Melrose Park, an economically disadvantaged community with a demonstrated lack of meaningful access to dialysis. As further detailed below, the stated need for dialysis services in HSA 7 as calculated in 2017 is understated. In fact, there is an existing need for dialysis stations in the planning area, rather than the small excess noted in the most recent update. In addition to these general area needs, it is also essential to understand the target area to be served has a specific need for stations and how establishing the Proposed Clinic is supported by a clear health planning rationale. The key points of this submission are as follows:

- There is a need for 68 additional dialysis stations in HSA 7 by 2020, and 20 of those stations are needed in the immediate vicinity of the Proposed Clinic.
- Stations are particularly needed in the Proposed Clinic’s 30 minute Geographic Service Area where each station currently serves **nearly twice** the number of area residents compared to the state average station-to-population ratio.
- The Proposed Clinic would not create a maldistribution of services based on the high utilization of existing providers and existing access disparities.

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- The rapid increase in utilization of dialysis clinics in the patient service area indicates that the average utilization of those clinics will well exceed 80% by the time the Proposed Clinic is fully operational.
- The Proposed Clinic is necessary to ensure adequate access to dialysis services for Melrose Park, a low-income community with a high chronic disease burden and poor socioeconomic indicators of health.

As discussed in further detail below, there is an ongoing need for dialysis stations in HSA 7 and Melrose Park specifically.

I. Dialysis Station Need in HSA 7 is Understated by 68 Stations, and 20 of those Stations are Needed in the Immediate Vicinity of the Proposed Clinic

Based on the September 14, 2018 update to the inventory of hemodialysis stations in Illinois, there is a calculated excess of two stations in HSA 7.¹ Notably, however, these projections understate existing and projected need due to the fact that the underlying data is out-of-date. In calculating station projections, the State utilized a five-year projection to 2020 from the base year of 2015. As a result, the need calculation utilized dialysis use rates as of December 31, 2015 combined with the population estimates for that same year and then projected that use rate on the anticipated population in 2020.

Fortunately, the State Board staff and providers have the benefit of more accurate, recent hemodialysis utilization data that the State Board collected and published for December 31, 2017. As Exhibit A indicates, there was a 6.93% increase in End-Stage Renal Disease (“ESRD”) patients in HSA 7 between 2015 and 2017. Use of the 2015 data therefore results in the State Inventory underestimating projected area needs. Repeating the State’s calculation using the more recent 2017 use data, we can more accurately evaluate the demand for ESRD services and the need for the Proposed Clinic. Due to the lag in use rate data reporting, the increased dialysis services use rate based on the projected 2020 population results in **a calculated need for 66 stations**, rather than an excess of two stations as reported by the State Board. This increased station need is due to the dialysis patient census in HSA 7 increasing by 346 patients in that two-year period (or a compound annual growth rate of 3.2%),² and illustrates the extent to which the State Inventory underestimates short-term need. Of those 66 stations, **20 stations are needed in the immediate five-mile vicinity of the Proposed Clinic** – the Proposed Clinic’s Patient

¹ <https://www2.illinois.gov/sites/hfsrb/InventoriesData/MonthlyHCFInventory/Documents/OTHER%20SERVICES%20INVENTORY%20UPDATE%20September%2014%202018.pdf>.

² Note that this calculation uses the same formula that that State Board uses to calculate ESRD Station Need Determinations, with the only difference being that we used more current dialysis use rates (12/31/2017) rather than older data from 12/31/2015.



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Service Area (“PSA”) – based on projected increases in the number of area dialysis patients. The Proposed Clinic is essential to help address this need for additional stations in HSA 7 and more specifically in the Melrose Park vicinity.

II. The Proposed Clinic is Well Located to Meet Planning Area Needs

a. Residents of the Geographic Service Area have Poor Access

As indicated by the high projected number of stations needed in the immediate vicinity of the Proposed Clinic, the shortage of stations in HSA 7 is especially true with respect to the Melrose Park area. In the Proposed Clinic’s adjusted thirty-minute Geographic Service Area (“GSA”) ³, there is currently **one station for every 5,187 residents.**⁴ Compared to the average station to population ratio in the state of 1:2,676, the existing stations in the Proposed Clinic’s GSA are expected to serve **nearly twice** the number of area residents than the typical dialysis station located in the state.

This ratio indicates a serious maldistribution of services negatively affecting the residents of the Proposed Clinic’s GSA and supports a favorable finding by the State Board that the Proposed Clinic will not create an unnecessary duplication of services or maldistribution, but will rather help to correct these issues.

Table 1110.230(c)(2)(A) - Ratio of Stations to Population				
	Population	Dialysis Stations	Stations to Population	Standard Met?
Geographic Service Area	3,403,251	656	1:5,187	Yes
State	12,978,800	4,850	1:2,676	

As you know, the Applicants submitted a correction to its application materials on June 27, 2018, which accurately details the population and associated dialysis stations. But for this data error, the last State Board staff report would have been fully positive.

b. Area Clinics are Heavily Utilized

³ This drive time is modified pursuant to the State Board rules to account for typical traffic congestion in the area and is 26 minutes (30 minutes/1.15).

⁴ This updated ratio is from the Applicant’s June 27, 2018 submission, available at <https://www2.illinois.gov/sites/hf/srb/Projects/ProjectDocuments/2017/17-029/2018-06-27%2017-029%20Melrose%20Village%20Dialysis%20Supplemental.pdf>.

Further compounding this access issue, area clinics are heavily utilized and are projected to soon exceed 80% utilization, or the State Board's "Target Utilization" standard. This is particularly true with respect to dialysis clinics in close proximity to the Proposed Clinic. When the five-mile PSA for the Proposed Clinic (which is where the majority of patients for the Proposed Clinic reside) is examined, existing clinics were operating at 78% as of June 30, 2018.⁵ Given the projected compound annual growth rate of 4.84%, approved and existing clinics in the Patient Service Area are projected to be at **88% capacity** by March 31, 2021, well in excess of the State Board's 80% Target Utilization standard. As noted above, this five-mile PSA has a projected need of 20 additional stations by 2021. The addition of 12 stations at the Proposed Clinic will help to address this need and avoid potential gaps in area dialysis availability.

III. Melrose Park Residents are at Increased Risk of Developing Kidney Disease

Melrose Park is a low-income community with a large and growing Hispanic population. The village has also been identified as having a particularly high burden of chronic disease across multiple indicators.⁶ Each of these factors place residents at increased risk of developing kidney disease.

The incidence and prevalence of chronic kidney disease and end-stage renal disease are higher within certain ethnic groups, including Hispanics. Central Cook County has experienced a tremendous increase in its Hispanic population since 2000.⁷ Today, more than 73% of Melrose Park residents are Hispanic.⁸ As discussed further in the Application for the Proposed Clinic, Hispanics are at greater risk of developing kidney disease and kidney failure, and they are 1.5 times more likely to experience kidney failure compared to others in the U.S.⁹ Other factors contribute to a higher disease burden for these groups, including a family history of disease, impaired glucose tolerance, diabetes during pregnancy, hyperinsulemia and insulin resistance, obesity and low levels of physical activity. Minorities also frequently experience issues with health care access, quality, and barriers due to language and health literacy, which further their susceptibility for chronic disease. Not only do they often lack a "medical home," but the cost of maintenance drugs necessary to manage diabetes and hypertension can be cost prohibitive.

⁵ This data excludes those clinics currently in "ramp up." If those clinics are included, utilization in the Patient Service Area remains high at 71.26%.

⁶ Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 82. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

⁷ Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 13. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

⁸ <http://factfinder.census.gov>.

⁹ This statistic is from page 80 of the Melrose Village Dialysis application.

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Loyola University Health System, one of the larger hospital systems in the area, noted in its most recent Community Health Needs Assessment that such disparities in access to care and community resources are key contributors to area health inequities.¹⁰ Not surprisingly, given this increased risk, the assessment found a higher prevalence of diabetes among Hispanics and other minorities compared to Asians and non-Hispanic white residents.¹¹ As the State Board is aware, diabetes and hypertension are the two principal causes of kidney disease.

Within Melrose Park, nearly 20% of residents live below the Federal Poverty Level. Poverty increases the risk of developing chronic disease, including diabetes, hypertension and kidney disease. This results in a higher prevalence of diabetes, for example, among adults without college degrees and those with lower household incomes.¹² In the context of kidney disease, we also find that individuals who lack access to health care due to income or insurance status are frequently not diagnosed with kidney disease until the later stages when it is often too late to stop or slow the disease progression. Poverty also exacerbates the effect of diseases once they develop because it can be difficult for individuals with limited resources to manage their health. As a recent example, the rising costs of insulin have led many low-income diabetics to try to ration their insulin supply, leading to complications and death (Exhibit B). These financial pressures and health consequences can have far-reaching effects. While diabetes is a primary cause of kidney disease, the better a person keeps diabetes and blood pressure under control, the lower his or her chance of developing or exacerbating kidney disease (Exhibit C). As a result, those who struggle to financially manage one disease unfortunately face higher risk of developing others. Finally, with regard to low-income communities, individuals who have not graduated from college or finished high school often lack the education and financial stability associated with a higher use rate of home dialysis treatment modalities, and transplantation is a more onerous process for low-income individuals who lack resources. As a result, once low-income individuals develop kidney disease, they are also more likely to become dependent on in-center hemodialysis for the foreseeable future.

Given these demographics and their impact on community health, it is not surprising that area hospitals' Community Health Needs Assessments have documented poor health and access to health care in Melrose Park. Melrose Park was recently identified as having the second lowest

¹⁰ Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 19-20. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

¹¹ Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 45. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

¹² Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 45. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

life expectancy of suburban Cook County at 75.2 years, nearly a decade shorter than the average life expectancy of 84.1 years in nearby La Grange Park.¹³ The Cook County Department of Public Health's top priority for Suburban Cook County is chronic disease prevention.¹⁴ There are also stark disparities in chronic-disease related mortality in the region, both in terms of geography and in terms of race and ethnicity.¹⁵

IV. Melrose Park Residents Need Access to Dialysis Services in their Community

Beyond the data driven arguments for the Proposed Clinic outlined above, geographically, Melrose Park is a distinct segment of Suburban Cook County. The village was historically coined the "Industrial King of the Suburbs," and it remains home to many industrial and manufacturing companies.¹⁶ Earlier this year, the village welcomed a \$250 million expansion of its drug manufacturing campus that will manufacture sterile injectable medicines for the U.S. market. This is the latest in efforts by the village to encourage manufacturing over the past two decades, and as a result of these efforts, Melrose Park has received hundreds of millions of investment dollars and added thousands of retail, manufacturing and industrial jobs to the area.¹⁷ Each of these developments has improved the local economy and worked to further distinguish Melrose Park and other heavily-industrial areas of Suburban Cook County from DuPage County to the west. This distinction is important for several reasons, but primarily because it influences the way that area residents view their community and existing area resources. As is common in communities separated by major highways, residents of Melrose Park and other villages east of the interstate do not readily cross Interstate 290 to the west on a regular basis for services. In addition to acting as a dividing line between Cook and DuPage Counties, the interstate also acts as a geo-political boundary that influences the way area residents view the borders of their community. For these reasons, while the referring nephrologists for the Proposed Clinic care for some patients who live on the other side of Interstate 290, the vast majority (nearly 80%) of pre-ESRD patients who the Applicants anticipate will be referred to the Proposed Clinic live on the Melrose Park side of Interstate 290

¹³ Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 68. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

¹⁴ WePLAN 2015 report for Suburban Cook County, available at <http://www.cookcountypublichealth.org/files/pdf/WePLAN%20Final%20Report%20with%20cover%20051311.pdf>.

¹⁵ Loyola University Health System and Health Impact Collaborative of Cook County, Community Health Needs Assessment: Central Region, at 19. Available at <https://www.loyolamedicine.org/sites/default/files/community-health-needs-assessment-june2016.pdf>.

¹⁶ For a history of farming and industry in Melrose Park, see http://www.melrosepark.org/docs/Industry_and_farms.pdf.

¹⁷ For additional information, see <https://www.prnewswire.com/news-releases/250-million-plant-breaks-ground-in-melrose-park-300523583.html>.

(Exhibit D). As demonstrated by the data above, the Proposed Clinic is well-located to meet existing needs and access issues for Melrose Park and other residents of central Suburban Cook County. In contrast, recently approved clinics to be located in DuPage County are anticipated to primarily serve patients who reside west of Interstate 290; *i.e.*, those who are live in DuPage County.

An additional benefit of making these needed stations available in Melrose Park is that Melrose Park residents will also be able to take advantage of the village Dial-a-Ride program for transportation to and from dialysis appointments at the Proposed Clinic. This program is limited to transportation within Melrose Park's village borders and provides transportation to appointments between 9 am and 5 pm.¹⁸ Given the typical timing of dialysis sessions at clinics that offer three shifts per day, this transportation is best suited for the second shift appointment time. The Proposed Clinic will improve the number of second shift appointment times available in Melrose Park and allow additional area residents to take advantage of this transportation option for their dialysis needs.

V. Response to Opposition Concerns about Duplication of Services

Finally, the Applicants would like to respond to concerns raised that the two existing dialysis clinics in Melrose Park have sufficient capacity for future patients and will be negatively impacted by the Proposed Clinic. In a letter filed by Associates in Nephrology in December 2017, it was noted that the existing Melrose Park Dialysis Center was experiencing 67.5% utilization and expected to have ongoing available capacity.

There are two dialysis clinics located in Melrose Park, both of which are operated by Fresenius. Significantly, as of June 30, 2018, Melrose Park Dialysis Center was operating at **77.8% capacity** and is expected to soon surpass 80%. The other clinic located in Melrose Park (North Avenue Dialysis Center) was operating at **84.0%**. This utilization near and above the State Board's 80% Target Utilization underscores the growing need for additional capacity in Melrose Park and supports the Applicant's understanding that the Proposed Clinic will not negatively impact area providers. This is further supported by the fact that the Proposed Clinic is intended to serve patients of Dr. Aneziokoro (Northwest Medical Associates of Chicago) and DuPage Medical Group who have kidney disease but do not yet require dialysis. As demonstrated in the application and supplemental materials, these new patients are unique to the Proposed Clinic and are more than sufficient to ensure the Proposed Clinic will reach target utilization within two years of operation.

¹⁸ For additional information, see <http://www.melrosepark.org/village-services-a-z/village-of-melrose-park-dial-a-ride-for-residents/>.



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Those area nephrologists who oppose the Proposed Clinic have made other general opposition comments that targeted this application in conjunction with other applications filed by DaVita in recent years. This opposition testimony and comments directed toward the Proposed Clinic were misplaced in that context, however, and these general remarks that really were not project-specific were addressed in the applicants' letter to the State Board dated April 30, 2018 for Salt Creek Dialysis (Project No. 17-016), which is on file with the State Board.

We believe the information discussed above and set forth as Exhibits will support the State Board's issuance of a fully positive state report and associated favorable consideration of the Proposed Clinic. Thank you for your consideration of this project. If you have any questions and concerns, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Anne M. Cooper'.

Anne M. Cooper

Attachments

Cc: Gaurav Bhattacharyya

Exhibit A

Updated Need Calculation Based on 2017 Use Rate	
	HSA 7
Planning Area Population - 2015	3,466,200
In Station ESRD Patients - 2017	5,342
Area Use Rate 2017	1.54
Planning Area Population - 2020 (Est)	3,508,600
Projected Patients - 2020	5,407
Adjustment	1.33
Patients Adjusted	7,192
Projected Treatments - 2020	1,121,916
Existing Stations	1,432
Stations Needed - 2020	1,498
Number of Stations Needed	66

HFSRB Monthly Update 09-14-2018	(2)
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In Station ESRD Patients - 12/31/2015	4,996
% Increase in Patients 2015 to 2017	6.93%

Area Use Rate - 2015	1.44
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Insulin's High Cost Leads To Lethal Rationing

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September 1, 2018 · 8:35 AM ET

Heard on Weekend Edition Saturday

BRAM SABLE-SMITH



"It shouldn't have happened," says Nicole Smith-Holt of Richfield, Minn., gazing at the death certificate of her son Alec Raeshawn Smith.

Bram Sable-Smith for NPR

000010

Diabetic ketoacidosis is a terrible way to die. It's what happens when you don't have enough insulin. Your blood sugar gets so high that your blood becomes highly acidic, your cells dehydrate, and your body stops functioning.

Diabetic ketoacidosis is how Nicole Smith-Holt lost her son. Three days before his payday. Because he couldn't afford his insulin.

"It shouldn't have happened," Smith-Holt says looking at her son's death certificate on her dining room table in Richfield, Minn. "That cause of death of diabetic ketoacidosis should have never happened."



SHOTS - HEALTH NEWS

High Cost Of Diabetes Drugs Often Goes Overlooked

The price of insulin in the U.S. has more than doubled since 2012. That has put the life-saving hormone out of reach for some people with diabetes, like Smith-Holt's son Alec Raeshawn Smith. It has left others scrambling for solutions to afford the one thing they need to live. I'm one of those scrambling.

Not enough time

Most people's bodies create insulin, which regulates the amount of sugar in the blood. In the U.S., the roughly 1.25 million of us with Type 1 diabetes have to buy insulin at a pharmacy because our pancreases stopped producing it.

My first vial of insulin cost \$24.56 in 2011, after insurance. Seven years later, I pay more than \$80. That's nothing compared with what Alec was up against when he turned 26 and aged off his mother's insurance plan.

Smith-Holt says she and Alec started reviewing his options in February 2017, three months before his birthday on May 20. Alec's pharmacist told him his diabetes supplies would cost \$1,300 a month without insurance — most of that for insulin. His options with insurance weren't much better.

Article continues after sponsorship



Alec's yearly salary as a restaurant manager was about \$35,000. Too high to qualify for Medicaid and, Smith-Holt says, too high to qualify for subsidies in Minnesota's health insurance marketplace. The plan they found had a \$450 premium each month and an annual deductible of \$7,600.

"At first, he didn't realize what a deductible was," Smith-Holt says. She says Alec figured he could pick up a part-time job to help cover the \$450 per month.

Then Smith-Holt explained it.



SHOTS - HEALTH NEWS

You Can Buy Insulin Without A Prescription, But Should You?

"You have to pay the \$7,600 out of pocket before your insurance is even going to kick in," she remembers telling him. Alec decided going uninsured would be more manageable. Although there might have been cheaper alternatives for his insulin supply that Alec could have worked out with his doctor, he never made it that far.

He died less than one month after going off of his mother's insurance. His family thinks he was rationing his insulin — using less than he needed — to try to make it last until he could afford to buy more. He died alone in his apartment three days before payday. The insulin pen he used to give himself shots was empty.



The price of insulin in the U.S. from leading manufacturers has more than doubled since 2012. That's put the life-saving hormone out of reach for some people like Smith-Holt's son Alec.

Bram Sable-Smith for NPR

"It's just not even enough time to really test whether [going without insurance] was working or not," Smith-Holt says.

A miracle discovery

Insulin is an unlikely symbol of America's problem with rising prescription costs.

Before the early 1920s, Type 1 diabetes was a death sentence for patients. Then, researchers at the University of Toronto — notably Frederick Banting, Charles Best and J.J.R. Macleod — discovered a method of extracting and purifying insulin that

could be used to treat the condition. Banting and Macleod were awarded a Nobel Prize for the discovery in 1923.

For patients, it was nothing short of a miracle. The patent for the discovery was sold to the University of Toronto for only \$1 so that live-saving insulin would be available to everyone who needed it.

Today, however, the list price for a single vial of insulin is more than \$250. Most patients use two to four vials per month (I personally use two). Without insurance or other forms of medical assistance, those prices can get out of hand quickly, as they did for Alec.

Depending on whom you ask, you'll get a different response for why insulin prices have risen so high. Some blame middlemen — such as pharmacy benefit managers, like Express Scripts and CVS Health — for negotiating lower prices with pharmaceutical companies without passing savings on to customers. Others say patents on incremental changes to insulin have kept cheaper generic versions out of the market.



SHOTS - HEALTH NEWS

Why Is Insulin So Expensive In The U.S.?

For Nicole Holt-Smith, as well as a growing number of online activists who tweet under the hashtag #insulin4all, much of the blame should fall on the three main manufacturers of insulin today: Sanofi of France, Novo Nordisk of Denmark and Eli Lilly and Co. in the U.S.

The three companies are being sued in the U.S. federal court by diabetic patients in Massachusetts who allege the prices are rising at the expense of patients' health.

The Eli Lilly did not make anyone available for an interview for this story. But a company spokesman noted in an email that high-deductible health insurance plans — like the one Alec found — are exposing more patients to higher prices. In August, Eli

Lilly opened a help line that patients can call for assistance in finding discounted or even free insulin.

A dangerous solution

Rationing insulin, as Nicole Smith-Holt's son Alec did, is a dangerous solution. Still, 1 in 4 people with diabetes admits to having done it. I've done it. Actually, there's a lot of Alec's story that feels familiar to me.

We were both born and raised in the Midwest, just two states apart. We were both diagnosed at age 23 — pretty old to develop a condition that used to be called "juvenile diabetes." I even used to use the same sort of insulin pens that Alec was using when he died. They're more expensive, but they make management a lot easier.

"My story is not so different from what I hear from other families," Smith-Holt recently told a panel of U.S. Senate Democrats in Washington D.C., in a hearing on the high price of prescription drugs.

"Young adults are dropping out of college," she told the lawmakers. "They're getting married just to have insurance or not getting married to the love of their lives because they'll lose their state-funded insurance."

I can relate to that, too. My fiancé moved to a different state recently, and soon I'll be joining her. I'll be freelancing and won't have health benefits, though she will via her job. We're getting married — one year before our actual wedding — so I can get insured, too.

This story is part of NPR's reporting partnership with Side Effects Public Media and Kaiser Health News. A version of this story appears in The Workaround podcast.

prescription drug insulin type 1 diabetes drug prices' diabetes

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YOUR HEALTH

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Kidney Disease (Nephropathy)

Kidneys are remarkable organs. Inside them are millions of tiny blood vessels that act as filters. Their job is to remove waste products from the blood.

Sometimes this filtering system breaks down. Diabetes can damage the kidneys and cause them to fail. Failing kidneys lose their ability to filter out waste products, resulting in kidney disease.

How Does Diabetes Cause Kidney Disease?

When our bodies digest the protein we eat, the process creates waste products. In the kidneys, millions of tiny blood vessels (capillaries) with even tinier holes in them act as filters. As blood flows through the blood vessels, small molecules such as waste products squeeze through the holes. These waste products become part of the urine. Useful substances, such as protein and red blood cells, are too big to pass through the holes in the filter and stay in the blood.

Diabetes can damage this system. High levels of blood glucose make the kidneys filter too much blood. All this extra work is hard on the filters. After many years, they start to leak and useful protein is lost in the urine. Having small amounts of protein in the urine is called microalbuminuria.

When kidney disease is diagnosed early, during microalbuminuria, several treatments may keep kidney disease from getting worse. Having larger amounts of protein in the urine is called macroalbuminuria. When kidney disease is caught later during macroalbuminuria, end-stage renal disease, or ESRD, usually follows.

In time, the stress of overwork causes the kidneys to lose their filtering ability. Waste products then start to build up in the blood. Finally, the kidneys fail. This failure, ESRD, is very serious. A person with ESRD needs to have a kidney transplant or to have the blood filtered by machine (dialysis).

Who Gets Kidney Disease?

Not everyone with diabetes develops kidney disease. Factors that can influence kidney disease development include genetics, blood glucose control, and blood pressure.

The better a person keeps diabetes and blood pressure under control, the lower the chance of getting kidney disease.

What are the Symptoms?

The kidneys work hard to make up for the failing capillaries so kidney disease produces no symptoms until almost all function is gone. Also, the symptoms of kidney disease are not specific. The first symptom of kidney disease is often fluid buildup. Other symptoms of kidney disease include loss of sleep, poor appetite, upset stomach, weakness, and difficulty concentrating.

It is vital to see a doctor regularly. The doctor can check blood pressure, urine (for protein), blood (for waste products), and organs for other complications of diabetes.

How Can I Prevent It?

Diabetic kidney disease can be prevented by keeping blood glucose in your target range. Research has shown that tight blood glucose control reduces the risk of microalbuminuria by one third. In people who already had microalbuminuria, the risk of progressing to macroalbuminuria was cut in half. Other studies have suggested that tight control can reverse microalbuminuria.

Treatments for Kidney Disease

Self-care

Important treatments for kidney disease are tight control of blood glucose and blood pressure. Blood pressure has a dramatic effect on the rate at which the disease progresses. Even a mild rise in blood pressure can quickly make kidney disease worsen. Four ways to lower your blood pressure are losing weight, eating less salt, avoiding alcohol and tobacco, and getting regular exercise.

Drugs

When these methods fail, certain medicines may be able to lower blood pressure. There are several kinds of blood pressure drugs, however, not all are equally good for people with diabetes. Some raise blood glucose levels or mask some of the symptoms of low blood glucose. Doctors usually prefer people with diabetes to take blood pressure drugs called ACE inhibitors.

ACE inhibitors are recommended for most people with diabetes, high blood pressure and kidney disease. Recent studies suggest that ACE inhibitors, which include captopril and enalapril, slow kidney disease in addition to lowering blood pressure. In fact, these drugs are helpful even in people who do not have high blood pressure.

Diet

Another treatment some doctors use with macroalbuminuria is a low-protein diet. Protein seems to increase how hard the kidneys must work. A low-protein diet can decrease protein loss in the

urine and increase protein levels in the blood. Never start a low-protein diet without talking to your health care team.

Kidney Failure

Once kidneys fail, dialysis is necessary. The person must choose whether to continue with dialysis or to get a kidney transplant. This choice should be made as a team effort. The team should include the doctor and diabetes educator, a nephrologist (kidney doctor), a kidney transplant surgeon, a social worker, and a psychologist.

Read more about dialysis and transplantation (<http://www.diabetes.org/living-with-diabetes/treatment-and-care/transplantation/>).

Last Reviewed: August 21, 2013

Last Edited: February 9, 2017



Articles from *Diabetes Forecast*® magazine: (<http://www.diabetesforecast.org>)

(<http://www.diabetes.org/in-my-community/become-a-member/?loc=articles>)
Your Kidneys and Your Health (<http://www.diabetesforecast.org/2018/03-may-jun/your-kidneys-and-your-health.html?loc=morefrom>)

Cranberrys Help Cut UTI Risk (<http://www.diabetesforecast.org/2018/02-mar-apr/cranberrys-help-cut-uti-risk.html?loc=morefrom>)

Belly Fat Raises Your Risk of Diabetic Kidney Disease
(<http://www.diabetesforecast.org/diabetes-discovery/pi/belly-fat-raises-your-risk-of-diabetic-kidney-disease.html?loc=morefrom>)

Jardiance May Slow Kidney Disease Development
(<http://www.diabetesforecast.org/2016/sep-oct/kidney-care.html?loc=morefrom>)

Protect Your Kidneys (<http://www.diabetesforecast.org/2016/mar-apr/renal-rules.html?loc=morefrom>)

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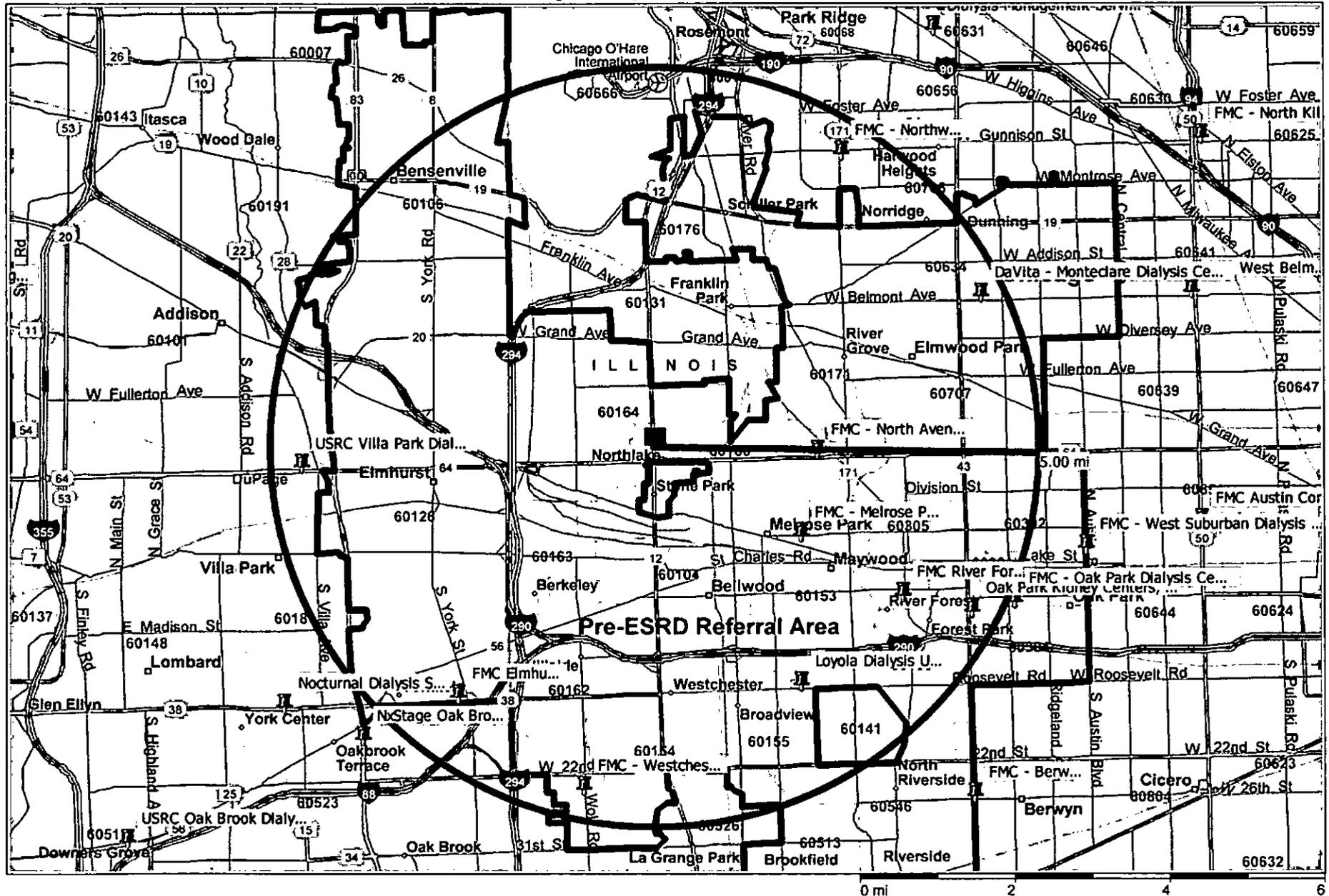
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Exhibit D

Melrose Village Dialysis 17-029 5 mile radius



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