# Community Houses to Increase Access to Home Dialysis

<table>
<thead>
<tr>
<th>Journal:</th>
<th>Clinical Journal of the American Society of Nephrology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuscript ID</td>
<td>CJASN-0909-08-22.R1</td>
</tr>
<tr>
<td>Manuscript Type:</td>
<td>Invited Features</td>
</tr>
<tr>
<td>Date Submitted by the Author:</td>
<td>19-Sep-2022</td>
</tr>
<tr>
<td>Complete List of Authors:</td>
<td>Walker, Rachael; Eastern Institute of Technology Palmer, Suetonia; University of Otago, Medicine</td>
</tr>
<tr>
<td>Keywords:</td>
<td>hemodialysis, chronic kidney failure, dialysis, end stage kidney disease, Home Dialysis</td>
</tr>
</tbody>
</table>

Clinical Journal of the American Society of Nephrology
Authors: Walker, Rachael; Palmer, Suetonia

Title: Community Houses to Increase Access to Home Dialysis

Running head: Community House Dialysis

Manuscript Type: Invited Features

Manuscript Category: Perspectives CUST_CHOOSE_A_MS_CATEGORY_FOR_UNSOLICITEDFEATURES

Funders: FUNDREF :No data available.

Financial Disclosure: CUST_FINANCIAL_DISCLOSURE_-_FEATURES :No data available.

R. Walker reports consultancy agreements with and honoraria from Baxter Healthcare Ltd.

The remaining author has nothing to disclose.

Total number of words: 1409

Abstract: DOCUMENT_ABSTRACT :No data available.
Community Houses to Increase Access to Home Dialysis

Rachael Walker, Eastern Institute of Technology
rwalker@eit.ac.nz

Suetonia Palmer, University of Otago, Medicine

The COVID-19 pandemic has highlighted many of the benefits of home dialysis in reducing the already constrained health care system and reducing the impact on people on dialysis, who are at higher risk of developing severe COVID-19. Home dialysis also offers several advantages to patients and families, particularly regarding access to home-based treatment and extended-hour dialysis. For the health care system, home dialysis is more cost effective, and may be more resilient as it is not so reliant on a small, specifically trained workforce. Despite the many advantages of home dialysis, it must be also acknowledged that there are numerous barriers to the uptake and maintenance of home dialysis. Lack of peer support and confidence, the ability to maintain employment, the cost of home dialysis and not medicalizing the home are key factors that determine if a patient dialyzes at home or center-based. Home dialysis utilization is often also lower among Indigenous Peoples, minoritized patients, socio-economically disadvantaged groups and those who live remotely from dialysis centres.

In New Zealand, a country with relatively high rates of home dialysis, the first community hemodialysis houses were set up in 2004 to support patients from both urban and remote areas where substandard housing, or lack of space and utilities were barriers to home hemodialysis. Community house hemodialysis is considered a sub-modality of home hemodialysis and enables patients to dialyze independent of nursing or medical supervision in a shared house within their local community. Community hemodialysis houses are run in partnership between the local kidney society (patient-based support organisation) and health services providers. The kidney society owns the house (primarily funded by charitable donations) and the dialysis service (government funded) provider installs and maintains the machines as they would in a “normal” home setting. The kidney society also provides the non-medical supplies through charitable donations, providing furniture, chattels, kitchen equipment etc.

In a 2013 study exploring utilization of the New Zealand community hemodialysis houses over a 10 year period, a total of 113 patients utilized the community houses. Most patients lived in urban centers and had socioeconomic disadvantage. They tended to be younger, of Māori (Indigenous New Zealand) or Pacific Island ethnic origin, and were less likely to have diabetes. Adjusted mortality risk in this group was similar to a contemporary home hemodialysis cohort of more than 1,500 New Zealand patients. An early study of quality of life in a cohort of community house patients showed similar quality of life scores to patients dialyzing within their own homes.

Patients who use community house hemodialysis are trained to “go home” and be completely independent with their treatment. The community houses are not staffed, and
patients who utilize the houses are completely independent with their treatments. The community houses are located within the “community” and a key feature of the utilization of the houses is that this environment is non-medicalized and independent to other health facilities. When previously in New Zealand this same concept of patients dialyzing independently within a room of a Family Practitioner practice was offered, demand was low, and the facility was closed. Ensuring there is patient demand for the community houses is therefore critical to their success. Patients are allocated their own designated hemodialysis machine in the houses, although some machines are shared between two patients, who then share their schedules. Some rooms within the houses have multiple machines, which enables patients to maintain social contact and peer support by scheduling dialysis treatments with a “buddy” or enabling spontaneous social interactions and support while on dialysis. This has been found to be valuable particularly by patients who are new to home hemodialysis and this peer psychological support may also help to reduce the feelings of isolation and loneliness often reported by those who dialyze within their own homes. Although at this stage not formalized within the community house setting, formal training of patient-to-patient peer mentoring is encouraged to ensure safety of all parties. There are also potential disadvantages to this model in respect to patient safety and infection control. Policies and procedures have been implemented to minimize risks including, individual access cards to enter the houses and individual rooms, support staff to complete additional cleaning, security and an alarm system for patients.

Patients generally have their scheduled dialysis days and times to do dialysis, although they can independently change their schedule as needed to suit by mutual arrangement with other patients. The houses are maintained by the patients and the patient support group and are designed to feel like home with televisions and heating in each room, and kitchen facilities that are accessible to patients, families, and visitors. Safety and liability issues are treated the same in community houses as they are for those dialyzing independently in their own homes, as community home dialysis is simply home HD in a shared domicile. Patients are trained in the same way, with clear expectations about their use of the community houses. The only additional safety measures are that local ambulance officers are aware of how to access the houses.

Although the houses were originally intended to remove the barrier of not having an appropriate home space or utilities that allowed for home dialysis, such as adequate storage, water supply or waste water, they also remove additional barriers to home such as reducing out-of-pocket costs to the patient including costs of water and heating while dialyzing and alleviate patients concerns about the impact of dialysis on other family members in their family home, including concerns of having needles in the house or medicalizing the home.

Of special note, the community dialysis houses also provide several further advantages to those who utilise them that were not originally anticipated. In a qualitative study we conducted, most community house users were completing over 20 hours dialysis each week, and for most patients this was also possible while maintaining full or part-time employment. The extended hours were initiated by the patients themselves supported by
the stories of other patients who spoke openly with them within the houses about their personal experiences of improved well-being and quality of life with extended hours. Patients described the houses as a safe and comfortable environment to enable longer hours, including nocturnal dialysis. Community houses also provided a reduced burden on family, and patient and family flexibility, and freedom, directly encouraging self-management, sense of community, and peer support. We believe these factors promote community house dialysis in preference to in-center hemodialysis.

Despite the many patient advantages of community house dialysis, to date there are only four community houses operating in New Zealand. As yet, cost effectiveness analysis has not been conducted for this model of care. From a societal perspective, patient satisfaction and the ability to maintain paid employment are key patient drivers. Barriers to further expansion appear to be the ability of charitable groups to purchase houses in different locations, or nephrology services to create policies to promote this model of care.

Considering that peritoneal dialysis (PD) is a dominant home therapy globally, it may also be worthwhile exploring community hubs or houses for PD, where patients have adequate space, storage, peer support and can create a safe space to dialyze independently outside of the hospital setting. Although this may be more challenging given the nature of PD treatment, for patients and families in urban settings, houses purposively located for patient demand may also assist to promote and support PD.

Community house hemodialysis is an important model of care for health services that aims to promote the use and accessibility of home dialysis, and may provide an alternative option for many. Although the uptake of community houses may not suit all, based on the New Zealand experience, it may provide a superior option in respect to extended hour dialysis for more disadvantaged groups and is worth exploring in these communities. Although no formal cost-effective analysis on this model of care has been completed, in a time of international health staff crises increasing home dialysis options needs exploring. In countries with resource constraints, high health care salaries, and patient barriers to home dialysis such as unsuitable housing, we believe community dialysis houses offer an alternative that is likely to be at least cost neutral, and more appealing to patients. Community house hemodialysis overcomes many established barriers to home dialysis and as well as additional advantages (Figure 1). Encouraging community dialysis house options may also support extended-hour hemodialysis and support community-based dialysis care to younger patients or those awaiting transplantation.

Disclosures

R. Walker reports consultancy agreements with and honoraria from Baxter Healthcare Ltd.

The remaining author has nothing to disclose.

Funding
Acknowledgments

The content of this article reflects the personal experience and views of the author(s) and should not be considered medical advice or recommendation. The content does not reflect the views or opinions of the American Society of Nephrology (ASN) or CJASN. Responsibility for the information and views expressed herein lies entirely with the author(s).

Author Contributions

Suetonia Palmer: Writing – review & editing

Rachael Walker: Conceptualization, Writing – original draft

References:


Figure Legend

Figure 1. Compares the established barriers of home hemodialysis and how community house hemodialysis addresses these.