What health and aged care culture change models mean for residents and their families: A systematic review

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Funding
This work was supported by Alzheimer’s Australia Victoria as part of the Aged Care Services Dementia-Friendly Endorsement Project.

Acknowledgments
This research was conducted at the University of Queensland/ Blue Care Research and Practice Development Centre.
Abstract

Purpose of the study

A range of commercialised programs are increasingly being adopted which involve broad culture change within care organisations to implement person-centred care. These claim a range of benefits for clients; however, the published evidence for client and family outcomes from culture change is inconclusive and the evidence for these specific models is difficult to identify. The purpose of this review was to identify and evaluate the peer-reviewed evidence regarding consumer outcomes for these subscription-based models.

Design and methods

The review followed the Joanna Briggs Institute procedure. The review considered peer reviewed literature that reported on studies conducted with health and aged care services, their staff and consumers, addressed subscription-based person-centred culture change models, and were published in English up to and including 2015. The review identified 19 papers of sufficient quality that reported evidence relating to consumer outcomes and experience.

Results

Resident outcomes and family and resident satisfaction and experiences were mixed. Findings suggest potential benefits from for some outcomes, particularly related to quality of life and psychiatric symptoms, staff engagement and functional ability. While residents and families identified some improvements in residents’ lives, both also identified problematic aspects of the change related to staff adjustment and staff time.

Implications

Outcomes for these models are at best comparable to traditional care with limited suggestions that they result in poorer outcomes, and sufficient potential for benefits to warrant further investigation. While these models may have the potential to benefit residents, the implementation of person-centred principles may affect the outcomes.

Keywords

Review, models of care, person-centred care
**Purpose of the study**

Recent decades have seen a philosophical and practice shift in care, in response to increasing concerns about traditional practice. A range of new models of care have developed, which share a focus on the client as central to care policy, care planning, and care provision. Such person-centred models of care have influenced practice development from individual interventions with specific client groups through the whole of organisation culture change and national care policies.

This shift has particularly seen the development of a number of models that are adopted at an organisational level and which involve broad culture change within the organisation (Zimmerman, Shier, & Saliba, 2014). Beyond simply a theoretical framework for practice, some of these models have been developed into patented and commercialised programs, to which service provider organisations may subscribe and in return receive training and support, and a form of accreditation or endorsement for provision of the model. These models of care, such as the Eden Alternative (Eden Alternative, 2014), Green House (The Green House Project, 2015) and Planetree (Planetree, n.d.), among others, are increasingly adopted by service providers as a way of implementing the philosophical and practice shift across their organisations; indeed, the providers of these models claim significant (Eden Alternative, n.d.; Planetree, n.d.) and growing (Pearl Specialised Dementia Services, 2013) numbers of organisational members.

There are a range of purported benefits for clients of these models of care. The Eden Alternative, for example, and subsequently the Green House Project, were developed to enhance elders’ quality of life and address what were seen as the three plagues of aged care: loneliness, boredom and helplessness (Eden Alternative, 2014; The Green House Project, 2015). The Eden Alternative claims improved quality of care and greater satisfaction for all parties involved in care (Eden Alternative, n.d.). The Pearl Programme, specifically designed for care for people with dementia, claims a reduction in antipsychotic medications, improved wellbeing, reduced falls, and increased pain relief (Pearl Specialised Dementia Services, 2013). Dementia Care Matters’ ‘Butterfly Approach’ similarly cites a range of benefits, such as increased wellbeing, decreased falls, and weight gain, along with evidence of improved quality of life (Dementia Care Matters, 2012).

Published reviews of the evaluation literature, however, have identified that for these models and person-centred culture change interventions more generally, the evidence for client and family outcomes is mixed and inconclusive. In their review of 36 studies, for example, Shier and colleagues (2014) found no overwhelming trend towards positive outcomes for the interventions, although negative outcomes were rare. These authors concluded that further evidence was needed to guide culture change. Focusing more specifically on subscription-based models, Grabowski and colleagues (Grabowski et al., 2014) similarly identified slightly positive, but generally mixed findings in regard to outcomes. Further, a large amount of the research evaluating such programs is unpublished or self-published without peer-review and it has been suggested that evaluation is, overall, limited by a range of study design issues (A. E. Elliot, Cohen, Reed, Nolet, & Zimmerman, 2014; Grabowski et al., 2014).

With the increasing popularity of these models, it is vital to have a strong evidence base that is subject to quality controls and critique. It remains unclear, however, to what extent structured, subscription-based person-centred culture change models improve outcomes for consumers such as clients and their families, as their developers claim. Existing reviews have extended only up to papers published in 2012, or have been limited in their scope through the range of databases used in the literature search, have included both peer-reviewed and unreviewed literature, or have combined the findings for both structured models and culture-change initiatives more generally. The purpose of this review, therefore, was to identify and evaluate the peer-reviewed evidence regarding consumer
outcomes for structured subscription-based person-centred culture change models, up to and including those published in 2015.

**Design and methods**

The objective of this review was to identify and evaluate the existing evidence and knowledge regarding the use of subscription-based person-centred culture change models. While the broader review addressed a range of research questions, this paper focuses on consumer outcomes and experience, including quality of care, clinical outcomes, and consumer experience of care.

The research approach is described in full detail elsewhere (Petriwskyj, Parker, Brown Wilson, & Gibson, 2015) with a summary provided here.

**Inclusion criteria**

The review considered peer reviewed literature that reported on studies conducted with health and aged care services, their staff and consumers. Staff included those in any roles as employees of the services, and consumers included those receiving or accessing services, their carers, and immediate family. Studies were considered for the review if they reported on subscription-based person-centred culture change models, including voluntary endorsement or badging systems or rating systems. Studies addressing mandatory accreditation systems and endorsement for management arrangements only were excluded. The broader review considered studies that addressed consumer outcomes and quality of care, implementation, factors affecting successful implementation, financial viability, and staff outcomes (Petriwskyj et al., 2015). This paper reports on the findings relating to consumer outcomes and quality of care including quality of life, consumer experience of care, and clinical outcomes. The review considered both qualitative and quantitative studies, including but not limited to randomised controlled trials, non-randomised controlled trials, quasi-experimental, before and after studies, prospective and retrospective cohort studies and cross sectional studies, and designs such as phenomenology, grounded theory, ethnography, action research and feminist research. The review excluded grey literature such as discussion and opinion papers and self-published reports but included dissertations which undergo assessment and peer-review prior to publication and are acceptable within Joanna Briggs Institute systematic review guidelines. The review and included papers published in English only, up to and including 2015.

**Search strategy, assessment and data extraction**

The review followed the Joanna Briggs Institute procedure. An initial search of PubMed and CINAHL was followed by a comprehensive search of 10 databases: CINAHL; PsycInfo; Web of Science; PubMed; Embase; Sociological Abstracts; Proquest dissertations and theses global; Proquest research library; Google Scholar; and Caresearch. Finally, the reference lists of identified studies were searched for additional papers. The search used combinations and variations of the following keywords:

- endorsement model OR person-centred care OR individualised care OR client-centred care OR consumer-centred care OR dementia-friendly OR relationship-centred care OR Eden OR Wellspring OR Holistic Approach to Transformational Change OR Greenhouse OR Green House Project OR Dignity Programme OR My Home Life Programme OR Planetree OR Pearl OR Dementia Care Matters OR Dementia Care Mapping OR culture change OR Eden Alternative OR Eldershire OR Elder cohousing OR Pioneer Network OR Evercare OR Coming Home Program OR Dignity standards OR GentleCare OR culture change in long term care OR Shabaz

AND

- residential facility OR residential care OR nursing home OR aged care home OR long term care OR home for the aged OR residential aged care OR elderly care OR aged care facility OR care home OR
This search identified 3030 papers, of which 961 were excluded as duplicates. The remaining 2069 papers were assessed by two independent reviewers against the inclusion criteria using analysis of title and abstract (1889 papers excluded) then analysis of 180 full text papers (148 papers excluded). The majority of papers excluded on the basis of title and abstract or full text review were excluded because they related to person-centred care or person-centred interventions generally, or culture change generally, rather than a structured culture change model. The remaining 32 papers were judged to meet the inclusion criteria described above and proceeded to assessment of methodological quality.

The papers were assessed by two independent reviewers for methodological quality using standardised critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) and the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI). Overall, the standard of quality was judged to be sufficient for inclusion for all but three quantitative studies, all of which formed part of mixed method studies (Doll, 2003; Robinson & Rosher, 2006; Rose, 2006). Four qualitative studies were also excluded, one of which formed part of a mixed method study (Bowers & Nolet, 2011; Chapin, 2008; Petersen & Warburton, 2010; Robinson & Rosher, 2006).

A total of 28 papers reporting the findings of 33 studies were included in the full review. Data were extracted from papers using the standardised data extraction tools from JBI-MAStARI and JBI-QARI. The studies included in the broader review focused on nine models; however, evidence relating to consumer outcomes and experience was found for six of the models: Eden Alternative, Green House, EverCare, Pioneer Network, the VIPS Practice Model, and Planetree. This evidence was identified in 19 papers reporting the findings of 27 studies (Bergman-Evans, 2004; Coleman, Looney, O'Brien, Ziegler, & et al., 2002; Doll, 2003; Amy E. Elliot, 2007; Gravelle et al., 2007; Harrop-Stein, 2014; Himman & Heyl, 2002; R. A. Kane, Lum, Cutler, Degenholtz, & Yu, 2007; R. L. Kane, Flood, Bershasky, & Keckhafer, 2004; R. L. Kane, Flood, Keckhafer, Bershasky, & Lum, 2002; Robert L. Kane, Keckhafer, Flood, Bershasky, & Mir Said, 2003; Kruschke, 2006; LaValley, 2011; Mork Rokstad et al., 2013; Rose, 2006; Rosher & Robinson, 2005; Rosvik, Engedal, & Kirkevold, 2014; Sharkey, Hudak, Horn, James, & Howes, 2011; Stone, 2007). The studies were published between 2002 and 2014 and were conducted in the USA, Canada, England and Norway. While the search was kept broad to encompass models in other health settings, all but one of the studies included in this review pertained to long term care or nursing home settings, for which this type of model is most commonly designed and where they are most commonly implemented. The studies adopted qualitative, quantitative and mixed method approaches and were based on samples ranging from 10 individuals to 16000 facilities (facility level data collection). Although the VIPS Practice Model differs from the other models in some respects, in that it does not provide accreditation or badging for services to use, it shares other essential features such as a structured approach to change, training and support, uses an evidence-based approach, and is the basis for the Pearl Programme, a model for which no specific published evidence was found. Papers evaluating the VIPS model were therefore included in the review.

The quantitative studies were too diverse to allow for statistical meta-analysis, and findings are therefore presented in narrative form. Qualitative findings were thematically categorised based on similarity in meaning to produce a set of findings for each model.

**Results**

The findings are presented below for each model.

**Care quality and resident outcomes**
Two quantitative studies and two mixed method studies explored the impact of the Eden Alternative on residents’ outcomes. Each of these studies found mixed outcomes regarding the potential beneficial effects of the Eden Alternative, leading to mixed conclusions overall for this model. A quasi-experimental study by Coleman and colleagues (2002) explored outcomes after one year of Eden implementation. Significant differences were found, with significantly more falls (p=.011) and a higher proportion of residents needing skilled nursing in the Eden home (p=.0031), the hospitalisation rate significantly higher at the control home compared to the Eden home (p = .002) and prescriptions for hypnotics higher for Eden but prescriptions for anxiolytics lower for Eden across a number of time points (p ranging from 0.049 to 0.001). There were no significant differences found between the sites for rate of deaths, oral problems, cognition, activities of daily living, nutritional approaches, infection rate, or prescriptions for psychotropic and antidepressant drugs. While Coleman and colleagues (2002) found some positive differences for Eden, they concluded that there were no significant benefits in terms of care and clinical outcomes.

As part of a mixed method analysis of a nursing home implementing Eden, Hinman and Heyl (2002) found a significant difference before and after Edenisation for use of restraints (p<.001), with use of full bed rails in the Edenized environment reduced to zero, and non-significant trends, such as some improvements in ADL function and mood, lethargy and restlessness, but no significant differences across other indicators for those residents involved in both the pre- and post- Eden samples. The researchers further explored the demonstrations of functioning relating to Eden features; they found that of the 95 interactions observed between residents and plants, animals, and/or children, 96% demonstrated physical function, 54% demonstrated social interaction, 19% demonstrated mental activity and 17% demonstrated an emotional response. The ten staff interviews suggested benefits of the Eden approach for physical functioning and spontaneous movement and the facilitation of positive interactions between residents and others. Therefore, despite the limited significant findings Hinman and Heyl concluded that Eden-related stimuli facilitated physical and social capacity, and may slow decline in ability, positively influencing quality of life.

Comparing an Edenised and non-edenised home, Kruschke (2006) reported differences on a range of indicators, although no significance figures were reported. For example, they reported a higher percentage of Eden residents with unplanned weight gain or loss compared with the non-Eden home and both the state and national averages (20% vs. 5%, 7% and 7%, respectively). They also found a higher percentage of Eden residents using physical restraints compared with non-Eden residents, but a lower percentage compared with state and national averages (2% vs. 0%, 5% and 8%, respectively) and a similar pattern for behavioural problems (12% vs. 9%, 29% and 29%, respectively). The Eden home had no recorded deficiencies (e.g. mistreatment, nutrition) during the study, while the non-Eden home recorded three, three and six respectively for the three years. The author concluded positive effects of the Eden approach from these findings.

Taking a different approach, Bergman-Evans (2004) explored the effects of the Eden Alternative on psychological wellbeing. They reported that while levels were the same between Eden and control residents at baseline, at follow up Eden residents were found to have significantly lower levels of boredom (p=.01) and helplessness (p=.03) than controls. No difference was found for loneliness, which the authors suggested may be less amenable to change through environmental means.

Green House

Two studies explored quality of care outcomes for the Green House model, from slightly different perspectives. Comparing Green House (GH) homes with control care units, Sharkey and colleagues (2011) identified some important quality of care effects relating to different types of staff hours. Total nursing and non-nursing staff hours per resident day (HPRDs) were significantly greater in the...
GH homes (p=.002), however GH homes received significantly less HPRDS from housekeeping, laundry, dietary, dietician, activities, and staff education (p=.005). For overall staffing, GH staffing was slightly less than the control units (5.6 vs 5.9 HPRDs). Comparing Shahbaz (GH) and Certified Nursing Assistant (control) HPRDs, the study found significantly more HPRDs in direct care activities for Shahbaz (p=.004) with the same pattern at a shift level for evening shifts (p=.004). The same pattern was found for indirect care activities (p=.001). Sharkey and colleagues further reported greater Shahbaz HPRDs directly engaging with residents in non-ADL activities (0.4 vs 0.09 HPRDs) and in engaging while completing other work (7.5 minutes vs 0.6 minutes), leading them to the conclusion that the GH environment had the benefit of allowing staff to engage while completing tasks.

Kane and colleagues (2007) similarly reported positive results for the Green House model, comparing one Green House with two comparison sites. Compared with the two controls, positive effects were found for Green House for privacy (p<.001, p=0.05), dignity (p<.001 for both controls), autonomy (p<.001, p=0.05) and food enjoyment (p<.001 for both). Positive effects were also found for Green House for quality of life measures related to meaningful activity (p=.003), relationship (p=.002) and individuality (p<.001) as well as emotional well-being scores (p=.01 for one control site only) but no differences for self-reported health, ADLs, or IADLs.

**EverCare**

The four studies exploring resident outcomes and care quality for EverCare reported mixed outcomes. Kane and colleagues (2002), for example, found no difference between EverCare residents and matched controls in resident conditions and state-measured deficiencies, concluding that the approaches provided comparable care. In another study, Kane and colleagues (2003) found fewer hospital admissions for EverCare residents (p<.001), which they attributed to the use of intensive service days (ISDs) in EverCare, and fewer preventable hospitalisations (p<.001). After including ISDs, this difference was significant for the control participants in separate homes (p<.05) but not the control participants in the same homes as the EverCare residents; the difference between EverCare and control residents also remained after dementia status was controlled. The authors concluded that there is the potential for EverCare to help prevent some hospitalisable events. Further, re-hospitalisations and hospitalisations after ISDs were no different, suggesting no increased risk of complications from this approach. In a third study, however, Kane and colleagues (2004) found less conclusive results; while preventable hospitalisations were fewer for the EverCare group, the difference was only significant for control residents in other nursing homes (p<.05), not non-EverCare residents in the same homes as the EverCare residents. Thus, the authors concluded that the differences in care provision did not result in more preventable hospitalisations or related events.

Gravelle (2007) also explored a range of patient outcomes for EverCare, but used a before and after analysis for patients aged 65 and over, and those aged 65 and over with recent emergency admissions (high risk). While increases in emergency admissions and emergency bed days were found for the high risk group with EverCare implementation, and increases in emergency admissions and decreases in emergency bed days were found for the general population, none of these differences were significant. Gravelle therefore concluded that no reduction in hospital admissions was evident, nor likely, within the current implementation and use of EverCare.

Additional resident outcomes were also explored in these studies. Kane and colleagues (2004), for example, found no difference for EverCare on their functional measures, and although there were some differences on their quality indicators, these were distributed fairly evenly among the EverCare and control groups in terms of which group they favoured, suggesting no strong pattern of more positive outcomes either for EverCare or traditional care. Control residents showed less QI flags in regard to depression, multiple medications, behavioural symptoms, use of antidepressants, prevalence of urinary tract infections, and antipsychotic medication use, whereas EverCare residents had fewer
QI flags with regard to not having a toileting plan, catheters, pressure ulcers, and weight loss, with more significant differences between EverCare and external controls than between EverCare and non-EverCare controls in the same nursing homes. The risk of death, however, was significantly lower for EverCare residents than for controls in the same nursing homes. Kane and colleagues therefore concluded that care quality for EverCare was comparable to traditional service. Gravelle (2007) similarly found trends in increased mortality with the introduction of EverCare, but no significant differences.

Kane and colleagues (2003) further explored the use of services within EverCare and found greater likelihood of EverCare residents being seen by a nurse practitioner (NP) or physician assistant (PA) (p<.001 for both control groups), physician (p<.001 for both control groups) and podiatrist (p<.001). While the use of occupational therapy (OT), speech therapy (ST), or physical therapy (PT) services was significantly less for the EverCare group in expenditures per person (p<.001 for both control groups), the authors concluded that EverCare residents received at least equivalent if not more professional and specialist services.

The Pioneer Network
Comparing Pioneer Network and control homes grouped by regulatory stringency, Elliot (2007) found that for the most stringent and limited regulatory groups, and overall, years in the Networks was associated with fewer reported deficiencies in 2003 (p<.05 for each). Network homes in the strict regulatory group had reduced deficiencies over the study years, while control homes had little change (p<.01). Elliot further found a significant result for dependence index (residents with a range of needs) with a lower dependence index related to Network participation overall (p<.05) and in the most stringent group (p<.05), with the other groups showing the same trend. They concluded a beneficial effect of Network participation and length of participation for quality of care outcomes. Exploring effects for market concentration and for-profit status, Elliot further found that nursing homes in higher market concentrations decreased in deficiencies, while homes in lower market concentrations increased deficiencies (p<.01), and that non-profit homes decreased deficiencies, while for-profit homes increased deficiencies (p<.01), concluding that homes in less competitive environments experience greater quality of care benefits.

VIPS Practice Model
In a cluster-randomised controlled trial comparing VPM to Dementia Care Mapping and the provision of a training DVD (Mork Rokstad et al., 2013), significant effects were found in favour of the intervention groups on the NPI-Q agitation subscale (DCM versus control p=.04, VPM versus control p=.02) but not for the Brief Agitation Rating Scale (BARS). Significant effects were also found for the change in the total amount of NPS in favour of both interventions compared with the control (DCM p=.01, VPM p=.01), and for the NPI-Q psychosis subscale (DCM p<.01, VPM p=.04). Significant differences were found for quality of life in favour of DCM only (p=.02) and for depression in favour of VPM only (p=.02). Røsvik and colleagues (2014) then undertook a subset analysis of the VPM arm and found that the size of the unit accounted for most of the variance in the effect of VPM, with effects best in units with fewer beds. The type of unit was the second most influential factor, with age and gender also significant.

Planetree
In the only study identified investigating the Planetree model, Stone (2007) investigated outcomes for patients who had undergone elective knee or hip surgery in an intervention or control unit. Stone reported a positive effect for length of stay for one year of the study (p=.009), with a lower mean length of stay in the intervention unit, but no significant difference for the other four years and no significant difference in hospital readmission.
Summary

Therefore in regard to consumer outcomes, the results across the models were quite varied, and at times contradictory between studies. While the outcomes measured were too diverse to draw any strong conclusions regarding specific outcomes across the different models, some general patterns can be identified. The first point that may be drawn from the results is that there is no model for which overwhelming evidence suggests unequivocally positive outcomes for residents, particularly for pre-specified clinical and care quality outcomes. Generally the most positive findings were for quality of life outcomes rather than clinical measures, although some positive trends did suggest potential benefits of these kinds of approaches that warrant further investigation. The findings also suggest, however, that a range of factors may influence outcomes. For example, differences in measurement and other variables controlled for in the analyses (e.g. ISDs, specification of emergency admission) between the EverCare and Eden studies are worth noting, and suggest that the findings may not be entirely comparable. For VPM, a number of facility and resident characteristics may influence its effects, although there is very limited evidence from which to draw conclusions. Elliot (2007) similarly concluded that while participation in the Pioneer Network may positively influence care quality, the benefits may be greater for some types of homes than others. Thus, overall, while some positive effects for resident outcomes were identified, there was no overwhelmingly positive pattern in the literature; however, a range of factors may influence the effects.

Resident and family experience of care

The Eden Alternative

One qualitative and one quantitative study explored consumers’ perspectives of the Eden Alternative. Once again, these reported mixed results. Exploring family satisfaction pre- and post- Edenisation, Rosher and Robinson (2005) found a significant increase in satisfaction overall (p<.0001). After Bonferroni correction, three aspects of satisfaction were found to have significantly increased: a more respectful staff (p=.033), the introduction of children as visitors in the home (p<.002), and opportunities for residents to have contact with animals (p<.002). There was an increase in family visits, but no significant relationship between family visits and satisfaction; however, family members commented on the survey that the Eden home was more pleasant. Using focus groups with residents, staff, and family members in four homes, Rose (2006) found variations between the stakeholders’ accounts. While some staff were acknowledged as being helpful, resident and family concerns included staff being busy and unavailable, leading to residents being ignored and needs not being met, affecting their quality of care and quality of life. They noted that it was difficult for residents to make connections with each other and that there was a lack of stimulating activities and activities that promoted independence. Staff focused largely on theoretical rather than real examples of quality of care, and some noted a lack of support from the system to allow them to provide good care and make connections with residents. Some staff also noted that residents spent a good deal of time alone or inactive, and sometimes lacked adequate help.

Also using qualitative data from residents, family members and staff, Kruschke (2006) found more positive results for the Eden approach. Four residents reported that they enjoyed the inclusion of children, plants and animals, and three felt that the introduction of Eden benefited residents’ lives. Two preferred the consistent caregiver, rather than rotating staff. Many of the staff interviewed remarked on the differences in the home, noting the sense of warmth and care with the move away from institutionalisation, with some suggesting this helped the residents.

Green House

Three studies explored consumer perspectives and experiences for Green House in addition to clinical outcomes. Kane and colleagues (2007), for example, found significant positive results for Green House in regard to residents’ satisfaction with the home as a place to live (p<.001 for both
control homes), and as a place to get care (p<.001 for one control home only), and significantly higher likelihood of recommending the facility to others (p<.001, p=.02). Overall positive findings were also reported by LaValley (2011) in their interview study with 12 Green House residents. Discussing such issues as emotional environment, physical health concerns, autonomy, staff, activity/inactivity, relationships, and physical plant (building and environment), comments were generally positive. Aspects of the care environment highlighted positively by residents included flexible scheduling, the ambience of the homes and the relationships among staff and residents, the physical space which facilitated participation and access to the outdoors, and the home design which facilitated independence and improved quality of life.

Harrop-Stein’s (2014) focus groups with residents and family members, however, found more mixed results. Comments from residents identified a number of expectations about the change to the Green House model and adjustments to the model, including staffing levels and staff confidence. Experiences of regimented schedules and freedom to do as they wished were mixed. Family members further identified concerns about the physical location of the Green House limiting access to programs and access for visitors and, like the residents, had mixed responses regarding the staff responses to residents and effective adaptation to the Shahbaz model.

**EverCare**

One study explored the resident and family experience of EverCare. Kane and colleagues (2002) found significantly greater satisfaction among EverCare families than both control groups on three variables: seen often enough (p = .0013, p = .002048), one person in charge (p = .00017, p = .001236), and spends enough time (p = .000037, p = .0000024). Families of EverCare residents were also more satisfied than families of residents in different homes with regard to explanations of health problems (p=.001496). Overall, both control groups had more dissatisfaction items than the EverCare group (p=.002, p=.004). Among residents themselves, only the difference in the number of dissatisfaction items between EverCare residents and residents in the same homes was significant (p=.027), with controls in the same home having more dissatisfaction items. While being in an EverCare home was associated with being less likely to recommend the home to others (B=.896, p=.014), being enrolled in EverCare positively affected recommendation (B=.634, p=.001). While residents in other homes were less likely to report pressure to establish advance medical directives (p=.0063), no difference was found between EverCare and non-EverCare resident in the same homes, suggesting no difference between EverCare and traditional care.

**The Pioneer Network**

In a dissertation exploring the implementation of the Pioneer approach in three nursing homes, Doll (2003) used staff anecdotes to explore the residents’ experience of the change in care environment. Doll identified a number of main themes relating to the resident experience, including less disengagement and residents having increased time with aides and increased freedom to do as they wish; however, Doll also found that while one resident may experience good outcomes, another may consequently be negatively affected, particularly when they cannot effectively communicate, and that individuals may fall through the cracks and lose their roles and identity as staff increasingly focus on new rules and procedures.

**Planetree**

According to the patient satisfaction survey data used by Stone (2007), patients were more satisfied with the meals (p=.000297) and nursing services (p<.05) in the intervention unit, but were more satisfied with the physician services in the control unit (p<.05).

**Summary**
As for clinical and care quality outcomes, the findings for resident and family experiences of the models were also mixed. While satisfaction was found to improve in a number of cases, not all experiences were positive and some concerns were raised by respondents, particularly regarding EverCare, Eden, Green House and the Pioneer Network. Therefore such models may provide an enhanced experience for residents and families; however, there may also be some less positive impacts for residents of the changed environment. It is worth noting that many concerns related to issues such as staffing, staff attention and engagement with the residents, and staff time, suggesting that concerns about the changed care environment may reflect resourcing or organisational issues that work against implementation of the models’ principles.

Implications
This review paper, as part of a broader review, set out to identify and evaluate the existing evidence regarding care quality and consumer experience and outcomes relating to subscription-based person-centred care models. The broader review included a total of 28 papers reporting on the findings of 33 studies; this portion of the review included 19 of these papers.

Evidence relating to resident outcomes and aspects of care quality was identified in this literature for six models (Eden, Green House, EverCare, Pioneer, VPM and Planetree). Measures covered a range of dimensions including clinical outcomes, quality of life, service use, health, behaviour, functioning, and care deficiencies. While resident and family outcomes were among the most commonly studied, the body of evidence is still limited; indeed, for some models only a single study was found and for some models, no evidence could be found in the literature. Overall, the effects of the models were somewhat mixed, with both significant and non-significant findings and both positive and negative effects identified. Significant findings and trends in the evidence suggest potential benefits from such models for outcomes, such as agitation, depression and neuropsychiatric symptoms, quality of life, boredom and helplessness, hospital use, staff engagement with residents, and deficiencies and dependence. Given the evidence identified here, it may perhaps be concluded that outcomes for these models are at best comparable to traditional care, with no substantial suggestions that they result in poorer outcomes, and with sufficient potential for benefits to warrant further investigation. These results largely reflect those of previous reviews, which were similarly inconclusive (Shier et al., 2014). Thus, while Shier and colleagues included grey literature and literature on initiatives other than structured established models, limiting the evidence to peer-reviewed studies relating only to such models does not offer a stronger body of evidence or one with a clearer direction.

For five models (Eden, Green House, EverCare, Pioneer and Planetree) studies also explored consumer experiences of care, using satisfaction surveys, staff anecdotes and interviews, and interviews and focus groups with residents and family members. Both family and resident satisfaction and experiences were mixed overall; while both stakeholder groups identified key aspects of care and specific aspects of the models which had made improvements in residents’ lives, both also identified some aspects of the change to the new model particularly related to staff and staff time that were concerns. Concerns included resident isolation, boredom, loneliness, lack of stimulation, and staff adjustment to the change in the model of care.

The pattern of findings suggests that the concerns raised by residents and family members may be the result of inadequate or incomplete implementation of person-centred principles as part of the model; indeed, some staff raised concerns that they were not adequately supported to meet resident needs, a finding which was also identified in other studies (Petriwskyj et al., 2015). Therefore, while these models may have the potential to benefit residents, particularly in terms of emotional wellbeing and quality of life, the implementation of person-centred principles within the models may affect the outcomes for residents. Thus, overall, there appears to be a lack of substantial and compelling evidence for improved resident outcomes for these structured, subscription-based models; however,
as Shier and colleagues (2014) also highlighted, this may raise questions more about the implementation of the models than the inherent value of the models themselves. Many of the papers offered only limited detail regarding implementation, and papers that described the implementation of different models indicated considerable variation (Petriwskyj et al., 2015). Attention to both practice and evaluation of model implementation, including what dimensions of the models are the focus of the intervention, is therefore important. Further, support for organisations in ensuring that the model is properly implemented and that person-centred principles are adequately supported may be essential in achieving the outcomes model developers have envisaged. Without this support, sustainable and comprehensive culture change resulting in real outcomes for residents may not be achieved.

Limitations

In interpreting the findings of this review, some points should be noted. First, while the quality of the studies was considered adequate for inclusion in the majority of cases, the papers did display some methodological limitations which mean that the data should be used with some caution. Qualitative studies, for example, frequently failed to clarify their philosophical perspective, or to include any reflexive statements on the authors’ positions and influence in regard to the research. Common issues with quantitative papers included inadequate consideration of confounding variables and drop-outs. Studies also often provided incomplete participant descriptions (Petriwskyj et al., 2015). The inclusion of these studies in the review despite their limitations requires caution on the part of the reader.

Conclusion

The findings of this review therefore indicate that, as previous reviews of similar initiatives have found, evidence for outcomes from these models is limited and inconclusive. While the findings hold promise, few firm conclusions may yet be drawn. It is clear that considerably more high-quality peer-reviewed evidence is needed to support both the adoption and further development of these models, as well as to support claims that these structured and patented models may have benefits over other approaches.
**References**


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