APPENDIX C

Final Evaluation Report
CHATS TRRSS
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Executive Summary

An impact evaluation was conducted of Tenancy Risk Reduction for Seniors (TRRS), a 6-month program offered by Community & Home Assistance to Seniors that provides client focused care for vulnerable seniors with hoarding behaviours. The agency had two overarching research questions:

1) Does building community capacity to identify and support vulnerable seniors keep seniors in their homes longer?
2) What aspects of a multi-pronged approach are most effective in improving the health and well-being of seniors identified as having problematic hoarding behaviours?

A Theory of Change (TOC) process was used to identify how the program was expected to impact outcomes. As a result of the TOC stakeholder meetings eight key evaluation questions emerged.

Did TRRS:

1) Increase awareness and knowledge of hoarding among the broader community
2) Increase referrals for seniors at risk
3) Create more positive attitudes among those who work with seniors with hoarding behaviours
4) Increase the availability of services for seniors with hoarding behaviours

And did these changes result in:

5) Decreased clutter among seniors
6) Safer homes for seniors with hoarding behaviours
7) Greater housing retention among seniors with hoarding behaviours
8) Overall improved health, well-being and quality of life among seniors with hoarding behaviours

Data were obtained from case notes of clients in the program (n = 36); surveys conducted with staff members and managers of partner (n = 58) and community agencies (n = 29), surveys with participants in training sessions (n = 53); a "show of hands" survey at information sessions (n = 42); qualitative interviews with managers (n = 6) and clients (n = 6); and a focus group with staff (n = 7).

Community Knowledge

Surveys sent to community agencies at the beginning and end of the intervention showed that community agency members had basic knowledge about hoarding and could correctly answer basic questions about hoarding behaviours. The majority had received some training in hoarding issues, but most reported low levels of confidence in working with these clients. All felt that they needed more resources and information. The most needed were lists of agencies and services for referral and accessible information (either on-line or printed). Both staff and clients who

participated in qualitative interviews or focus groups reported that awareness of hoarding in the broader community was low. A simple show of hands at information workshops showed very little knowledge of where to refer clients with hoarding behaviours, or confidence in working with this client group. Among those who received training offered by the program, however, knowledge about hoarding behaviours was significantly improved, as was confidence in working with clients with this behaviour.

Staff Attitudes

Staff from partner agencies were surveyed at the beginning and end of the 18 month initiative. Staff reported marginally more knowledge of where to find resources, feeling their work with these clients was marginally more rewarding, and reporting marginally less need for more information. Qualitative data suggested that the program was associated with improved communication and referral processes, and that staff benefited from being able to share knowledge and information

Client Referrals and Outcomes

Referrals, Clutter and Tenancy

The program received 10 to 14 referrals every quarter (3 months) and this remained largely constant across the program. A total of 103 clients were referred to the program, of whom 63 were eligible to participate. Of these, 39 completed the program and 36 completed the assessment tools. Clients improved on every measure of clutter and home safety but there were no changes in tenancy risk, since no clients who completed the program had a tenancy risk score greater than 0 at either intake or exit. Those who withdrew from the program (38%) did not differ from those who completed on any measure of clutter or health or well-being except for having marginally more tenancy risk.

A control program in another region that was providing comparable services to clients with hoarding and/or squalor had 78 clients across the same time period of whom 15 were senior clients (55 years or older) with hoarding behaviours. This agency received 1 to 4 referrals across the 5 quarters, which was a constant rate. Seven of their 15 clientele had received eviction notices and 12 were currently at risk of eviction.

TRRS program partners referred out to a number of other programs, with clients receiving an average of 3.6 referrals. Seniors programs and support workers represented the most frequent referrals. The number of referrals for the clients in the control program ranged from 1 to 2, which was significantly lower than for clients in the TRRS program.

Health and Well-being

Results for the TRRS also showed significantly improved quality of life (WHOQOL-BREF), decreased functional interference, and marginally decreased emergency room visits from intake to exit assessments. Decreases in clutter were generally

associated with improved quality of life and decreased functional interference across most measures.

In qualitative interviews, clients identified clear benefits of reduced clutter in terms of the quality of their lives, but also the benefits of gaining insight into their hoarding behaviour, and of reduced social isolation. Both staff and clients identified the importance of having a range of services for diverse client needs, with mental health services being particularly important.

Conclusions

Tenancy risk was assessed as low for TRRS clients, despite their hoarding behaviours and despite the much higher rates in the control program. It is possible that this reflects knowledge of the program at the outset and increased referral. For staff, training activities increased awareness and knowledge, and the partnership model was seen as successful and beneficial by staff and management in the agencies. However, knowledge in the community could still improve, and confidence is often low even after training.

The program was successful in reducing clutter, which improved health and well-being among the clients. Having access to a range of programs to meet client needs, especially mental health, and time to build successful relationships were identified as key aspects of program success.

Future work should explore extending and supporting ongoing training and information sharing to community and service agencies, including supporting clear referral pathways for dealing with this complex issue.

Recommendations:

1) Continue developing and offering training and information regarding hoarding behaviours to service agencies
2) Track access to and use of information and long term impact of these initiatives
3) Explore ways of creating opportunities for staff to connect directly to one another to share strategies and resources, for example with a Community of Practice.
4) Help expand referral agreements and models of partnership to other agencies and regions
5) Provide information about hoarding to the general public
6) Find additional ways of providing social connections for isolated seniors
7) Explore ways of increasing the length of the program
8) Support access to additional specialized mental health services to this client group

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Final Evaluation of Tenancy Risk Reduction for Seniors

Community & Home Assistance to Seniors (CHATS) launched its Tenancy Risk Reduction for Seniors (TRRS) program in the spring of 2016. The goal of TRRS is to improve the health and well-being of seniors who are at risk of losing their housing due to hoarding behaviours. TRRS proposes to keep them in their own homes longer, and improve the safety of their homes. The program is intended to achieve these goals by reducing the clutter in these seniors' homes. TRRS provides wrap around services for vulnerable seniors through two strategies: 1) building knowledge and networks in York Region to support referral, counseling and support for seniors with hoarding behaviours through training and increased awareness for front-line service providers, and 2) increased connections between service providers who serve those with hoarding behaviours and those who may encounter individuals in need of referral.

CHATS enlisted the Program Evaluation Unit of the York University to conduct a Theory of Change impact evaluation of the TRRS program and answer the following overarching research questions:

1) Does building community capacity to identify and support vulnerable seniors keep seniors in their homes longer?
2) What aspects of a multi-pronged approach are most effective in improving the health and well-being of seniors identified as having problematic hoarding behaviours?

A series of Theory of Change planning sessions refined the key evaluation questions (Taplin & Clark, 2012). The model from the Theory of Change is in the Appendix. The key questions were whether the activities of the TRRS:

1) Increased awareness and knowledge of hoarding among the broader community
2) Increased referrals for seniors at risk
3) Created more positive attitudes among those who work with seniors with hoarding behaviours
4) Increased the availability of services for seniors with hoarding behaviours

And whether these changes in service referral, availability and provision then led to:

5) Decreased clutter among seniors
6) Safer homes for seniors with hoarding behaviours
7) Greater housing retention among seniors with hoarding behaviours
8) Overall improved health, well-being and quality of life among seniors with hoarding behaviours

Methods

The evaluation utilized a combination of surveys, focus groups and interviews. Information about the data sources is provided in Table 1.

Table 1: Data sources

Source	N	Date	Procedure
Attitude Surveys, Community Members of broader community service agencies	Time 1: N = 19 Time 2: N = 9	August 2016 December 2017	An e-mail was sent to a list compiled by CHATS. The e-mail provided a description of the study and with a link to the on-line survey
Attitude Surveys, Staff Service providers delivering services to those with hoarding behaviours	Time 1: n = 30 Time 2: n = 19	August 2016 December 2017	An e-mail was sent to a list compiled by CHATS. The e-mail provided a description of the study and with a link to the on-line survey
Focus Group, Staff Service providers delivering services to those with hoarding behaviours	N = 7	October-November 2016	Following an e-mail introduction with contact information, a female researcher contacted interested staff and arranged to conduct the focus group on another organization's premises
Interviews, Management Agencies delivering services to those with hoarding behaviours	N = 6	October-November 2016	Following an e-mail introduction with contact information, a female researcher contacted interested staff and interviewed them individually by phone
Interviews, Clients Seniors who have received treatment for hoarding behaviours	N = 6	October 2016	Following an e-mail/phone introduction, those who expressed interest to staff were brought to the centre and interviewed in person
Training Surveys Members of broader community service agencies	N = 53	Ongoing, 2016-2017	Surveys were distributed at the beginning of the training sessions, and also made available on-line for those participating in the web-based section of the training. No internet surveys were collected. The paper surveys were completed before and

			after training and collected by the trainers/staff
Show of Hands Survey Participants from broader community attending information workshops	N = 42	April 2017	Prior to beginning information workshops, participants were asked to answer two questions by a show of hands.
Case Notes Service records for clients at partner agencies	N = 63 (eligible) N = 39/36 (completed program /evaluations)	Ongoing 2016-2017; Reviewed November-December 2017	Detailed notes were kept during the program and shared on completion of the program. The evaluation relied on existing measures of tenancy, health and well-being but we added a modified version of the WHOQOL-BREF to capture well-being.
Control Case Notes Service records of comparison agency/community	N = 76	Ongoing 2016-2017; Reviewed December 2017	Notes from the comparable program that provides extreme cleaning are summarized and reported quarterly. These were shared with the program to serve as control group for the time period covered by the initiative

Client Data

A total of 103 cases were referred to the program during the first 14 months of the project, of whom 63 were eligible to participate. Of these, 24 withdrew from the program before the end, leaving a total sample of 39 who completed the intervention (62%), 36 of whom completed both pre and post measures. Gender and age were not provided as part of the evaluation data.

At intake (pre), those who completed and those who did not were compared on all measures using independent groups t-tests. There were no significant differences on any measure except a marginal difference on Tenancy Risk. Clients who did not complete the program had a marginally higher score on Tenancy Risk (M = .17) than those who did (M = 0)[1]. Thus, it is possible that those participants who were not willing to complete were at greater risk of tenancy loss.

Control Agency Data

Data were provided by one of the partner organizations at their Durham site. Data were obtained for those clients who had been identified as being at risk of losing their homes, and who were assess from April 2016 until December 2017. Over the course of this time there were a total of 78 clients assessed, of whom 76 were determined to be dealing with squalor and 24 (30.8%) with hoarding behaviours.

[1] t (57) = 1.82, p = .07

Curiously, in the first quarter reported, almost half of the clients were diagnosed with hoarding (7 out of 16, 78%); in subsequent quarters the proportion was much lower (16% to 44%).

Over half (n= 44, 56%) were women, and 45 were over the age of 55 (58%). More than half of those with hoarding were 55 or older (n = 15, 62.5%); a similar age distribution was found for those without hoarding behaviours (n = 29, 55.7%). The 15 clients 55 and older with hoarding were deemed to be the control group.

Analyses

Frequencies, means and standard deviations are reported, as appropriate. Given the small sample sizes, quantitative data were analyzed in SPSS using simple statistics (t-tests, Z tests for proportions, chi-square tests, McNemar tests, and correlations). Qualitative data were transcribed verbatim and underwent thematic analysis using NVivo. A detailed report on the qualitative data is provided in Appendix B.

Results

Did TRRS increase awareness and knowledge of hoarding among the broader community?

The impact of TRRS activities on community knowledge was assessed in three ways. One was through qualitative data obtained through interviews and focus groups with staff and management of service agencies. The second was through community surveys assessing knowledge of community agencies. The third was through the impact of training and awareness activities undertaken through the program on general knowledge and awareness.

Qualitative Data

In the qualitative interviews and focus groups, concerns were raised about the lack of awareness of hoarding in the broader community and a lack of knowledge about best practices within the community of practitioners. There seemed to be a lack of awareness about hoarding and hoarding services, at every level. Not only did respondents report that the general public and the service sector lacked sufficient knowledge, but both clients and staff also reported personally wanting more information.

Respondents spoke to the importance of marketing in creating awareness on hoarding and for potential clients to be aware of programming. One strategy that was suggested just for staff is a task force or a forum, but it seems that a broader communication strategy is required. Other successful strategies suggested were websites, fact sheets, community presentations or a Community of Practice. Staff needs also included additional support and resources for their clients, training or forums to share best practices and to evaluate their expectations and compare with client needs. Managers required additional information on the impact of the intervention. They believed that this would support them in creating awareness of hoarding behaviour, as well as mobilize funding that is specific to the needs of their clients and staff.

Community Surveys

Surveys were sent out to 76 members of agencies in the CHATS catchment area at two time points: August, 2016 and December, 2017. A total of 19 responded at Time 1. Time 2 yielded only 10 responses, 3 of whom had answered the previous survey. At Time 1, most respondents were in the health sector (see Table 2). At Time 2, most were in either seniors services or emergency services; participants could check more than one answer so responses add up to more than 100%.

Table 2: Respondent profiles for community surveys, Time 1 and 2

Sector	Time 1 (n = 19)	Time 2 (n = 10)
Health services	62.5%	25.0%
Seniors' services	37.5%	50.0%
Emergency services	12.6%	50.0%
Social services	6.3%	12.5%

At Time 1, approximately half had not received any training regarding hoarding behavior and of those who had, they had taken a course or received training more than a year ago (see Figure 1). Of those responding at Time 2, almost all had received previous training, 37.5% in the previous 12 months.

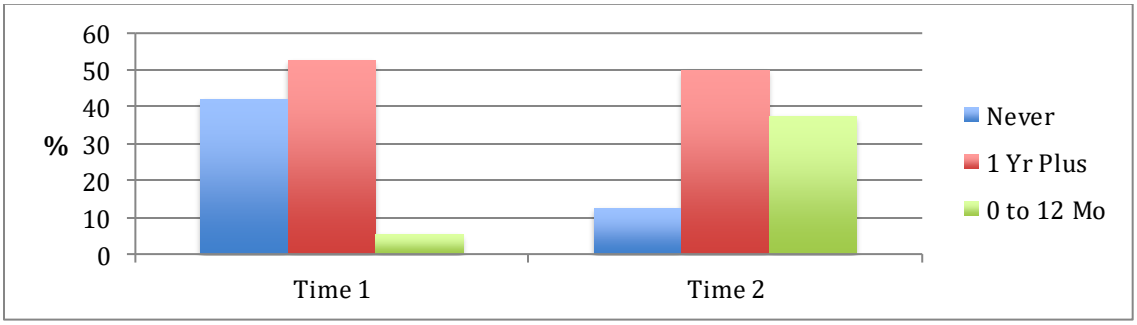

Figure 1: Percent community respondents having received training regarding hoarding behaviours

At both times the majority of the participants were able to answer questions about hoarding behaviour correctly making comparisons unhelpful. Nonetheless, at Time 1, 47.4% not being at all or only slightly comfortable in knowing how to respond if encountering a client with hoarding behaviours. At Time 2, despite the majority having received training, 50% reported not being comfortable in dealing with a client with hoarding behavior (see Figure 2).

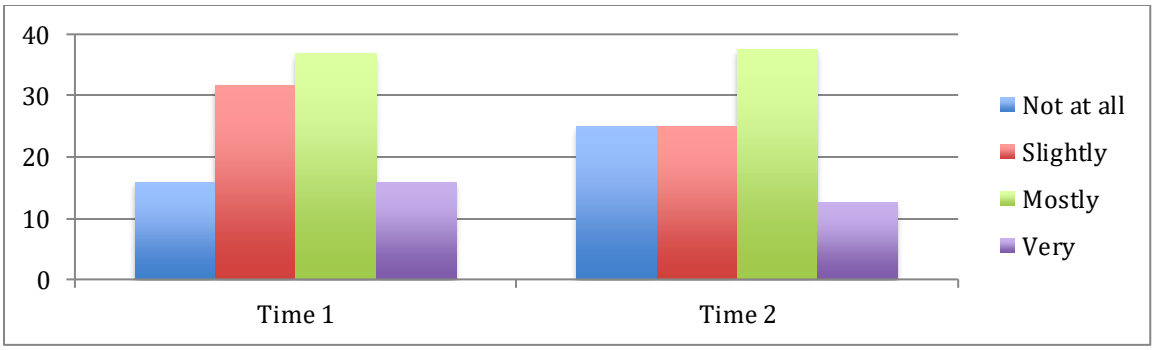

Figure 2: Self-reported comfort in responding to a client with hoarding behaviours

All participants at Time 1 were interested in obtaining more resources dealing with clients with hoarding behaviours, with 100% wanting a list of agencies and services for referrals. Preferences for mode of information are in Table 3. Training and on-line information were the most popular options; no respondent felt that they had all the resources they needed.

Table 3: Percent preferring different types of resources and supports for working with clients with hoarding behaviours

Type of resources	Time 1 (%)	Time 2 (%)
List of agencies and services for referrals	100	85.7
Face to face training	63.2	28.6
Information on-line	63.2	57.1
Printed information materials	57.9	57.1
Additional staff	36.8	14.3
Nothing, I have all I need	0	0
Other	21.1	14.3

Suggestions for additional resources in the "other" category included access to professionals who could work with the individuals, collaborative staff meetings, and funding to pay for services. TRRS developed a communication strategy that includes a new website but at this time the website does not have metrics on it to allow for assessment of traffic or downloads.

Community Knowledge: Show of Hands Data

CHATS conducted a number of training and awareness activities. In many cases, they provided a simple information workshop. For two of these (April 25, 2017, and April 26, 2017), the presenters began the session by asking for a show of hands to the two questions presented in Table 5, below. Additional partners were also instructed to collect information about knowledge of audiences when giving information sessions but unfortunately no other data were reported. While these data do not indicate whether the information workshops were successful in increasing knowledge, they do suggest a strong need for knowledge regarding hoarding in the community, with almost no respondents feeling confident about

supporting clients with hoarding behaviours or knowing where to go for resources (see Table 4).

Table 4: Number of workshop participants raising their hands to questions regarding knowledge of hoarding

	April 25 (n = 22)	April 26 (n = 20)
1) How many people feel confident supporting people with hoarding issues?	0	1
2) How many people can name two or more agencies they can go to for resources or referrals related to hoarding issues?	1	3

Training Surveys

For the impact of activities, pre and post surveys were collected for training activities conducted in November, 2016 and for March, 2017. For both of these sessions, participants could stay for a half-day or for the full day in order to get deeper knowledge. There were a total of 53 surveys collected. Pre and post questions included information regarding knowledge of symptoms, of agencies that provide services, and of their own competence and comfort in responding to clients with hoarding behaviours were assessed.

Participants had significantly more correct answers following the training sessions (M = 1.9, SD = 1.2), compared to their pre-training scores (M = 1.4, SD = 1.0)[2]. They also reported more confidence in their ability to provide treatment to clients with hoarding behaviours after the training (M = 3.0, SD = 0.6), relative to before (M = 2.1, SD = 0.8)[3]. However, there was no difference between pre and post scores in terms of the number of agencies that participants were able to name (pre: 1.8, post: 2.0)[4]. This may have been because they correctly identified the agencies offering the training as potential resources.

Recommendation 1: Continue developing and offering training and information regarding hoarding behaviours to service agencies.

Recommendation 2: Track access to and use of information and long term impact of these initiatives

Did CHATS increase referrals for seniors at risk

Case notes

The number of clients referred to TRRS in the first three months was slightly lower than in the months that followed and tapered off at the end but the frequencies were

[2] $t(50) = 4.62$, $p < .001$
[3] $t(47) = 8.65$, $p < .001$
[4] $t(52) = 1.4$, $p = .17$

not significantly different from quarter to quarter[5] (see Figure 3). Comparison data are also shown in Figure 3. These data are taken from the control program and are based on agency records for clients with housing concerns (squalor and/or hoarding) over the same months (n = 78). The comparison data include only those clients who are seniors (55 and over) who have hoarding behaviours (n = 15). The frequencies in the control program also did not differ from one across the five quarters.[6]

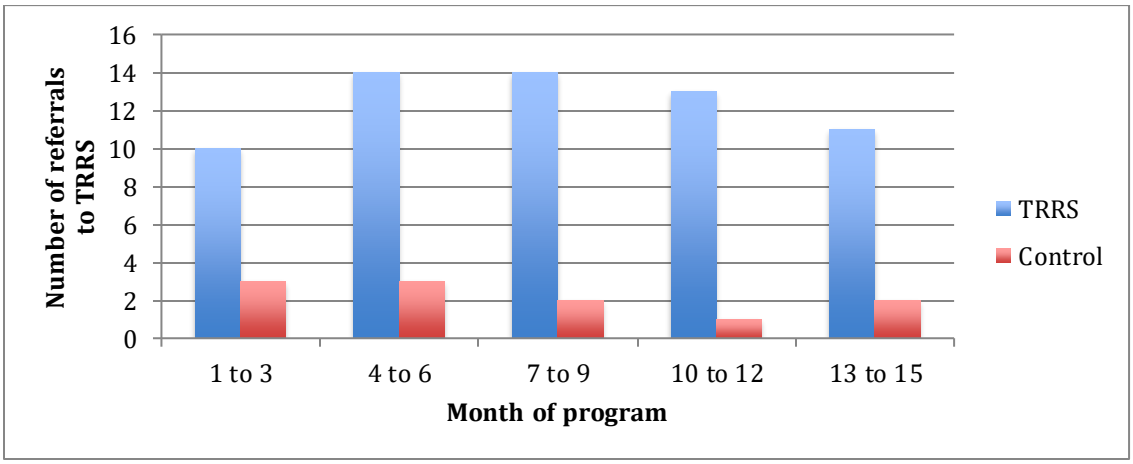

Figure 3: Number of referrals to TRRS and control program over the course of the project, in 3-month segments

Did CHATS create more positive attitudes among those who work with seniors with hoarding behaviours

Staff Survey

A survey was sent out to partner agency staff via e-mail, once in August 2016 and once in December, 2017. A total of 30 staff responded to the first survey, and 19 to the second. Of those, 10 (62.5%) had completed the Time 1 survey. The majority were in mental health services at both time points (see Table 5)

Table 5: Respondent profiles for staff surveys, Time 1 and 2

Sector	Time 1 (n = 30)	Time 2 (n = 19)
Mental health services	62%	71.4%
Health services	31%	21.4%
Social services	17%	21.4%
Other	3%	0%

Most staff at both time points reported that only a fraction of their clientele deal with hoarding behavior (see Figure 5).

[5] $\mathbf{X}^2(4) = 1.06$, ns

[6] $\mathbf{X}^2(4) = 1.27$, ns

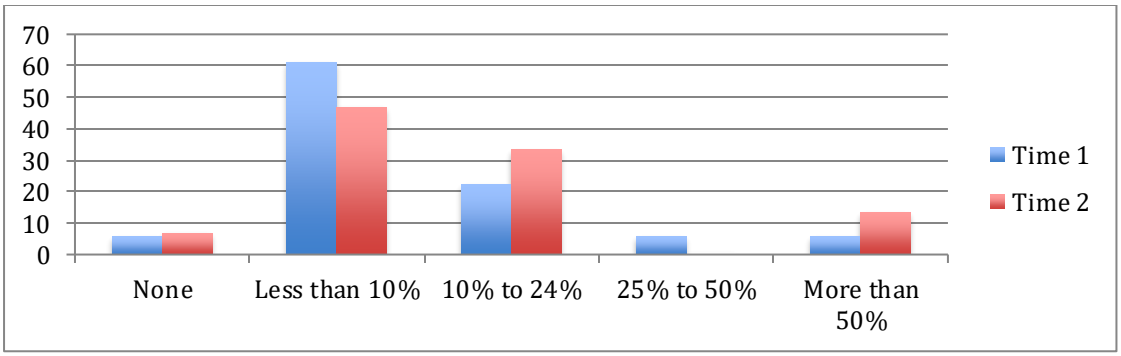

Figure 5: Percent of clientele with hoarding behaviours

Among those who worked with people with hoarding behaviours, many had worked with them for 6 months or less but almost as many had worked with them for 5 years or longer (see Figure 6).

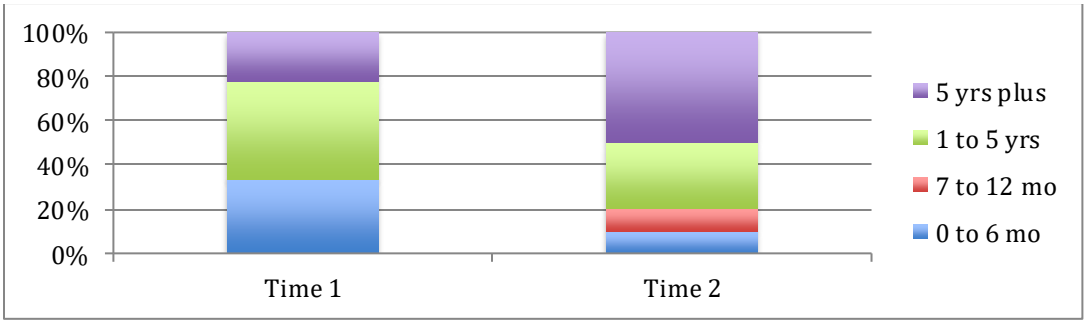

Figure 6: Length of time working with clients with hoarding behaviours, in percent

Staff generally felt that work with clients who had hoarding behaviours was challenging and time consuming (see Figure 7). Time 2 responses appeared to be more positive on all measures but independent sample t-tests showed only marginal differences in the mean ratings for wanting more information [7], knowing where to access information and resources[8], and finding working with these clients rewarding[9].

[7] t (39) = 1.89, p = .07
[8] t (39) = 1.76, p = .09
[9] t(38) = 1.74, p = .09

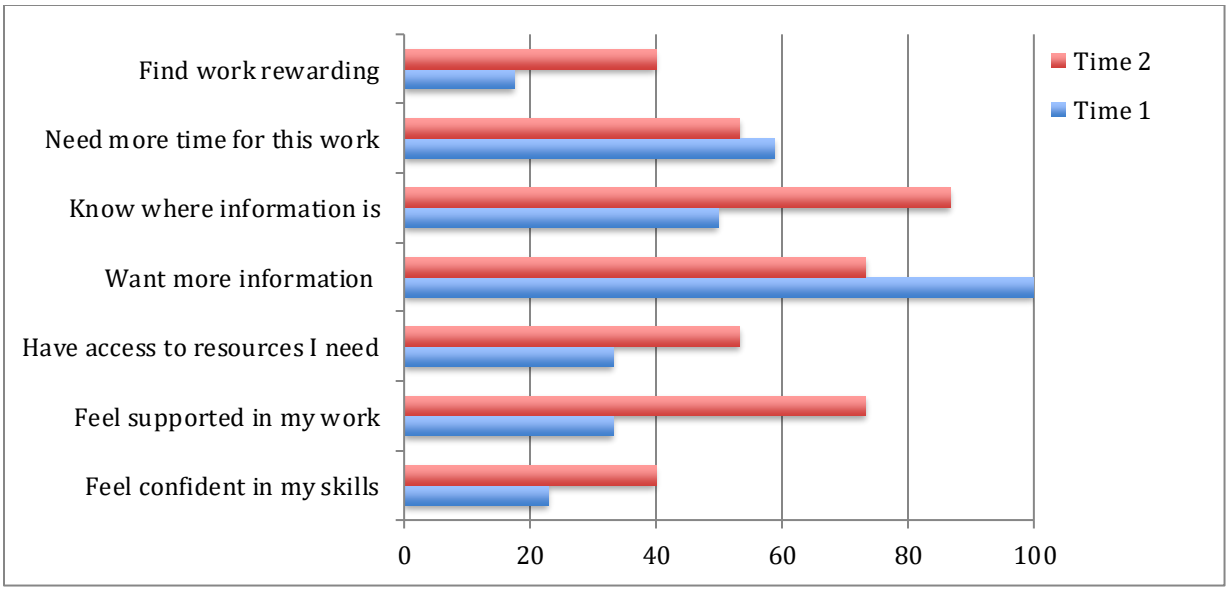

Figure 7: Percent staff agreement with statements about attitudes and knowledge

Qualitative data

Staff and management were very positive about the program in supporting their work. They noted the importance of training and of having access to a range of specialized services for complex clients. They found this program easy to work with:

> *I like the simplicity of this one. It seems to be enough, which is interesting.*

They also noted the benefits that come from being connected to other staff, which enabled them to support one another and learn from one another, as described by the staff member below:

> *Even what I'm hearing from people is that collegiality, alright so having the opportunity of having conversations with other frontline staff in doing this work and sharing some learners about what's working, what's not working, what are some interesting approaches that people have tried.*

Recommendation 3: Explore ways of creating opportunities for staff to connect directly to one another to share strategies and resources, for example with a Community of Practice.

Increased the availability of services for seniors with hoarding behaviours

Qualitative data

The partnerships between agencies that TRRS encouraged were seen as facilitating integration between services by supporting coordination of services, which improved program delivery. Communication, and sharing of resources and information, was essential in order to manage the complexity and intense specialized care required and the length of intervention needed. These partnerships were also facilitated through clear, formal agreements, which helped agency staff to

determine how to collaborate with staff from other agencies. These themes are shown below in Table 6.

Table 6: Examples of Themes from Staff and Management Focus Groups and Interviews

Themes	Example
Clear/formal processes:	*I think it's helpful because it's smaller, right and it's, it's, and I think what's been really good about the CHATS project is they got a really nice process in place for referrals and forms that have been developed that everyone developed together and everybody understands so, you know that collaboration, there's an ease, I think it's come from time though, has really helped so we have a better sense of, that we're on the same page.*
Commitment:	*We're all committed to resolving issues very quickly. Um we have very detailed um legal agreements with our partners and memorandums of understanding that were developed by legal council, um that help to ensure that everyone stays on track as well and we're certainly committed to those agreements.*
Communication:	*I think, I mean I can't underscore the important of just the day to day communication operationally and then at a management level as well.*

Recommendation 4: Help expand and raise awareness of referral agreements and models of partnership to other agencies and regions

Case notes

The program staff also documented referrals from TRRS to up to 8 different kinds of additional services. The total number of types of referrals per client ranged from 2 to 8, with a mean of 3.6 (*SD* = 1.7). For the control program, referrals were determined from case notes and ranged from 1 to 2 (M = 1.5, SD = .52), and were significantly fewer in number, $t(39) = 4.82$, $p < .001$.

Figure 4 below shows the most frequent types of referral, in terms of overall percentage of clients referred. Only one client in TRRS was not referred to any additional services, because of refusal on her part to work with anyone she did not know. The most frequent types of referral were for seniors programs and support workers (see Figure 8)

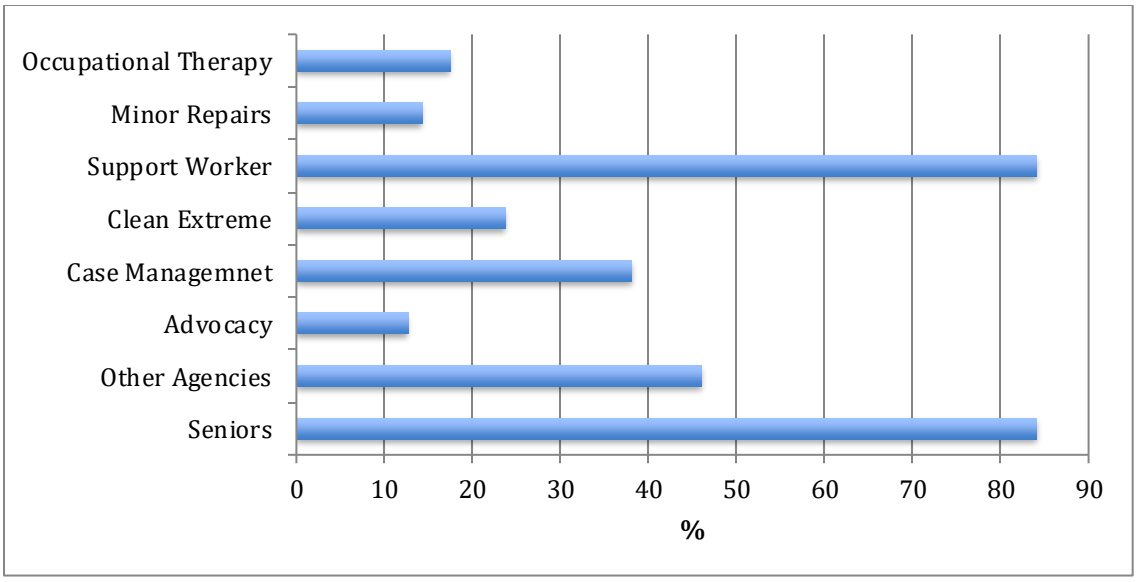

Figure 8: Percent of referrals to different types of services.

Did the program lead to decreased clutter among seniors?

This and the following three questions were all answered by looking at the data from the client case notes. Intake (pre) scores were compared against exit (post) scores for every variable and all showed significant improvement at $p < .001$, except for Tenancy Risk.

Clients completed an intake (pre) survey and an exit (post) survey that included a number of questionnaires. Those relevant to clutter included:

1) Clutter Rating Index/Saving Inventory: Clutter Subscale
2) Clutter Rating Index/Saving Inventory: Difficulty Discarding/Saving Subscale
3) Clutter Rating Index/Saving Inventory: Acquiring Subscale
4) The Clutter Image Rating Scale

Clutter Rating Index

The Clutter Rating Index is a survey measuring the characteristics of their homes and cluttering behaviours, feelings and cognitions, with each subscale providing scores ranging from 0 to 4, with 0 indicating not at all and 4 representing extreme. Thus, higher scores indicating more hoarding risk. As is apparent in Figure 8, below, scores on all aspects of the Clutter Rating Index were lower at the post-test.

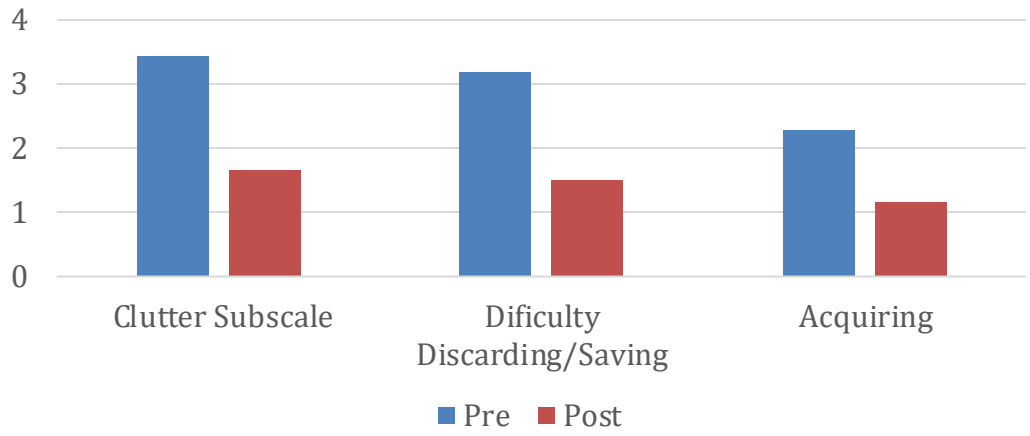

Figure 8: Mean scores on Clutter Rating Index Subscales, pre versus post intervention (n = 36).

Clutter Image Rating Scale

Photographic images of different rooms of clients' houses were rated for clutter using a standardized protocol. Scores range from 1 (no clutter) to 9 (very high level of clutter). Clutter was rated as lower at follow-up (see Figure 9).

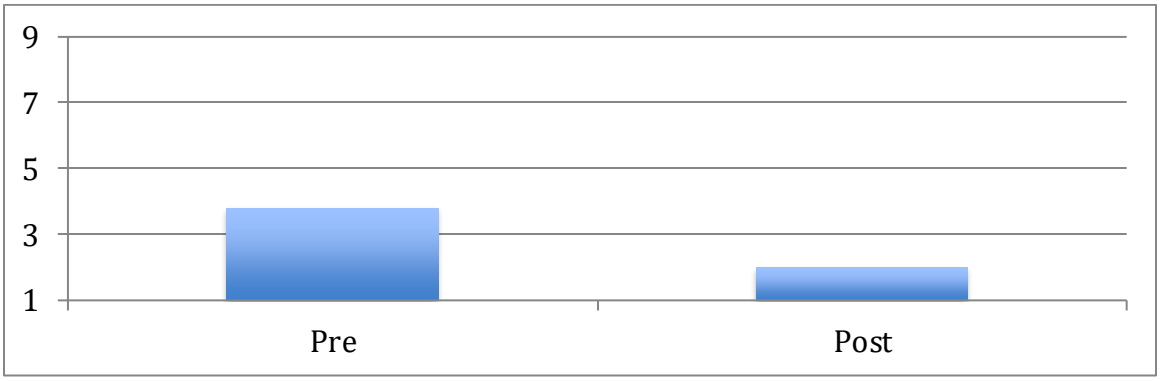

Figure 9: Clutter Image Ratings scores pre and post

Did TRRS lead to safer homes for seniors with hoarding behaviours?

The Health and Safety Checklist measures health and safety risks in the home. Scores range from 0 (mild risk) to 2 (significant risk) (see Figure 10).

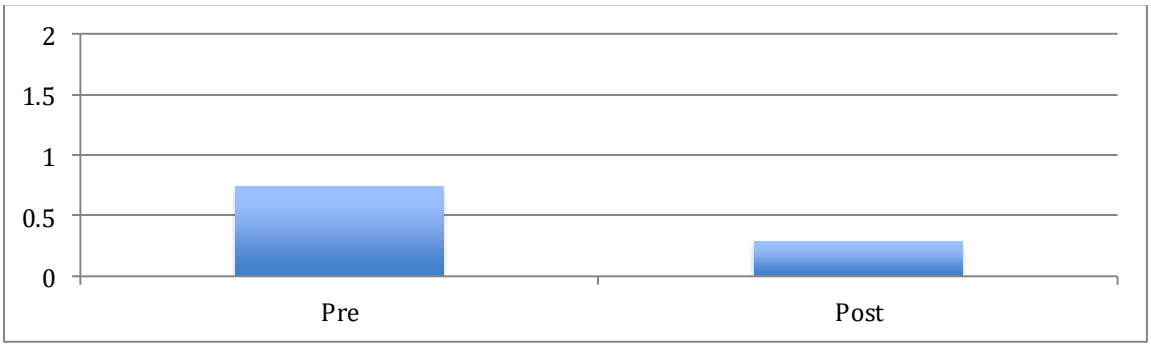

Figure 10: Average Health and Safety scores pre versus post

Did TRRS result in greater housing retention among seniors with hoarding behaviours?

Tenancy Risk was evaluated with a multi-item checklist. Scores on the Tenancy Risk measure range from 0 (no risk) to 4 (urgent). At intake, only 2 clients had any risk (a score of 2 for each), neither of whom completed the intervention. There were therefore no differences between the pre and post scores since, for those who remained in the program, the scores were 0 at both pre and post.

Control agency data

Of the 46 clients who were 55 or older, 37 (80%) accepted follow up; there was no difference in the proportion of cases who accepted follow up as a function of whether or not they were hoarders (see Table 7).

Table 7: Proportion of seniors with hoarding or squalor who accepted follow up services in Durham

	Hoarding	Squalor, No Hoarding	Total
Accept follow up	13	23	36
No to follow-up	2	6	8
Total	15	29	44

Nb: excludes clients without hoarding and/or squalor

Looking just at seniors (over 55) with hoarding, 7 had received eviction notices and 9 were identified as being at ongoing risk of eviction. Case notes were reviewed for this subsample and were coded for: 1) ending after meeting goals; 2) on-going with follow up; or 3) cessation without meeting goals (either withdrawal by client or termination by agency for non-compliance or non-response). Of the 15 cases, none met their goals (see Table 8).

Table 8: Frequency of outcomes for seniors with hoarding, Durham

Outcome	Frequency
Succeeded in meeting goals	0 (0%)
Continuing with follow-up	9 (60%)
Cessation without meeting goals	6 (40%)

Did TRRS result in overall improved health, well-being and quality of life among seniors with hoarding behaviours?

Several measures were used to assess the health and well-being of clients at intake (pre) and exit (post).

1) A modified version of the WHOQOL Bref
2) A functional interference checklist
3) Hospitalizations or Emergency Department visits
4) Substance abuse
5) Suicidal ideation

WHOQOL

The WHOQOL was modified to have 14 items, scored from 1 to 5, with higher scores indicating greater quality of life. The overall score was calculated by summing the 14 items together, with possible scores ranging from 14 to 70. Quality of Life improved from pre to post for clients who completed the program (see Figure 11)[10].

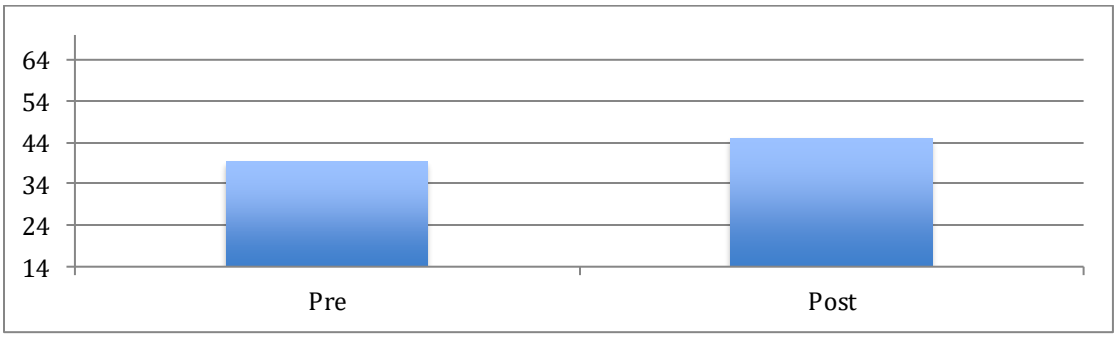

Figure 11: Self-reported ratings of quality of life (WHOQOL), pre versus post.

Functional Interference

The extent to which hoarding behaviours interfered with functioning was measured using a quality of life checklist. Average function scores ranged from 0 (no interference) to 4 (complete interference). Clients reported less interference at exit interview than on intake (see Figure 12)[11].

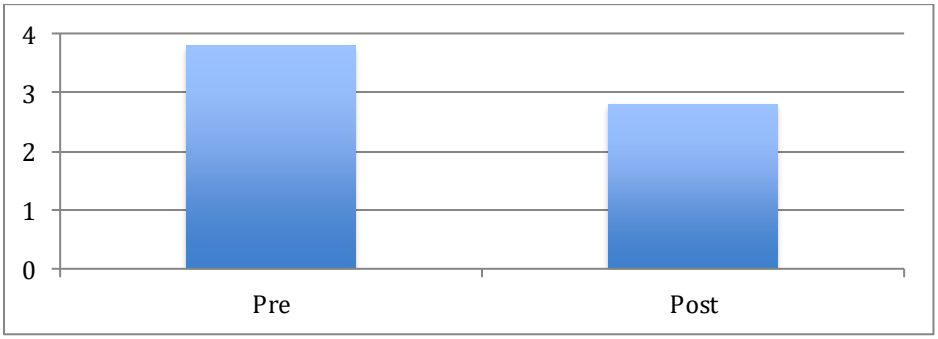

Figure 12: Average function interference, pre versus post

Presence of negative health outcomes/behaviours

The next cluster of variables reflected discrete events: Emergency Department visits; active substance abuse; and suicidal thoughts/actions (see Figure 13). The exit interview only reflects the time during the program and thus is a much shorter time period, and so these findings must be interpreted with caution. However, hospitalizations were marginally lower during the intervention than in the time

[10] $t(33) = 5.95$, $p < .001$
[11] $t(35) = 7.40$, $p < .001$

before intake[12]. There was no difference in terms of substance abuse[13] or suicidal thoughts or actions[14].

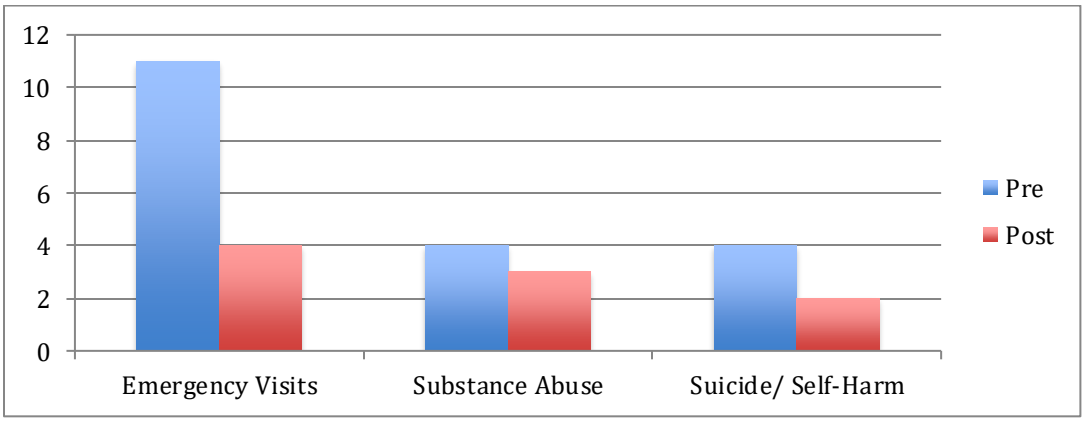

Figure 13: Percent clients who completed program who experienced negative health events, at pre and post interviews.

Client interviews

Most clients felt that the program and staff are helpful. They focused on three areas. The majority of clients spoke about the impact of the program in terms of decluttering their homes, and the benefits that arose from that. Namely, they mentioned reduced risk of being evicted, improved sleep and being able to access their kitchen for cooking. Clients also spoke of insights they achieved into hoarding, including getting perspective on risks and impacts on others, and on why they hoard. Finally, an unexpected outcome was the importance of this program to breaking their social isolation (see Table 9).

Table 9: Client Descriptions of Impacts of Decluttering Program

Theme	Example
Decluttering	*Well I can actually have a room now. My clothes aren't all piled on my bed. I can actually have a good night sleep. And it's been very helpful in a lot of ways. My husband is happier.*

[12] McNemar Test p = .065
[13] McNemar Test p = 1.00
[14] McNemar Test p = .50

Gaining insight into hoarding	*Because for me I realized, again through the occupational therapist, I hoard when I'm anxious or very depressed. So there's that. That's how I compensate, that's how I deal with my anxiety and depression is by wanting to go out, finding something, picking it up. Um so that part I am doing better with. The releasing part is something that I am still working on.*
Breaking isolation	*Yea exactly because I'm alone all day so I don't talk to anybody. So you know the only time I ever talk to someone is when the cleaning lady comes on Friday and then when the CHATS people come over.*

Recommendation 5: Provide information about hoarding to the general public

Recommendation 6: Find additional ways of providing social connections for isolated seniors

Recommendation 7: Explore ways of increasing the length of the program

Examining the Relationship Between Health and Clutter

In order to explore the impact of decluttering on the health and well-being of clients, correlations were calculated for the relationship between changes in health outcomes and changes in clutter markers. These are shown in Table 10, below. For all Clutter Indicators, a decrease from pre to post is an improvement. For the WHOQOL, an increase is an improvement. Thus, we are looking for negative changes in clutter to be associated with positive changes in quality of life, and thus a negative correlation. This is the case for two of the five measures of clutter. In contrast, Functional Interference should also decrease, and thus we are looking for a positive relationship between changes in clutter and changes in function. This is the case for four of the five clutter indicators.

Table 10: Changes in Health Outcomes in Relation to Changes in Clutter

Clutter Indicators	WHOQOL	Functional Interference
Clutter (CRI)	-.20	.44**
Difficulty (CRI)	-.35*	.48**
Acquiring (CRI)	-.31	.28
Clutter Image	-.28	.86**
Health and Safety	-.33*	.87**

A second comparison was made between those who did and did not report Emergency Room visits before the intake, who did or did not have current

addictions, and who did and did not have suicidal thoughts or actions prior to intake. They were compared on the amount of clutter in their homes, using the five indicators above. Only Suicide/Self Harm showed any association with the indicators of clutter, suggesting that acquiring is associated with severe distress or depression (see Table 11)

Table 11: Mean Score on Pre-Intervention Indicators of Clutter by Health and Mental Health Markers Prior to Intake

Clutter Indicators	ED Visits		Suicide		Substance Abuse	
	No (36)	Yes (20)	No (50)	Yes (7)	No (52)	Yes (5)
Clutter (CRI)	3.4	3.7	3.5	3.0	3.4	3.7
Difficulty (CRI)	3.2	3.1	3.2	3.1	3.1	3.5
Acquiring (CRI)	2.2	2.8	2.2*	2.8*	2.1	3.2
Clutter Image	3.8	3.7	3.8	3.7	3.8	3.8
Health and Safety	0.8	0.8	0.8	0.8	0.8	0.7

The same tests were conducted for the exit interview data regarding health outcomes experienced during the course of the intervention. Given the very small number of people with negative health outcomes at the end of the intervention, comparisons should be made with great caution and significant results (indicated with asterisks) are questionable. As noted above, those with the worst outcomes may not have remained in the program; of those who remained, the majority did not have negative health outcomes at intake either (see Table 12). Again, Acquiring was the only clutter marker associated with negative health outcomes.

Table 12: Mean Score on Post-Intervention Indicators of Clutter by Health and Mental Health Markers at Exist/Post Intervention

Clutter Indicators	ED Visits		Suicide		Substance Abuse	
	No (30)	Yes (4)	No (31)	Yes (2)	No (29)	Yes (3)
Clutter (CRI)	1.7	1.0	1.6	2.3	1.5	2.4
Difficulty (CRI)	1.6	1.1	1.4	2.5	1.4	2.0
Acquiring (CRI)	1.2	0.8	1.0	3.0	1.0*	2.2*
Clutter Image	2.0	1.7	1.9	2.8	2.0	2.0
Health and Safety	0.3	0.1	0.3	0.7	0.3	0.5

The Impact of Service Breadth

A key question was whether the large range of referrals were important to the success of the program. The qualitative data from both clients and service providers

confirmed that the clients needed, received and benefitted from a range of services, including simply responding to the unique needs of each client (see Table 13).

Table 13: Benefits of Range of Services Offered

Themes	Quotations
Responsive to client needs	*[Staff member] is willing to take me out. Like take me to doctor's appointments (Client)*
Mental Health Services	*I also think counseling is important. So maybe there needs to be more free counseling for clients that's directed specifically for hoarding behaviour. (Staff)*
Occupational Therapy	*Then with the occupational therapist, she is providing the psychological aspects of hoarding alternatives. And then I am realizing okay this is when I hoard more. And, for instance, I didn't realize hoarding had two aspects to it. One is the actual accumulating and the second part of it was the releasing. (Client)*
Specialized care:	*The fact that's its specialized geriatric mental health case management that's provided by somebody that has additional training in hoarding is a real gift. (Staff)*

Respondents frequently mentioned the importance of mental health services in general as well as specific psychological interventions for clients such as counseling, psychiatry, group therapy, peer mentors and CBT and motivational interviewing techniques. Managers identified CBT and motivational interviewing as key strategies. This may be in part because of the large proportion of mental health agencies represented among the respondents, but was also echoed by the clients.

However several also noted that more services were needed. Given the centrality of mental health services for this client group, ways of ensuring additional mental health support that is specific to this group (e.g., geriatric psychiatrists) is critical to the success of programs with this client group.

Recommendation 8: Support access to additional specialized mental health services to this client group

Discussion

Does Building Community Capacity to Identify and Support Vulnerable Seniors Keep Seniors in their Homes Longer?

Community capacity to identify and support vulnerable seniors was observed in qualitative assessments of staff, who noted the benefits that came from clear referral procedures and sharing of information. Training was successful in the community and improved levels of knowledge and comfort in working with clients with hoarding but overall knowledge in the community remained low, and confidence in working with these clients was still not very high, even among those who had been trained. However the program was successful in creating a large network of referral agencies and a wide range, and large number, of referrals for their clients.

It was difficult to infer the impact on tenancy in part because of the low tenancy risk of clients in the program despite their hoarding. However, this in itself may be an indicator of the program impact. As noted, clients were clearly at risk by virtue of clutter and functional interference, and so perhaps were being referred before eviction threats arrived; the number at risk in the comparison program was considerably higher. It should be noted that almost 40% of clients did not to complete the TRRS program. These clients did not differ on any of the intake measures except for being slightly more likely to be at risk for losing their homes. Thus, those who are hardest to help maybe still be vulnerable to tenancy loss.

The impact on tenancy could also be inferred from the significant reduction on all clutter measures; a longer-term follow up might also help confirm the long-term success of the program in this regard. The number of senior hoarding clients who successfully achieved their goals the program in the comparison program during this time period was 0, although the majority did agree to follow-up appointments and 60% were continuing with their program so perhaps they would eventually meet their goals. This is a different outcome variable making comparison between these measures of success (significant decreases in cluttering versus successful discharge). A larger sample would have been needed to assess this variable directly.

What aspects of a multi-pronged approach are most effective in improving the health and well-being of seniors identified as having problematic hoarding behaviours?

The importance of training, communication and partnership was made very clear by staff and management. In particular, having clear guidelines for how to work together was deemed essential to the success of the partnerships and essential for achieving the variety of referrals required for this complex issue.

This is highlighted in the large number and range of referrals that these clients received and were deemed to need. Clients in TRRS were connected to a significantly greater number of services than those in the control program. The clients and staff were both clear that the ability to access a range of services that met individual needs was important. These referrals were therefore a key element

of the success of the program and for achieving ongoing change in hoarding behaviour.

Both clients and staff emphasized the importance of specialized mental health services; simply providing cleaning is not sufficient. Clients felt that gaining insight into their hoarding behaviour, and the impact it had on others, helped them address it. From the clients' perspective, the importance of having the time to build trust and to move at a slow and predictable pace, were highlighted. The element of social connections seems particularly important given both the isolation reported by the seniors, and the mental health challenges that were found. Because of the clients' complex needs, the ability to access a range of services that met individual needs was also identified as important by both clients and staff.

Limitations to the evaluation

Assessing whether this program was more effective than comparable programs in other settings was challenging. A comparable program tracking the same metrics over the same time period would have been ideal but difficult to coordinate.

Low response rates from community and staff surveys, particularly in the community agency surveys, make it difficult to assess the impact of the program on knowledge and attitudes since self-selection is likely a factor in response patterns and generalizability is therefore problematic. The low response rate also makes the impact of self-selection much greater; it is likely that those who participated did not reflect the characteristics of the population as a whole.

To the extent that some metrics are evaluated by staff, rather than self-report of the clients, there is also the possibility that success is perceived as a result of expectations of success. However, self-report data from the clients themselves (e.g., the WHOQOL and interviews) were also indicative of positive changes, making it unlikely that the lack of blind ratings of client outcomes was an issue.

A bigger sample and a longer follow up would be the best way to confirm the success of this program, should the opportunity arise to continue this work. It is also an issue that those clients who chose not to remain in the program had a greater tenancy risk than those who continued, suggesting that they were more vulnerable and not being reached. Nonetheless, the data are sufficient to show that the program achieved most of its goals in terms of the health and well-being of a difficult client group.

Conclusions

A relatively brief (6 months) client-centered intensive program that engaged multiple stakeholder organizations was effective in reducing hoarding and improving the well-being of vulnerable seniors. A comparable program that primarily offered extreme cleaning reveals how challenging it is to address hoarding in this population. The importance of having referral pathways to access a range of

services was identified as a key element of the program's success, as well as the provision of mental health services and strong communication (between agency staff) and interpersonal relationships (between staff and clients).

Unfortunately, 38% of those eligible for the program did not complete it, suggesting that success may require multiple attempts and ongoing relationships. This can be facilitated by greater awareness among other service providers, who can continue to refer vulnerable seniors until they are able to engage in the program. While training was successful in shifting knowledge and a sense of efficacy in working with this client base, levels of knowledge and confidence in working with these clients remain low. Campaigns to raise awareness need to maintained and long-term impacts of these efforts should be undertaken.

1) Continue developing and offering training and information regarding hoarding behaviours to service agencies
2) Track access to and use of information and long term impact of these initiatives
3) Explore ways of creating opportunities for staff to connect directly to one another to share strategies and resources, for example with a Community of Practice.
4) Help expand and raise awareness of referral agreements and models of partnership to other agencies and regions
5) Provide information about hoarding to the general public
6) Find additional ways of providing social connections for isolated seniors
7) Explore ways of increasing the length of the program
8) Support access to additional specialized mental health services to this client group