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'The nourishing soil of the soul': The role of horticultural therapy in promoting well-being in community-dwelling people with dementia

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Abstract

Two-thirds of people with dementia reside in their own homes; however, support for community-dwelling people with dementia to continue to participate in everyday activities is often lacking, resulting in feelings of depression and isolation among people living with the condition. Engagement in outdoor activities such as gardening can potentially counteract these negative experiences by enabling people with dementia to interact with nature, helping to improve their physical and psychological well-being. Additionally, the collaborative nature of community gardening may encourage the development of a sense of community, thereby enhancing social integration. Despite increasing evidence supporting its therapeutic value for people with dementia in residential care, the benefits of horticultural therapy have yet to be transposed into a community setting. This paper will examine the theoretical support for the application of horticultural therapy in dementia care, before exploring the potential of horticultural therapy as a means of facilitating improved physical and psychological well-being and social integration for people living with dementia within the community.

Keywords

Biophilia, dementia, gardening, horticultural therapy, well-being

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Introduction

There are currently 850,000 people living with dementia in the UK, and this figure is set to increase to over one million by 2025 (Prince et al., 2014). 63.3% of people with dementia are living at home; however, community-based support for those living with the condition is inadequate, with little peer support and limited opportunities for people with dementia to continue to participate in everyday activities such as gardening (Knapp et al., 2007). Over 70% of people with dementia surveyed by the Alzheimer's Society (Kane & Cook, 2013) reported that they had ceased participation in hobbies and activities that they had enjoyed before developing dementia. Public perceptions of dementia further inhibit the ability of people with dementia to participate in activities within the community; almost two-thirds of survey respondents from the general public reported that they did not believe that people with dementia could continue to take part in any activity they enjoyed and 35% of respondents stated that they would not feel comfortable entering a conversation with a person with dementia (Kane & Cook, 2013). This lack of community involvement and understanding, in addition to insufficient opportunities to participate in activities, has contributed to feelings of depression, anxiety and isolation amongst people with dementia (Lakey, Chandaria, Quince, Kane, & Saunders, 2012).

Consequently, the focus of dementia research has shifted, with researchers exploring creative, empowering ways of enabling people to live well with dementia through active participation in everyday activities, such as arts, music and sports (Carone, Tischler, & Dening, 2014; De Medeiros & Basting, 2014; McDermott, Orrell, & Ridder, 2014). A growing awareness of the importance of access to outdoor environments for people with dementia has developed in recent years, with dementia researchers and care providers acknowledging that contact with the natural world is an essential component of holistic dementia care (Schwarz & Rodiek, 2007). However, little research has been conducted regarding the impact of nature affiliation and outdoor activity for people with dementia. The small number of studies in existence have primarily focused upon environments such as 'wander gardens' in which people with dementia play only a passive role (Detweiler, Murphy, Myers, & Kim, 2008; Whear et al., 2014).

Active engagement with the outdoors through activities such as horticultural therapy, defined by Simson and Strauss (2008, p. xxiii) as 'a treatment modality that uses plants and plant products to improve the social, cognitive, physical, psychological, and general health and well-being of its participants', has demonstrated significant benefits across a broad spectrum of medical conditions (Spring, Viera, Bowen, & Marsh, 2014; Verra et al., 2012), in addition to promoting psychological well-being (Eriksson, Westerberg, & Jonsson, 2011) and encouraging social integration (Smith & Parpia, 2014).

Despite slowly increasing support for the concept of transposing the benefits of engagement with the outdoors into dementia care strategies, the utility of horticulture as a therapeutic intervention for people with dementia has remained overlooked, with few researchers exploring the specific impact of gardening upon the well-being of people with dementia. A small handful of studies have explored the benefits of activity-based horticultural therapy for people with dementia (Jarrott & Gigliotti, 2010; Jarrott, Kwack, & Relf, 2002) with promising results; however, existing research has focused exclusively upon care home environments with no analysis of the benefits of horticultural therapy for the substantial number of people who live with dementia in the community.

Although the concept of 'horticultural therapy' has demonstrated validity, the term itself is potentially problematic. As ecopsychologist Steven Harper (1995) observed, the term

'therapy' implies that there is an illness to be cured, and that the intervention in question is finite, ending when the person is 'healed'. Additionally, 'therapy' implies that the activity in question must be delivered by a 'therapist'; however, as Innes (2002) highlighted, creative interventions in dementia care may also be undertaken by non-therapists who wish to empower people with dementia to experience and enjoy creative, holistic activities. Harper (1995) argued that in biophilic interventions such as gardening, nature is the true teacher, and participants in such interventions should be encouraged to experience their own personal evolution through interaction with nature, as opposed to following the direction of a 'therapist'. For the purposes of this paper, the term 'horticultural therapy' will be applied, as it is currently the accepted terminology. However, it may be pertinent for future researchers and practitioners to explore alternative phraseology, when encouraging people with dementia to participate in gardening activities, in search of a term that more appropriately reflects the nature of the activity.

This paper will explore the theoretical support for the application of horticultural therapy in empowering people to live well with dementia, before examining relevant literature regarding the physical and psychological benefits of the intervention for people with dementia, and discussing the potential impact of horticultural therapy upon social integration and well-being for people living with dementia within the community.

Nature affiliation and the biophilia hypothesis

The concept of nature affiliation as a fundamental component in fostering well-being has long been embraced by environmental theorists and philosophers, from 19th century Transcendentalists such as Henry David Thoreau, who wrote that 'there can be no very black melancholy to him who lives in the midst of Nature, and has his senses still' (Thoreau, 1995, p. 85) to environmentalist John Muir, who observed that 'Thousands of tired, nerve-shaken, over-civilised people are beginning to find out that going to the mountains is going home; that wildness is a necessity' (Muir, 2006, p. 1). Psychiatrist Carl Jung discussed the connection between nature and well-being in a series of interviews, describing the natural world as 'the nourishing soil of the soul' (Jung, cited by Sabini, 2008, p. 1) and stating that 'human existence should be rooted in the Earth' (Jung, cited by Sabini, 2008, p. 194). Jung believed that humans and the natural world coexist in a symbiotic relationship that provides humans with emotional and spiritual nourishment, and that psychological degradation results when humans are divorced from nature (Jung, cited by Sabini, 2008). Nollman (1994) asserted that attunement between a person's inner self and their natural environment is a crucial factor in the establishment of a sense of place, stating that gardening offers individuals an opportunity to cultivate their own relationship to their environment. However, Nollman (1994) argued that if gardening is to effectively provide an individual with a sense of place, the human relationship with the garden must shift from dominance to symbiosis, nurturing and participating with the natural processes of the garden, rather than asserting control over its development. Frumkin (2001) argued that contact with the environment is a vital component of well-being, suggesting that interaction with the natural environment complements the World Health Organisation's definition of health as 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity' (World Health Organisation, 2006, p. 1). Frumkin (2001) concluded that contact with nature should be incorporated into healthcare, with

activities such as gardening and animal therapy prescribed as an adjunctive treatment in medicine and rehabilitation.

Modern psychology has become increasingly concerned with the effect of disconnection from nature upon psychological health. Environmental psychologist Rachel Kaplan (1983, p. 155) wrote that, 'Nature matters to people. Big trees and small trees, glistening water, chirping birds, budding bushes, colourful flowers – these are the important ingredients in a good life'.

The fundamental concept of the ecopsychology subfield is that the separation of human beings from their ecological context is psychologically damaging, affecting interpersonal relationships and emotional well-being (Metzner, 1995). Ecopsychological healing, referred to in practice as ecotherapy, focuses upon therapies that heal the disconnect between humans and the natural world, thereby reducing symptoms such as anxiety, depression and stress, and encouraging a sense of place and belonging (Buzzell & Chalquist, 2010). Attention Restoration Theory (Kaplan & Kaplan, 1989) asserts that concentration and attention spans can be improved by interaction with nature, whether through active engagement or exposure to views of natural environments. The theory has been extensively validated in research, with evidence suggesting that natural environments impact more significantly upon attention spans than urban surroundings (Berman, Jonides, & Kaplan, 2008), and that Attention Restoration Theory can be applied in the amelioration of a variety of psychological conditions including attention deficit hyperactivity disorder (Faber Taylor & Kuo, 2009), depression (Berman et al., 2012) and stress (Hansmann, Hug, & Seeland, 2007).

In 1984, biologist Edward O. Wilson introduced the biophilia hypothesis, exploring the human connection to nature, and its impact upon physical, mental and emotional health (Wilson, 1984). The biophilia hypothesis states that human dependence upon nature extends beyond the material, asserting that human beings are driven by an evolutionary need to interact with nature (Kellert, 1995). Interaction with, or exposure to, nature elicits profound physical, psychological and emotional responses, highlighting a fundamental interconnectedness between human beings and the natural world (Bossen, 2010). Kellert (2012) suggested that affiliation with nature has shaped human capacity for thought, healing and health, and that nature performs a crucial role in maintaining physical and mental well-being. A growing body of research has demonstrated the validity of the biophilia hypothesis in practice, with evidence suggesting that interaction with nature can alleviate stress in children (Wells & Evans, 2003), improve mood and self-esteem (Barton, Griffin, & Pretty, 2012) and act as a preventative measure in the development of mental health conditions (Maller, Townsend, Pryor, Brown, & St. Leger, 2006).

The importance of nature in promoting well-being has been increasingly recognised in national policy: In 2011, the United Kingdom Department of Health published a white paper highlighting the importance of encouraging reconnection between people and the natural world, stating that increased engagement with the outdoors impacted positively upon physical and mental health, and social integration, in addition to reducing crime and providing opportunities for learning (Department of Health, 2011). In 2012, Natural England released a complementary strategy to improve access to, and engagement with, the natural world in the United Kingdom, further emphasising the health and social benefits of interaction with nature, in addition to the sense of enjoyment obtained from being outdoors (Natural England, 2012). In 2014, the United Kingdom Wildlife Trusts, in partnership with the Royal Society for the Protection of Birds, launched a campaign to introduce a Nature

and Wellbeing Act, producing a green paper proposal for the Government (Benwell et al., 2014), which presented engagement with the natural environment as a potential solution to a variety of social, economic and environmental issues, and suggested that the Government encourage interaction with nature as a method of preventative and treatment-based healthcare, in addition to harnessing the social and community benefits of the outdoors. The importance of encouraging interaction with nature as a means of restoring and maintaining well-being has been acknowledged as an international health promotion policy concern, with professionals acknowledging that encouraging individuals to engage with the natural world can lead to improvements in physical, psychological and emotional well-being which are often equal or superior to conventional medical treatment (Pryor, Townsend, Maller, & Field, 2006; St Leger, 2003).

Despite a growing acceptance of the importance of interaction with the natural world in maintaining and improving well-being, a significant proportion of people with dementia remain deprived of regular contact with nature. Gilliard and Marshall (2012) reported that 50% of care home residents with dementia never go outside, with a further 25% going outdoors only rarely. More than two-thirds of community-dwelling people with dementia reported that they have ceased participation in activities they formerly enjoyed, due to a loss of confidence and a fear of becoming lost or confused. Consequently, 50% of people with dementia leave the house only once a week or less, resulting in reduced opportunities to benefit from interaction with the outdoors (Kane & Cook, 2013).

In its 2013 report, Greening Dementia (Clark, Mapes, Burt, & Preston, 2013), Natural England explored the benefits of outdoor engagement for people with dementia, concluding that access to the natural environment facilitated improved emotional and physical health; increased verbal expression, memory and awareness; a greater sense of general well-being, self-esteem and autonomy; and a sense of belonging and increased social integration. However, the report noted that the available evidence of the benefits of outdoor interaction for people with dementia was limited, and too focused on the short term, with little research exploring the long-term impact of specific outdoor activities. Furthermore, the report highlighted that all of the existing research regarding the benefits of interaction with nature for people with dementia had been conducted in a care home setting. The report consequently recommended that, as two-thirds of people with dementia live in their own homes, the focus of future research investigating the benefits of outdoor engagement for people with dementia should shift to people who live with dementia in the community.

Although outdoor activity for people with dementia exists in many forms, active engagement through horticultural therapy possesses unique benefits for people living with the condition. A productive garden space, such as an allotment, could be particularly beneficial for people with dementia; the physical activity associated with allotment tasks, in addition to the sense of achievement attained from growing one's own food and the social interaction enjoyed during gardening sessions can create an empowering experience for people with dementia, resulting in an increased sense of self-esteem and relief from stress (Robertson, 2012). Hernandez (2007) compared both active and passive forms of interaction with outdoor space in a residential home for people with dementia and concluded that active participation in horticultural therapy activities represented the most effective form of garden-based therapy, offering a means of physical therapy in addition to improved cognitive function and emotional well-being. Additionally, Hernandez (2007) observed that participation in gardening activities interventions can aid the well-being of carers of

people with dementia and care home staff members, by providing an opportunity to alleviate stress and share the sense of achievement experienced by participants.

Although the cognitive changes experienced by people with dementia, in addition to age-related physical impairments, may impact upon their ability to participate in gardening activities, a garden designed in a manner conducive to the needs of people with dementia can provide an enriching therapeutic experience. Participants in horticultural therapy interventions within residential care settings have reported a sense of achievement from growing their own food and undertaking the physical labour associated with gardening. The olfactory associations related to certain plants and flowers enabled some group members to recall particular memories and others reflected upon the enjoyment associated with returning to an activity in which they had previously felt unable to participate since being diagnosed with dementia (Litherland, 2012). D'Andrea, Batavia, and Sasson (2007) found that horticultural therapy delayed cognitive decline in care home residents with Alzheimer's disease; Hewitt, Watts, Hussey, Power, and Williams (2013) observed that weekly engagement in horticultural therapy improved well-being and afforded a sense of purpose to people with young-onset dementia; and in a comparative study of horticultural therapy and traditional activities, Jarrott and Gigliotti (2010) noted that levels of engagement and affect were significantly increased in the horticultural therapy group. Such findings suggest that people with dementia can benefit substantially from active outdoor engagement through horticultural therapy, an observation echoed by Hernandez (2007), who asserted that therapeutic gardens should be introduced as standard in residential care facilities for people with dementia, due to their capacity to improve quality of life for people living with the condition.

Physical and psychological well-being

The physical activity associated with gardening can contribute to the therapeutic value of horticulture for people with dementia. Dan, Boca, and Sere (2012) observed that participation in a physical activity program improved quality of life for people with dementia through increasing functional independence and encouraging social interaction; Potter, Ellard, Rees, and Thorogood (2011) found that exercise improved physical function in people with dementia; and Brown et al. (2015) noted that regular participation in exercise classes may help to improve cognitive function. Stubbs et al. (2014) reported a variety of positive effects of participation in physical activity programs for people with dementia, including increased energy levels, improved motor function, increased general quality of life and higher levels of social interaction.

'Green exercise' has proven particularly beneficial for people with dementia. Hughes (2012) highlighted the benefits of a hiking group for people with dementia, expressing the empowering and equalising nature of the activity, and praising the ability of the outdoors to promote conversation and encourage reminiscence. Chalfont (2007) stated that engagement in outdoor activity can contribute to improved mood, behaviour and cognition, increased motor function and stimulation of senses and may even assist people with dementia in creating new memories through exposure to sensory stimuli. McKillop (2012) discussed the catharsis of outdoor activity, crediting a love of the outdoors with an increase in confidence, improved relaxation and the provision of a restorative environment following his diagnosis with dementia. The unique benefits arising from a combination of physical activity and outdoor interaction suggest that exercise undertaken in an outdoor setting, such

as a community garden project, may offer enhanced positive impacts for people with dementia when compared with indoor physical activity.

Studies conducted within long-term residential care environments have demonstrated that horticultural therapy can positively impact upon the psychological well-being of older people. Barnicle and Midden (2003) determined that horticultural therapy significantly improved the psychological well-being of older people in long-term care, a finding supported by Rappe (2005), who found that participation in horticultural activities improved mood and sleep pattern, reduced depression and alleviated physical pain for older people in long-term care. Tse (2010) also observed that the introduction of a horticultural therapy programme reduced loneliness and improved life satisfaction and social integration for older people in care homes. The introduction of horticultural therapy into a community setting may therefore contribute to the amelioration of physical discomfort, emotional distress and social isolation for people living with dementia.

Despite the positive effects of outdoor engagement for people with dementia, living with the condition can impact upon a person's ability to access and enjoy outdoor space. Duggan, Blackman, Martyr, and Van Schaik (2008) found that the confusion, anxiety and social isolation experienced by people with dementia led them to avoid going outdoors or to limit their activity to short walks in familiar areas, which in turn negatively impacted upon their emotional well-being. Diminished outdoor activity may hasten the progression of dementia, and increase the use of external care services by people living with the condition (Blackman, Van Schaik, & Martyr, 2007; Duggan et al., 2008). Encouraging ongoing physical activity through engagement in horticultural therapy may therefore offer significant physical, psychological and social benefits for people living with dementia, in addition to reducing the substantial impact of dementia upon healthcare services.

Community

Harnessing the social integration capacity of horticultural therapy is crucial to its success as an intervention in community dementia care. Loneliness and isolation are prevalent among people with dementia, and though specific research into the influence of loneliness upon people with dementia is limited (Moyle, Kellett, Ballantyne, & Gracia, 2011), several studies have identified negative impacts of isolation upon people living with the condition. Tilvis et al. (2004) observed that loneliness was associated with increased cognitive decline in people with dementia, and Fratiglioni, Wang, Ericsson, Maytan, and Winbald (2000) reported that people with dementia were more likely to experience feelings of loneliness and isolation than other older adults. Interpersonal relationships and opportunities for social integration have been identified as key factors in ensuring a good quality of life for people with dementia (Moyle et al., 2011), and reduced interaction with others can therefore impact negatively upon the quality of life of people living with the condition.

The Alzheimer's Society (Kane & Cook, 2013) found that almost 40% of people with dementia regularly feel lonely, compared with 24% of the general older population, indicating that dementia compounds feelings of loneliness in older people. Although many people with dementia retain a strong social network, their connections diminish in number over time, as friends and relatives detach themselves from the person following their diagnosis (Duane, Brasher, & Koch, 2013); 33% of people with dementia surveyed reported that they had lost friends following their diagnosis (Kane & Cook, 2013). The gradual decline in cognitive function and communicative ability associated with the

condition can cause some people with dementia to purposely remove themselves from personal relationships, due to a fear of being misunderstood and being unable to communicate effectively. Isolation and loneliness also impact upon carers of people with dementia, with carers reporting a sense of embarrassment and fear of being shunned by people who lack understanding regarding the condition. The creation of a safe environment in which people with dementia and their carers can engage in social activities without fear or embarrassment is therefore essential to encouraging social integration among people affected by the condition (Moyle et al., 2011).

The provision of a safe and empowering environment in which to participate in physical and social activities is a benefit commonly attributed to horticultural therapy initiatives. Lun (2013) noted that horticultural therapy activities are highly adaptable to the needs of a particular group, enabling participants to develop skills and regain lost confidence within a secure environment in which their fears and insecurities are alleviated. Chen and Ji (2015) observed that engagement in horticultural therapy significantly reduced feelings of loneliness among older adults in residential care by facilitating social interaction within a purpose-built environment. Adevi and Martensson (2013) identified that horticultural therapy interventions offer a safe environment in which to slowly build community and regain lost confidence, empowering participants to form a fellowship with others facing similar situations, and thereby alleviating the loneliness and embarrassment reported by those who experience isolation due to a medical condition.

The Alzheimer's Society's dementia-friendly communities report (Green & Lakey, 2013) states that encouraging and supporting people with dementia to continue to access and enjoy outdoor spaces is a key element in the creation of dementia-friendly public spaces. The inclusion of people with dementia in their communities is essential to ensuring a high standard of quality of life; however, the level of inclusion of people living with the condition is low, with 59% of the general public agreeing that opportunities for people with dementia to feel included in their community are poor (Kane & Cook, 2013). The dementia-friendly communities agenda (Green & Lakey, 2013) asserted that the creation of accessible outdoor environments for people with dementia holds significant potential for improving quality of life for people living with the condition, by providing opportunities for social interaction, encouraging a sense of community and cultivating a sense of purpose and enjoyment in the daily lives of people with dementia. By engaging people with dementia in outdoor activities, such as horticultural therapy, and enabling people with dementia to contribute to their community in a meaningful manner, the isolation, anxiety and fear reported by people living with the condition can therefore be alleviated, significantly improving quality of life for people living with dementia.

Conclusion

Although the theoretical and policy support for the application of horticultural therapy in the holistic care of people with dementia is arguably strong, it remains a relatively overlooked element in dementia care and research, particularly within a community context. Horticultural therapy has demonstrated its validity as an intervention in a variety of contexts, and has indicated its capacity to improve physical and psychological well-being, reduce social isolation and alleviate depression and anxiety. For people living with dementia in the home, few such opportunities to improve their well-being in a holistic and productive manner are currently available, and the isolation, anxiety and depression experienced by this

population is likely to increase as the number of people living with dementia grows. Consequently, it may be timely to consider the application of horticultural therapy as a means of improving well-being for people living with dementia within the community. The widespread introduction of horticultural therapy in community dementia care would complement both government policy and charitable agendas, by providing an opportunity to enhance the well-being of people with dementia through engagement with the outdoors and involvement with their community. Evidence concerning the general benefits of horticultural therapy, and its applications in dementia care, suggests that horticultural therapy may offer a practical and effective solution to alleviating social isolation and improving well-being for community-dwelling people with dementia.

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Author Biographies

Sarah Noone is a PhD student. After commencing her research at Bournemouth University in January 2015, she recently transferred her studies to the University of the West of Scotland. Her research concerns the impact of a community garden initiative upon the well-being and social integration of people living with dementia and their carers. Sarah's research interests include the relationship between nature and well-being, particularly in relation to dementia, and the biophilia hypothesis and its applications in health and social care research.

Anthea Innes is a social scientist who has been working in the dementia field for the last two decades. Her work focuses on the views and experiences of those most impacted by dementia, namely those with the diagnosis, their family members and those who provide support and care. She has recently joined the Alzheimer Scotland Centre for Policy and Practice at the University of the West of Scotland where she leads a programme of social research on dementia. Prior to this she founded and was the inaugural Director of the Bournemouth University Dementia Institute and was responsible for the creation of a multi-disciplinary team undertaking research designed to have real world impact for the lives of those with dementia. She worked at the Dementia Services Development Centre at the University of Stirling where she was the inaugural programme director for the first worldwide online masters programme in Dementia Studies. She also worked with the late Tom Kitwood at Bradford Dementia Group, University of Bradford early on in her career. She has published widely (90+) in the dementia field and has held numerous project grants (80+) working collaboratively with a range of stakeholders nationally and internationally. She is passionate about working to improve the lives of those impacted by dementia.

Fiona Kelly is committed, through teaching and research, to improving the lives and everyday experiences of people with dementia and those who support and care for them. Her philosophical and research interests include human rights, selfhood in dementia, end of life care, dementia friendly design, creativity, assistive technology, service evaluation, exploring cultures of care and hearing the views and opinions of people with dementia and those who support them. Research skills include ethnography, interviews and focus groups with people with dementia, families and care staff, observational tools (Dementia Care Mapping, Piece-dem), design audit tools (Stirling Design Audit Tool, Environmental Audit Tool), video-recording with people with dementia, qualitative data-analysis and writing. Alongside her academic work, she also works one night shift a month in a care home for people with dementia; this allows her to maintain her nursing skills, connect with the everyday lives of people with dementia in care homes, identify areas for research and teach with credibility.

Andrew Mayers is a senior lecturer in Psychology at Bournemouth University, where he specialises in child and family mental health (especially perinatal mental illness, such as

postnatal depression). He holds an honorary appointment with Dorset HealthCare University NHS Foundation NHS Trust (DHUFT; the local mental health service provider). Professionally, Dr Mayers works with DHUFT, Dorset Police and the Dorset Police and Crime Commissioner on the mental health street triage (providing more appropriate alternatives to using police cells to detain people experiencing mental health crises). He provides mental health education for health professionals (such as midwives and health visitors) and helps train police officers. He is also an active mental health campaigner, pressing for better services and tackling stigma and discrimination. He is frequently invited to Parliament as part of those campaigns. He also serves on several local and national advisory groups for maternal mental illness. He is Chair of Trustees for Acts Fast, a Bournemouth-based child sexual abuse charity, Patron of Dorset Mind and Patron for the Samaritans of Bournemouth and District. You can read more about Dr Mayers' work on his website www.andrewmayers.info or follow him on Twitter @DrAndyMayers.