Working Resources List on Dementia Care Management and Intellectual Disabilities

Preparing Community Agencies for Adults Affected by Dementia - "PCAD" Project
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v.17c

Adams, D., Oliver, C., Kalsy, S., Peters, S., Broquard, M., Basra, T., Konstandinidi, E., & McQuillan, S.


Abstract: Behavioral changes associated with dementia in Down syndrome are well documented, yet little is known about the effect of such behaviors on carers and referral. By comparing the behavioral and cognitive profiles of individuals referred for a dementia assessment with those of individuals not referred, some insight can be gained into behavioral characteristics that initiate referral for specialist support or interventions. Forty-six adults with Down syndrome were divided into two groups dependent upon method of entry into the study: post-referral to a specialist service for older adults with intellectual disabilities and Down syndrome for a dementia assessment (n = 17) or after receiving information sent out to day centers and residential homes (n = 29). These groups were compared on established measures of dementia alongside two informant measures of behavior. Those referred for a dementia assessment evidenced scores indicative of cognitive decline on both informant and direct Neuropsychological Assessments and showed more behavioral excesses, but not deficits, and lower socialization and coping skills than those in the comparison group. Carers of those referred for a dementia assessment reported a greater impact of behavioral excesses on staff than on the individual showing the behavior in contrast to the comparison group. The behavioral differences between those referred and the comparison group suggest that two factors are involved in the instigation of a referral for a dementia assessment: the nature of the behavioral presentation (excesses rather than deficits) and the effect of that behavioral change upon the care staff.

Alzheimer's Association

Guidelines for dignity: Goals of specialized Alzheimer/dementia care in residential settings

47 pp.


Abstract: Standards for care and structure of care settings housing persons affected by Alzheimer's disease. Includes sections on philosophy, pre-admission activities, admission, care planning and implementation, adapting to changes in condition, staffing and training, physical environment and "success indicators."

Alzheimer's Australia

Down syndrome and Alzheimer's disease

12 pp.

[Place of publication not provided] (no date)


Abstract: Informational booklet on dementia and people with Down syndrome jointly issued by Alzheimer’s Australia, Down Syndrome Victoria, and Centre for Developmental Disability Health Victoria. Contains three main sections: (1) About Alzheimer’s disease and Down syndrome, (2) Diagnosis, and (3) Support, as well as a section on local resources.

Alzheimer’s Disease International

Planning and design guide for community based day care centres

21 pp.


Abstract: An illustrated 21-page booklet highlighting main design issues and suggestions for organizing an effective environment for adults with dementia - with applications for residential environment.

Alzheimer's Disease Society

Safe as houses -- Living alone with dementia (A resource booklet to aid risk management)


30 pp.

Abstract: A 30 page booklet designed for the carer who is concerned about an older person with early to mid-stage dementia who may be living on their own. The booklet examines risks that the older adult may encounter and suggests how they could be minimized. The intent of the booklet is to aid the older person remain functional at home, with as minimal risk, for as long as possible. Covers personal care, finances, wandering, security, medication, utilities, and household safety. Whilst information is generic, resource information is geared toward the UK.

Alzheimer's Society

Learning disabilities and dementia

6 pp.

Alzheimer’s Society UK

[Place of publication not provided] (2011)


Abstract: Web-based booklet produced in the UK on the topic of intellectual disabilities and dementia. Contains background information, as well as diagnosis, identification of symptoms and support and care services.

Antonangeli, J.M.

Of two minds: A guide to the care of people with the dual diagnosis of Alzheimer’s Disease and mental retardation.

167 pp.


Abstract: Written in training manual format, this text covers a range of topics related to dementia among persons with intellectual disabilities, including the notions behind dementia, structuring physical environments, safety and control issues, communication strategies, assessing and aiding with activities of daily living, behavior management strategies, medical concerns, and aiding carers. Much of the text is drawn from general practice in the Alzheimer’s field with reference to application for settings with persons with intellectual disabilities.

Antonangeli, J.M.

The Alzheimer project: formulating a model of care for persons with Alzheimer’s disease and mental retardation


Abstract: Article speaks to a pilot project conducted in Massachusetts to increase staffing, education and Alzheimer case management supports. Special supports were designed and offered to a number of adults with Down syndrome affected by dementia, including specialized assessments, team care planning meetings, home adaptations and behavior loss supports.

Contact: mjanicki@uic.edu

Abstract: The foremost impediment to progress in the understanding and treatment of dementia in adults with intellectual disability is the lack of standardized criteria and diagnostic procedures. Standardized criteria for the diagnosis of dementia in individuals with intellectual disability are proposed, and their application is discussed. In addition, procedures for determining whether or not criteria are met in individual cases are outlined. It is the intention of the authors, who were participants of an International Colloquium on Alzheimer Disease and Mental Retardation, that these criteria be appropriate for use by both clinicians and researchers. Their use will improve communication among clinicians and researchers, and will allow researchers to test hypotheses concerning discrepancies in findings among research groups (e.g. dementia prevalence ranges and age of onset). [This report is available also on www.aamr.org at the following URL: http://161.58.153.187/Bookstore/Downloadables/index.shtml]


Abstract: Research based on retrospective reports by carers suggests that the presentation of dementia in people with Down syndrome may differ from that typical of Alzheimer's disease (AD) in the general population, with the earliest changes tending to be in personality or behavior rather than in memory. This is the first long-term prospective study to test the hypothesis that such changes, which are more typical of dementia of frontal type (DFT) in the general population, mark the preclinical stage of AD in DS. A previously identified population sample of older people with DS, first assessed in 1994 and followed-up 16 months later, were reassessed after a further 5 years. This study focuses on the 55 individuals who took part in the second follow-up. Dementia diagnosis was made using the modified CAMDEX informant interview and neuropsychological assessment was undertaken using the CAMCOG. Progression in clinical presentation was examined and degree of cognitive decline over time (on the CAMCOG and derived measures of executive function (EF) and memory) was compared across groups based on diagnosis and age: AD, DFT, personality/behavior changes insufficient for a diagnosis of DFT (PBC), no diagnosis <50 years and no diagnosis 50 + years. Progression was observed from early changes in personality and behavior to an increase in characteristics associated with frontal lobe dysfunction and/or a deterioration in memory, prior to the development of full AD. Individuals who met criteria for DFT were significantly more likely to progress to a diagnosis of AD over the following 5 years than those who did not and those with PBC were significantly more likely to progress to a more severe diagnosis (DFT or AD) than those without. In the 5 years prior to diagnosis, participants with PBC and DFT had shown a degree of global cognitive decline intermediate between those with no dementia and those with AD. Both these groups had shown a significant decline in EF but not in memory, while the AD group had shown significant decline on both measures, with a significantly greater degree of decline in memory. Older participants without informant reported changes showed a more generalized pattern of decline. These findings confirm that the early presentation of AD in DS is characterized by prominent personality and behavior changes, associated with executive dysfunction, providing support for the notion that the functions of the frontal lobes may be compromised early in the course of the disease in this population. This has important implications for the diagnosis, treatment and management of dementia in people with DS.


Abstract: Recent research suggests that preclinical Alzheimer’s disease (AD) in people with Down syndrome (DS) is characterized by changes in personality/behavior and executive dysfunction that are more prominent than deterioration in episodic memory. This study examines the relationship between executive dysfunction and the clinical and preclinical features of AD in DS. To determine the specificity of this relationship, performance on executive function (EF) measures is contrasted with performance on memory measures. One hundred and three people with DS (mean age 49 years, range 36-72) with mild to moderate learning disabilities (LD) took part. Dementia diagnosis was based on the CAMDEX informant interview conducted with each participant’s main carer. Reported changes in personality/behavior and memory were recorded. Participants completed six EF and six memory measures (two of which also had a strong executive component) and the BPVS (as a measure of general intellectual ability). First, performance was compared between those with and without established dementia of Alzheimer's type (DAT), controlling for age and LD severity using ANCOVA. Next, the degree to which informant-reported changes predicted cognitive test performance was examined within the non-DAT group using multiple regression analyses. The DAT group (N=25) showed a consistent pattern of impaired performance relative to the non-DAT group (N=78), across all measures. Within the non-DAT group, number of informant-reported personality/behavior changes was a significant predictor of performance on two EF and two ‘executive memory’ tests (but not on episodic memory tests). Informant-reported memory changes, however, were associated with impaired performance on a delayed recall task only. These findings provide further evidence for a specific impairment in frontal-lobe functioning in the preclinical stages of AD in DS.


Abstract: In this article, the diagnosis of Alzheimer’s disease and its progressive behavioral impact on persons with Down syndrome is discussed. Several implications and suggestions for care and service provision for adults with Down syndrome are presented, including that Alzheimer’s disease in an adult with Down syndrome has an impact on the carer, adjusting communication strategies to correspond to the stage of dementia, aiding families to seek assistance from social agencies, stressing the remaining abilities and skills, aiding families and carers to develop realistic methods of providing care, and adapting the persons care and environment to help them cope with losses stemming from dementia. The authors also suggest proactive strategies for anticipating decline among adults with Down syndrome associated with dementia.


Abstract: Increasing numbers of adults with intellectual disabilities (ID) are living into old age. Though this indicates the positive effects of improved health care and quality of life, the end result is that more adults with ID are and will be experiencing age-related health problems and also exhibiting symptoms of cognitive impairment and decline, some attributable to dementia. Early symptoms of dementia can be subtle and in adults with ID are often masked by their lifelong cognitive impairment, combined with the benign effects of ageing. A challenge for caregivers is to recognize and communicate symptoms, as well as find appropriate practitioners familiar with the medical issues presented by aging adults with lifelong disabilities. Noting changes in behavior and function and raising suspicions with a healthcare practitioner, during routine or ad hoc visits, can help focus the examination and potentially validate that the decline is the result of the onset or progression of dementia. It can also help in ruling out reversible conditions that may have similar presentation of symptoms typical for Alzheimer's disease and related dementia. To enable caregivers, whether family members or staff, to prepare for and advocate during health visits, the National Task Group on Intellectual Disabilities and Dementia Practices has developed guidelines and recommendations for dementia-related health advocacy preparation and assistance that can be undertaken by provider and advocacy organizations.
Bittles, A.H., & Glasson, E.J.
Clinical, social, and ethical implications of changing life expectancy in Down syndrome
Abstract: Increased life expectancy generates greater ethical and legal dilemmas in the treatment of people with Down syndrome. Assumptions that younger generations of people with DS will experience healthier lives in comparison to previous generations may not be realized as specific health issues associated with DS are genetically encoded and thus contemporary generations may face the same adverse health issues. With respect to dementia, authors note that by age 60 years, dementia involving memory loss, cognitive decline, and changes in adaptive behavior may be present in at least 56% of adults with DS and that some the neuropathological features of Alzheimer disease may be evident as early as age 40.

Bowers, B., Webber, R., & Bigby, C.
Aging and health related changes of people with intellectual disabilities living in group homes in Australia.
Abstract: Group homes for people with ID are based on social models, emphasizing inclusion, engagement in community, and quality of life. As age related changes occur, group home staff members are faced with decisions about how to respond, how to support people experiencing health problems, and whether or for how long people can remain in the group homes. This study explored how group home staff members respond to aging and age related health conditions in group home residents and to identify factors that put people at risk of premature or inappropriate relocation. Using a longitudinal design in order to observe, over time, the onset of health problems, the initial responses of housing staff to health, the development of health conditions, the consequences of their initial responses, and the outcomes for both staff and residents were considered. In-depth interviews were conducted—at three 6-month intervals with 18 clusters of the housing manager, family member, the person with the disability, and in some cases, healthcare providers. A total of 91 interviews were completed, transcribed, and analyzed and in keeping with the theory-generating approach, early interviews were open and exploratory, evolving over time to facilitate comparative analysis across groups, strategies, conditions, and care issues. Staff and family members agreed that aging and the development of associated health conditions was increasingly becoming an issue for them. Significantly, there was wide variation among housing staff in terms of philosophy of care, with some believing that people should be supported to remain at the group homes for as long as possible. This, however, required the acquisition of new resources, a range of organizational changes to support staff and residents, changes to staffing patterns and levels, and a change in recruiting as a strategy to alter skill mix of house workers. Authors concluded that problems identified by most housing staff included: (a) inability of residents to retire despite age and health status; (b) risk of premature moves to aged care; and (c) disruption to general house activities and routines of other residents. Staff members’ experienced altered work routines, concerns about the safety of residents and themselves, and frequent turnover. Availability of resources, such as equipment and home modifications, flexibility of staffing to accommodate changing resident needs, and philosophy of care all had a significant impact on residents’ ability to "stay home."

Bowey, L. & McGlaughlin, A.
Adults with a learning disability living with elderly carers talk about planning for their future, as well as providing them with bereavement support.
Reflections upon the development of a dementia screening service for individuals with Down’s syndrome across the Hyndburn and Ribble Valley area.
Abstract: The high prevalence of dementia in individuals with Down’s syndrome has led intellectual disability services in the Hyndburn and Ribble Valley (HRV) area of England to develop a screening service to address this need. The authors offer reflections upon this process by its members after the first 12 months of operation. A multidisciplinary team, comprising professionals from intellectual disability psychology, intellectual disability speech and language therapy, intellectual disability community nursing and older adults psychiatry, has developed, and begun to implement, screening care pathways. The service conducts routine screening assessments, provides intervention for individuals where concerns arise and delivers training to carers. At the point of writing, 27 service users have received screening assessments and six have been identified as at moderate–high risk of developing dementia. Reflection and
feedback has highlighted issues for consideration throughout the service development process, and an evaluation of the training provided by the service has found this to be effective in increasing carers understanding about dementia and intellectual disabilities.

Carfi, A., Antocicchio, M., Brandi, V., Cipriani, C., Fiore, F., Mascia, D., Vetrano, D.L., Onder, G. Down syndrome in adulthood: A disease for geriatricians European Geriatric Medicine, 2014, 5(Supp 1), 549. Abstract: Authors evaluated 89 adults with Down syndrome at a clinic in Rome, Italy, using a range of physiological and neurological methods, including nutritional and sensory assessments. The S’s mean age was 42 years (range 18 to 72); 51% were females. Authors found behavioral disorders (53%), mood disorders (43%), seizures (22%), osteoporosis (40%), hypothyroidism (53%), diastolic dysfunction (80%), OSAS (90%), and hearing impairment (82%). Authors noted severe cognitive impairments in 67%, BMI greater than 25 in 66%, and low scores on physical performance measures (50%). Authors conclude that the pattern of diseases and conditions noted resemble those of other older adults and recommend that a mandatory geriatric evaluation be undertaken in older adults with Down.

Carmeli, E., Ariav, C., Bar-Yossef, T., & Levy, R. Movement skills in persons with Down syndrome decrease with aging International Journal on Disability and Human Development, 2010, 9(1), 29–34. Abstract: Persons with Down syndrome (DS) are comparatively physically inactive, which could accelerate the onset of disease, resulting in symptoms associated with aging that are detrimental to health. The aim was to evaluate movement abilities across the life span in persons with DS. Eleven persons with DS (>50 years, mean age 58 years), and 10 younger persons with DS (<49 years, mean age 28 years) who resided in a residential living center were included in the study. Age- and gender-matched people without DS (n=22) served as control group. Five sensory-motor tasks that involved the integration of hand movements with visual information were used, as well as the posture scale analyzer system to examine postural stability. Results showed that the older persons with DS had more medical problems than the young persons with and without DS. The hand coordination and postural stability of the older adults with DS were more impaired in comparison with the young group and both control groups. It is postulated that the reduced motor functions (e.g., slower responses might be explained by a less active lifestyle) that could accelerate the onset of disease, resulting in symptoms associated with aging that are detrimental to health. Our observations could have significant implications for understanding the mechanisms underlying movement dysfunction in older adults with DS and might offer new approaches for possible prevention.

Carling-Jenkins, R., Torr, J., Iacono, T., & Bigby, C. Experiences of supporting people with Down syndrome and Alzheimer’s disease in aged care and family environments. Journal of Intellectual and Developmental Disability, 2012, 37(1), 54-60. Abstract: Australian research addressing the experiences of families of adults with Down syndrome and Alzheimer’s disease in seeking diagnosis and gaining support is limited. The aim of this study was to gain a greater understanding of these processes by exploring the experiences of families and carers in supporting people with Down syndrome and Alzheimer’s disease who had lived most or all of their lives with family. Three detailed case studies were created from multiple data sources, and then analyzed thematically. Families of adults with Down syndrome experienced stress and confusion as they negotiated a service system poorly equipped to meet their needs and professionals more focused on longstanding disability than the recent diagnosis of Alzheimer’s disease. Such overshadowing led to mismanagement by services. Authors conclude that this research advances understandings of the support needs of people with Down syndrome and Alzheimer’s disease and their families and exposes gaps in the service system.

Carr, J., & Collins, S. Ageing and dementia in a longitudinal study of a cohort with Down syndrome. Journal of Applied Research in Intellectual Disabilities, 2014, 27(6), 555-583. Abstract: A population sample of people with Down syndrome has been studied from infancy and has now been followed up again at age 47 years. Intelligence and language skills were tested and daily living skills assessed. Memory/cognitive deterioration was examined using two test instruments.

Scores on verbal tests of intelligence changed little. Those on a non-verbal test, on self-help skills and on both memory tests showed some decline, even when the scores of those already suffering from dementia were discounted. At age 47, scores on most tests of even the majority of the cohort (i.e. those not definitely diagnosed with dementia) showed some decline. While this includes the scores of people who may subsequently develop dementia, it may also reflect the normal ageing process in this population.

Centre for Developmental Disability Health Victoria Dementia and Intellectual Disability – A guide to supporting people with intellectual disabilities through their journey with dementia: Online Learning for Disability Support Workers http://www.cddh.monash.org/online-learning/ Abstract: These are on-line learning modules for disability staff supporting people who were at risk of developing, or had already been identified as having, dementia. There are four 16 minute nODULES in the series addressing key questions you may have when supporting someone with dementia. They cover helpful information related to dementia and ID. Module 1: Understanding dementia and intellectual disability; Module 2: Taking action – The role of the support worker in assessment; Module 3: Supporting someone with intellectual disability and dementia; and Module 4: Supporting people through environment and activity. There are also a series self-taking test questions.

Chaput, J.L. Housing people with Alzheimer disease as a result of Down syndrome: a quality of life comparison between group homes and special care units in long term care facilities. Master’s thesis, Department of City Planning, University of Manitoba (1998) Abstract: Report of study to determine which form of housing, group homes or special care units (SCUs), provided an enhanced quality of life for individuals with Down syndrome (DS) and Alzheimer disease (AD). Ten long term care (LTC) facilities with SCUs for people with AD in the Winnipeg, Canada area and ten group homes for people with DS and AD across Canada participated in the study. Results indicated that the group homes seemed to provide an enhanced quality of life for adults with DS and AD because they provided a home-like environment and they operated according to a therapeutic philosophy of care. In addition, costs for caregiving seemed to be more economical in group homes than in SCUs because group homes utilized lower staff wages and medical costs. Report provides information on practices and costs.

Chaput, J.L. & Udell, L. Housing people with Alzheimer disease as a result of Down syndrome: a quality of life comparison between group homes and special care units in long term care facilities. Journal of Intellectual Disability Research, 2000, 44, 236 (abstract No. 186) [Paper presented at the 11th World Congress of the International Association for the Scientific Study of Intellectual Disabilities, Seattle, Washington (USA), August 1-6, 2000] Abstract: The purpose of the study was to determine which form of housing, i.e., group homes or special care units (SCUs), provided a better quality of life for individuals with Alzheimer disease (AD) as a result of Down syndrome (DS). The study also provided Winserv Inc. (a non-profit housing organization that houses people with mental disabilities) with important information. Using the study results, Winserv Inc. was able to determine that their group homes were suitable to maintain individuals with DS and AD and that their group homes were more cost-effective than SCUs in terms of caregiving. Twenty caregivers from both group homes and SCUs were selected to participate in this study. Ten long term care (LTC) facilities with SCUs for people with AD were selected in the Winnipeg area and ten group homes for people with Down syndrome and AD were chosen in Winnipeg and across Canada. The results indicated that the group homes seemed to provide the best quality of life for people with AD as a result of Down syndrome because they provided a home-like environment and they operated according to a therapeutic philosophy of care. In addition, costs for caregiving seemed to be more economical in group homes than in SCUs because group homes utilized lower staff wages and medical costs. Based on the results, it was recommended that Winserv Inc. continue to house people with DS and AD.

Chaput, J.L. Adults with Down syndrome and Alzheimer’s disease: Comparisons of services
received in group homes and in special care units

*Journal of Gerontological Social Work, 2002, 38, 197-211*

Abstract: An increasing number of people with Down syndrome are at risk of dementia resulting from Alzheimer’s disease. Many reside in community group homes. When they are affected by dementia, the challenge to agencies providing group homes is how to best provide continued housing and provide effective dementia-related care management. In the general population, long term care is typically provided in nursing facilities, often in special care units (SCUs). This study evaluated select factors found in group homes and SCUs to determine which is able to provide a better quality of life for people with Down syndrome affected by dementia. Interviews, using quality of life indicators, were conducted at 20 sites, equally selected from group homes and SCUs, on the basis of their experience with people with dementia. Results indicate that group homes can provide conditions associated with better quality of life and, additionally, operate with lower staffing costs due to the non-utilization of medical staff.

**Cleary, J., & Doody, O.**

Professional carers’ experiences of caring for individuals with intellectual disability and dementia: A review of the literature.

*Journal of Intellectual Disabilities, [2016] e-print*

Abstract: The number of people with intellectual disability living into old age and developing dementia continues to increase. Dementia presents a wide range of challenges for staff due to progressive deterioration. This article presents the findings from a narrative literature review of professional caregivers’ experiences of caring for individuals with intellectual disability and dementia. Seven electronic databases were searched using Boolean operators and truncation to identify relevant literature. Search results were combined and narrowed to articles relevant to staff working with individuals with intellectual disability and dementia, and 14 articles met the criteria for review. Themes outlined in the review include staff knowledge of dementia, staff training in dementia, caregiving, challenging behavior, pain management, mealtimes, support and coping strategies. Overall carers must review and adjust their care delivery and support to people with intellectual disability and dementia, not only in terms of identifying and responding to their health needs but also through collaborative team working within and across services.

**Cleary J., & Doody O.**

Nurses’ experience of caring for people with intellectual disability and dementia.


Abstract: The authors endeavored to explore nurses’ experiences of caring for older people with intellectual disability and dementia. Ageing and dementia prevalence is increasing along with the life expectancy of people with intellectual disability. As a population group, people with intellectual disability have a high prevalence of dementia, which is higher within the subpopulation of Down syndrome. People with intellectual disability live in residential care, community or residential settings, and nurses are required to adapt their practices to meet the changed needs of the individual. A qualitative Husserlian descriptive phenomenological methodology was undertaken by the researchers so as to be able to become absorbed in the quintessence of meaning and explore nurses’ experience of working with older people with intellectual disability and dementia. Ethical approval was obtained, and data were collected utilizing semistructured interviews (n = 11). Interviews were transcribed and analyzed using Colaizzi’s framework for data analysis. The authors extracted three key themes were identified: ‘knowledge of dementia’, ‘person-centred care’ and ‘transitioning within the service’. The study highlights the need for proactive planning, life story books of the patient, and funding to support client and staff. The authors concluded that overall, the study highlights the importance of knowing the person, supporting the individual and recognizing presenting behaviors as outside the control of the individual. The article presents the experiences of nurses caring for the older person with intellectual disability and dementia. Transitions are often very difficult for both the person and their peers, and they experience benefit from the efforts of a multidisciplinary team facilitating a person-centered approach.

**Cohen, U., & Wiesman, G.D.**

Holding on to home: Designing environments for people with dementia.

181 pp.

**Baltimore: Johns Hopkins University Press** (1991)

Abstract: General text on adapting homes and living environments for persons with dementia; applicable to home and other residential situations for adults with intellectual disabilities and dementia.

**Collacott R.A.**

Epilepsy, dementia and adaptive behaviour in Down’s syndrome.


Abstract: Widespread inquiry identified 378 adults with Down’s syndrome resident in Leicestershire, England. The immediate carer of 351 of these (92.8%) was interviewed for the purpose of establishing a past history of seizures, including the age at which the seizures began. The immediate carer was also invited to provide information to enable the completion of an Adaptive Behaviour Scale (A.B.S.) rating. Individuals with a history of seizures were divided into two groups on the basis of whether or not seizures commenced prior to or after age 35 years. Two control groups of individuals with Down’s syndrome, but without a history of seizures were selected. Adaptive Behaviour Scale scores for those in whom seizures commenced at a younger age were similar to those who had no recorded history of seizures. However, in those in whom seizures began in later life, scores on all domains of the A.B.S. were significantly reduced compared to both young epileptic patients and their controls. Adaptive Behaviour Scale scores for the older control group held an intermediate position, suggesting that late-onset epilepsy may be a late manifestation of a dementing process. A clinical diagnosis of dementia recorded in the case records was significantly associated with the presence of late-onset epilepsy. This is supportive of the hypothesis that late-onset epilepsy in individuals with Down’s syndrome is associated with Alzheimer’s disease.


Dementia and mortality in persons with Down’s syndrome.


Abstract: Numerous studies have documented that persons with Down’s syndrome (DS) are at an increased risk of Alzheimer’s disease (AD); however, at present it is still not clear whether or not all persons with DS will develop dementia as they reach old age. We studied 506 people with DS, aged 45 years and above. A standardized assessment of cognitive, functional and physical status was repeated annually. If deterioration occurred, the patients were examined and the differential diagnosis of dementia was made according to the revised Dutch consensus protocol and according to the ICD-10 Symptom Checklist for Mental Disorders. We compared our findings with those reported in the literature. The overall prevalence of dementia was 16.8%. Up to the age of 60, the prevalence of dementia doubled with each 5-year interval. Up to the age of 49, the prevalence is 8.9%, from 50 to 54, it is 17.7%, and from 55 to 59, it is 32.1%. In the age category of 60 and above, there is a small decrease in prevalence of dementia to 25.6%. The lack of increase after the age of 60 may be explained by the increased mortality among elderly demented DS patients (43.4%) in comparison with non-demented patients (10.7%) who we observed during a 3.3-year follow-up. There was no decrease in incidence of dementia in the age group of 60 and above. Our findings are very similar to those published in the literature. Patients with dementia were more frequently treated with antiepileptic, antipsychotic and antidepressant drugs. The history of depression was strongly associated with dementia. Our study is one of the largest population-based studies to date. We found that despite the exponential increase in prevalence with age, the prevalence of dementia in the oldest persons with DS was not higher than 25.6%.


Survival in elderly persons with Down syndrome.

*Journal of the American Geriatrics Society, 2008, 56(12), 2311 - 2316.*

Abstract: The longer life expectancy now experienced by persons with Down syndrome (DS) makes it necessary to know the factors influencing survival in older persons with this syndrome. In a prospective longitudinal cohort study of dementia and mortality, 506 persons with DS aged 45 and older were followed for a mean of 4.5 years (range 0.0–7.6 years). Cognitive and social functioning were tested at baseline and annual follow-up. The diagnosis of dementia was determined according to a standardized protocol. Cox proportional hazards modeling was used for survival analysis. Relative preservation of cognitive and
functional ability is associated with better survival in this study population. Clinically, the most important disorders in persons with DS that are related to mortality are dementia, mobility restrictions, visual impairment, and epilepsy -- but not cardiovascular diseases. Also, level of intellectual disability and institutionalization were associated with mortality.

Cooper, S.A.
High prevalence of dementia among people with learning disabilities not attributable to Down's syndrome. Psychological Medicine, 1997, 27(3), 609-616. Abstract: For many years, it has been known that dementia can occur in people with learning disabilities, but there have been few research studies. Studies that do quote rates for dementia show these to be high, but this important fact has received remarkably little attention. Comprehensive psychiatric and medical assessments were undertaken on the whole population (ascertained as far as is possible) of people with learning disabilities aged 65 years and over living in Leicestershire, UK (N=134), in order to ascertain rates of DCR defined dementia, and associated factors. Dementia was diagnosed in 21.6% against an expected prevalence of 5.7%, for a group with this age structure. The rate of dementia increased in successive age cohorts: 15.6% aged 65-74 years; 23.5% aged 65-84 years; and 70.0% aged 85-94 years. People with dementia tended to be older, female, with more poorly controlled epilepsy, a larger number of additional physical disorders, less likely to be smokers and had lower adaptive behavior scores than did the elderly people without dementia. They were more likely to live in health service accommodation. Dementia occurs at a much higher rate among elderly people with learning disabilities than it does among the general population; this is independent of the association between dementia and Down's syndrome. Whether this relates etiologically to genetics, lack of brain 'reserve' or history of brain damage is yet to be determined.

Dementia and mortality in persons with Down's syndrome. Journal of Intellectual Disability Research, 2006, Oct;50(10):768-77. Abstract: Numerous studies have documented that persons with Down syndrome (DS) are at an increased risk of Alzheimer's disease (AD). However, at present it is still not clear whether or not all persons with DS will develop dementia as they reach old age. The authors studied 506 people with DS, aged 45 years and above. A standardized assessment of cognitive, functional and physical status was repeated annually. If deterioration occurred, the patients were examined and the differential diagnosis of dementia was made according to the revised Dutch consensus protocol and according to the ICD-10 Symptom Checklist for Mental Disorders. We compared our findings with those reported in the literature. The overall prevalence of dementia was 16.8%. Up to the age of 60, the prevalence of dementia doubled with each 5-year interval. Up to the age of 49, the prevalence is 8.9%, from 50 to 54, it is 17.7%, and from 55 to 59, it is 32.1%. In the age category of 60 and above, there is a small decrease in prevalence of dementia to 25.6%. The lack of increase after the age of 60 may be explained by the increased mortality among elderly demented DS patients (44.4%) in comparison with non-demented patients (10.7%) who we observed during a 3.3-year follow-up. There was no decrease in incidence of dementia in the age group of 60 and above. Our findings are very similar to those published in the literature. Patients with dementia were more frequently treated with antiepileptic, antipsychotic and antidepressant drugs. The history of depression was strongly associated with dementia. The authors concluded that their study is one of the largest population-based studies to date. We found that despite the exponential increase in prevalence with age, the prevalence of dementia in the oldest persons with DS was not higher than 25.6%.

Coppus AM, Evenhuis HM, Verberne GJ, Visser FE, Eikelenboom P, van Gool WA, Janssens AC, van Duijn CM.
Early age at menopause is associated with increased risk of dementia and mortality in women with Down syndrome. J Alzheimers Dis. 2010;19(2):545-50. doi: 10.3233/JAD-2010-1247. Abstract: In a prospective longitudinal cohort study of dementia and mortality in persons with Down syndrome aged 45 years and older, 85 postmenopausal women were followed for a mean follow-up time of 4.3 years (range 0.0 to 7.4 years). The effect of age at menopause on age at diagnosis of dementia and survival was estimated using correlation analysis and Cox Proportional Hazard Model. We found a significant correlation between age at menopause and age at diagnosis of dementia (r=0.52; p<0.001), and between age at menopause and age at death (r=0.49; p=0.01). Early age at menopause is associated with a 1.8 fold increased risk of dementia: Hazard Ratio (HR): 1.82 (95%Confidence Interval (CI): 1.31-2.52) and with risk of death: HR: 2.05 (95% CI: 1.33-3.16). Our study suggests that age at menopause in women with Down syndrome is a determinant of age at onset of dementia and mortality.

Cosgrave, M.P., Tyrrell, J., McCarron, M., Gill, M., & Lawlor, B.A.
Determinants of aggression, and adaptive and maladaptive behavior in older people with Down's syndrome with and without dementia. Journal of Intellectual Disability Research. 1999, 43(5), 393-399. Abstract: In a cross-sectional study of aggression, and adaptive and maladaptive behavior in 128 subjects with Down's syndrome (DS), 29 of whom had dementia, the current authors found that the presence of dementia was not predictive of aggression or maladaptive behavior. However, the level of adaptive behavior was shown to be lower in subjects with dementia, and in those with lower levels of cognitive functioning, as measured on a rating instrument, the Test for Severe Impairment. Although the presence of aggressive behaviors is not higher in subjects with dementia and DS on cross-sectional review, it remains to be seen whether aggression will increase in individual cases with the onset or progression of dementia. The decline in adaptive behavior shown in the present study confirms the findings of previous studies and indicates a direction for service development for persons with the dual diagnosis of dementia and DS.

Cosgrove, M.P., Tyrrell, J., McCarron, M., Gill, M., & Lawlor, B.A.
Age at onset of dementia and age of menopause in women with Down's syndrome. Journal of Intellectual Disability Research. 1999, 43(6), 461-465. Abstract: Menstrual status and the age of menopause were investigated in 143 Irish females with Down's syndrome (DS). The average age of menopause in 42 subjects (44.7 years) was younger than in the general population. The age at onset of dementia correlated with the age of menopause. This finding may be a manifestation of accelerated ageing in DS or a pointer to oestrogen deficiency being an independent risk factor for the development of Alzheimer's disease.

Courtenay, K., Jokinen, N.S., & Strydom, A.
Caregiving and adults with intellectual disabilities affected by dementia Journal of Policy and Practice in Intellectual Disabilities, 2010, 7(1), 26 - 33. Abstract: Authors conducted a systematic review of the available Dutch, English, and German language literature for the period 1997–2008 on the current knowledge on social-psychological and pharmacological caregiving with respect to older adults with intellectual disabilities (ID) affected by dementia. Authors note that caregiving occurs on a personal level between the person and their carer and organizational and interorganizational supports have an impact on the quality of care provided. However, the lack of robust evidence to meet the needs of adults with ID affected by dementia means that service organizations often have to extrapolate from the evidence base of dementia care practices in the general population. The review showed that concerns over staff burden, behavioral interventions, and staff training, and applications of models of care were emerging, but were not systematically studied. Authors noted that pharmacological agents and nonpharmacological, psychosocial techniques were being used to assist carers manage behavior, but the evidence base both of nonpharmacological and pharmacological interventions that can help people with ID and dementia and their carers is insufficient because of the absence of systematic and robust studies. The authors note a need for an international research agenda that begins to address gaps in knowledge. With more adults projected to be affected by dementia, a robust evidence-based body of literature on dementia care in people with ID can help with planning for and providing quality dementia-capable services.

Cox, S.
Home solutions: Housing & support for people with dementia London: The Housing Associations Charitable Trust [78 Quaker Street, London, England E1 6SW; e/m: hact@hact.org.uk] (1998) 112 pp. Abstract: Publication details some 10 case studies of housing options and accommodations for persons affected by dementia (and applicable to adults with...
The Gerontologist

Cognitive changes in memory precede those in praxis in aging persons with Down syndrome.


Abstract: Experimental tests of cognitive functions were developed and standardised to detect the onset and progression of the early stage of Alzheimer disease in persons with Down syndrome. The aim was to determine whether or not there was a specific sequence of cognitive changes over a 3-year period for the test measures. When compared with a young group (17-39 years of age at the start), an old group of persons with Down syndrome (40-58 years of age at the start) showed small but statistically significant changes over time suggestive of "pre-clinical signs" of dementia. When the data were sorted into 4 subgroups on the basis of age, a more detailed analysis revealed that the subgroup that was 50 years of age and older at the start showed changes in scores which were of a magnitude more clearly indicative of early dementia on the test measures. Deterioration in learning/memory functions began at an age mean of 54.2 years, followed later by deterioration in movement-related functions (praxis) at a mean age of 56.9 years. Deterioration in scores on an informant-based behavior rating scale (MOSES) occurred at an intermediate age of 55.0 years. The results provide preliminary support for the hypothesis that persons with Down syndrome who are 50 years of age and older may develop a specific sequence of functional changes during the early stage of dementia. They also illustrate ways in which small sample norms can be effectively used to increase the practical usefulness of tests intended to evaluate dementia in persons with intellectual disabilities.

De Vreese, L.P., Mantesso, U., de Bastiani, E., Weger, E., Marangoni, A.C., & Gomiero, T.

Procedures on Cognition and behavior in older adults with intellectual disabilities: A 3-year follow-up study.


Abstract: Dementia appears at a higher rate among some adults with intellectual disabilities (ID) and this potentially poses a greater risk of nursing home admission. Yet, to date, there is no evidence on the efficacy of general dementia-derived intervention-, personnel-, and patient-oriented intervention strategies in delaying onset of dementia or in slowing down its rate of progression in this population. To investigate the feasibility and efficacy of a multicomponent nonpharmacological approach, the authors studied a sample of 14 adults with worsening cognition and everyday functioning who were no longer manageable by their family or staff in day centers or, and who were relocated in a special care unit (SCU) designed to proactively accommodate the needs of people with ID and dementia. Baseline level and rate of decline across a 3-year period were assessed by means of the Dementia Questionnaire for Persons with Intellectual Disabilities and compared to two control groups not in dementia-capable programs matched for age, sex, and severity of ID. After 3 years, authors found symptoms of cognitive and stabilization in everyday functioning and behaviors in the SCU residents and a worsening in the control groups. The authors noted that enrollment in a dementia-capable program facilitated daily practice of residents’ residual skills and abilities, enhancing their memory and verbal communication, that the prosthetic environment contributed to activity maintenance and appropriate intellectual challenges, and that the greater participation on an individual level added to the skill maintenance. Although the interpretation of these positive findings is not straightforward, they confirm the validity of this “in-place progression” model and provide a platform for continuing progress in person-centered services and care for aging persons with ID.

Day, K., Carreon, D., & Stump, C.

The therapeutic design of environments for people with dementia: A review of the empirical research

The Gerontologist, 2000, 40, 397-416

Abstract: Design of the physical environment is increasingly recognized as an important aid in caring for people with dementia. This article reviews the empirical research on design and dementia, including research concerning facility planning (relocation, respite and day care, special care units, group size), research on environmental attributes (noninstitutional character, sensory stimulation, lighting, safety), studies concerning building organization (orientation, outdoor space), and research on specific rooms and activity spaces (bathrooms, toilet rooms, dining rooms, kitchens, and resident rooms). The analysis reveals major themes in research and characterizes strengths and shortcomings in methodology, theoretical conceptualization, and application of findings.

Davis, M., McGilade, A., & Bickerstaff, D.

A needs assessment of people in the Eastern Health and Social Services Board (Northern Ireland) with intellectual disability and dementia


Abstract: Article details a study undertaken by the Eastern Health and Social Services Board (Northern Ireland) which aimed to identify the number of people with intellectual disability within this area who were diagnosed with or were thought to have dementia. The objectives of the study were to collate demographic details and to profile the needs of this group. Key workers were asked to provide this information and were invited to comment on gaps in existing service provision and on future needs. A number of findings emerged: diagnostic services were patchy; people with dementia were living in a range of residential settings; carers wished to care for their clients for as long as practically possible, but they required extra resources and training to do so; and some individuals with an intellectual disability were excluded from elderly services. A report was compiled incorporating 12 recommendations.

De Vreese, L.P., Mantesso, U., de Bastiani, E., Weger, E., Marangoni, A.C., & Gomiero, T.

A needs assessment of people in the Eastern Health and Social Services Board (Northern Ireland) with intellectual disability and dementia

Measuring quality of life in intellectually disabled persons with dementia with the Italian version of the Quality of Life in Late-Stage Dementia (QUALID) scale in a sample of aging people with intellectual disabilities (ID). The QUALID was translated according to standardized procedures. Internal consistency was analyzed using Cronbach’s alpha. A Principal Component Analysis verified its multidimensionality. Inter-rater and test-retest reliabilities were also assessed using the Intraclass Correlation Coefficient (ICC). Convergent validity was probed by Spearman’s correlations among the QUALID score and the six subs-scores of the Assessment for Adults with Development Disabilities (AADS), a proxy-based questionnaire rating behavioral excesses and deficits commonly found in people with intellectual disabilities and dementia. Clinical validity was assessed by comparing QUALID scores obtained by subjects with and without dementia using the Mann-Whitney U test. A total of 40 adults/older people with ID at five ID-specific centers in the province of Trento and Cremona participated in the study. Findings show optimal levels of internal consistency (a = 0.80) and confirm the factors identified in the Spanish validation study (symptoms of discomfort, positive social interaction and depression). The scale has high inter-rater (ICC = 0.95) and good test-retest reliabilities (ICC = 0.89). The total QUALID score correlates significantly with the AADS sub-scores for behavioral excesses, but does not differ between individuals with and without dementia, though two out of the three identified factor scores are significantly higher in the dementia subgroup. The authors conclude that the Italian version of the QUALID is a reliable and valid instrument for estimating quality of life in aging adults with ID and dementia.


Deb, S., Hare, M.A., Prior, L., & Bhaumik, S.


Abstract: Many adults with Down syndrome develop Alzheimer's dementia relatively early in their lives, but accurate clinical diagnosis remains difficult. The authors set out to develop a user-friendly observer-rated dementia screening questionnaire with strong psychometric properties for adults with intellectual disabilities. They used qualitative methods to gather information from carers of people with Down syndrome about the symptoms of dementia. This provided the items for the Dementia Screening Questionnaire for Individuals with Intellectual Disabilities (DSQIID) which was then tested for its psychometric properties. The DSQIID was administered to carers of 193 adults with Down syndrome, 117 of whom were examined by clinicians who confirmed a diagnosis of dementia for 49 according to modified ICD-10 criteria. They established that a total score of 20 provides maximum sensitivity (0.92) and optimum specificity (0.97) for screening. The DSQIID has sound internal consistency (α > 0.91) for all its 53 items, and good test-retest and interrater reliability. The authors established a good construct validity by dividing the questionnaire items into four factors. The authors conclude that the DSQIID is a valid, reliable and user-friendly observer-rated questionnaire for screening for dementia among adults with Down syndrome.

Deb, S., Hare, M.A. & Prior, L.

Symptoms of dementia among adults with Down’s syndrome: a qualitative study.


Abstract: Dementia is common among adults with Down’s syndrome (DS); yet the diagnosis of dementia, particularly in its early stage, can be difficult in this population. One possible reason for this may be the different clinical manifestation of dementia among people with intellectual disabilities. The aim of this study was to map out the carers’ perspective of symptoms of dementia among adults with DS in order to inform the development of an informant-rated screening questionnaire. Unconstrained information from carers of people with DS and dementia regarding the symptoms, particularly the early symptoms of dementia, was gathered using a qualitative methodology. Carers of 24 adults with DS and dementia were interviewed. The interviews were recorded and fully transcribed. The transcripts were then analyzed using qualitative software. There appeared to be many similarities in the clinical presentation of dementia in adults with DS and the non-intellectually disabled general population. Like in the non-intellectually disabled general population, forgetfulness especially, impairment of recent memory combined with a relatively intact distant memory and confusion were common, and presented early in dementia among adults with DS. However, many ‘frontal lobe’-related symptoms that are usually manifested later in the process of dementia among the general population were common at an early stage of dementia among adults with DS. A general slowness including slowness in activities and speech, other language problems, loss of interest in activities, social withdrawal, balance problems, sleep problems, loss of pre-existing skills along with the emergence of emotional and behavior problems were common among adults with DS in our study. This study highlighted the similarities in the clinical presentation of dementia among the general population and people with DS with a particular emphasis on the earlier appearance of symptoms associated with the frontal lobe dysfunction among adults with DS.

Dekker, A.D., Strydom, A., Coppus, A.M.W., Nizetic, D., Vermeiren, Y., Naude, P.J.W., Van Dam, D., Potier, M-C., Fortea, J., De Deyn, P.P.

Behavioural and psychological symptoms of dementia in Down syndrome: Early indicators of clinical Alzheimer’s disease?

Cortex, 2015, 75, 36-61.

Abstract: Behavioral and psychological symptoms of dementia (BPSD) are a core symptom of dementia and are associated with earlier institutionalization and accelerated cognitive decline for adults with Down syndrome (DS) and increased caregiver burden. Despite the extremely high risk for DS individuals to develop dementia due to Alzheimer's disease (AD), BPSD have not been comprehensively assessed in the DS population. Due to the great variety of DS cohorts, diagnostic methodologies, sub-optimal scales, covariates and outcome measures, it is questionable whether BPSD have always been accurately assessed. However, accurate recognition of BPSD may increase awareness and understanding of these behavioral aberrations, thus enabling adaptive caregiving and, importantly, allowing for therapeutic interventions. Particular BPSD can be observed (long) before the clinical dementia diagnosis and could therefore serve as early indicators of those at risk, and provide a new, non-invasive way to monitor, or at least give an indication of, the complex progression to dementia in DS. This review found that various BPSD appear to be altered in demented DS individuals, but study results have not always been consistent. From childhood to adulthood, externalizing behavior likely decreases and internalizing behavior increases. Frontal lobe symptoms have been suggested as early signs of AD in DS. Disinhibition and apathy, as well as executive dysfunction, seem to be omnipresent in the prodromal phase, whereas reports are inconsistent for depression. Regarding activity disturbances, studies indicated decreasing hyperactivity levels towards adulthood. Excessive activity in demented DS individuals should be a fairly easy observable sign, however, general slowness has been reported and apathy itself might cause reduced activity. Agitation appears to be more prevalent in demented than in non-demented DS individuals, but reports on aggression are inconsistent, though aggression seems to be reduced in the overall DS population. Sleep disturbances are markedly present in both demented and non-demented DS individuals. Although sleep disorders may not yet differentiate between those with and without AD, they are important to consider as such.
sleep disorders may aggravate cognitive decline and BPDS.

Devenny, D.A., Krinsky-McHale, S.J., Sersen, G., & Silverman, W.P. Sequence of cognitive decline in dementia in adults with Down’s syndrome. Journal of Intellectual Disability Research 2000, 44, 654-665. Abstract: Because of lifelong intellectual deficits, it is difficult to determine the earliest signs and characteristics of age-associated decline and dementia among adults with Down syndrome. In a longitudinal study in which all participants were healthy at the time of their entry into the study, the present authors compared the amount of decline on the subtests of the WISC-R to determine the sequence of cognitive decline associated with varying stages of dementia. Twenty-two individuals with varying degrees of cognitive decline were compared to 44 adults with DS who have remained healthy. All participants functioned in the mild or moderate range of intellectual disability at initial testing. On each subtest of the WISC-R, the amount of change experienced by the healthy participants over the study period was compared to the amount of change found for each of the groups with decline. Out of the individuals who showed declines, 10 adults with DS were classified as having ‘questionable’ decline based on the presence of memory impairment, and five and seven adults with DS were classified as in the ‘early stage’ and ‘middle stage’ of DAT, respectively, based on the presence of memory impairment, score on the Dementia Scale for Down Syndrome and a physician’s diagnosis. It was found that participants who were identified as ‘questionable’, in addition to the memory loss that determined their classification, also showed significant declines on the Block Design and Coding subtests. The five adults in the early stage of dementia showed declines on these subtests, and in addition, on the Object Assembly, Picture Completion, Arithmetic and Comprehension subtests. The seven adults in the middle stage of dementia showed declines on these subtests, plus declines on Information, Vocabulary and Digit Span subtests. The Picture Arrangement and Similarities subtests were not useful in distinguishing between the groups because of baseline floor effects for a substantial proportion of participants. The present longitudinal study showed a sequence of cognitive decline associated with DAT, beginning with a possible ‘pre-clinical’ stage, and progressing through the early and middle stages. This approach begins to define the sequence of declining cognitive capacities that contributes to the observed functional deterioration caused by Alzheimer’s disease and that is likely to reflect the involvement of cortical areas as the disease progresses.

Dick, M.B., Doran, E., & Phalen, M., & Lott,J. Cognitive profiles on the Severe Impairment Battery are similar in Alzheimer disease and down syndrome with dementia Alzheimer Disease and Associated Disorders, 2015, Dec 22 [Epub ahead of print] Abstract: Previous research has revealed similarities in the neuropsychology, clinical presentation, and risk factors between persons with Alzheimer disease from the general population (GP-AD) and those with Down syndrome (DS-AD). Less is known, however, about the extent of similarities and differences in the cognitive profiles of these 2 populations. Fifty-one moderate to severely demented GP-AD and 59 DS-AD individuals participated in this study which compared the cognitive profiles of these 2 populations on the Severe Impairment Battery (SIB), controlling for sex as well as level of functional ability using a modified version of the Bristol Activities of Daily Living Scale. Overall, the neuropsychological profiles of the higher-functioning individuals within the DS-AD and advanced GP-AD groups, as represented by mean difference scores on the SIB as a whole and across the 9 separate cognitive domains, were very similar to one another after adjusting for sex and functional impairment. To our knowledge, this is the first study to directly compare the cognitive profiles of these 2 populations on the SIB. Findings suggest that the underlying dementia in GP-AD and DS-AD may have corresponding and parallel effects on cognition.


Dodd, K., Watchman, K., Janicki, M.P., Coppus, A., Gaertner, C., Fortea, J., Santos, F. H., Keller, S.M., & Strydom. A. Aging & Mental Health, 2017, https://doi.org/10.1080/13607863.2017.1373065 Abstract: Post diagnostic support (PDS) has varied definitions within mainstream dementia services and different health and social care organizations, encompassing a range of supports that are offered to adults once diagnosed with dementia until death. An international summit on intellectual disability and dementia held in Glasgow, Scotland in 2016 identified how PDS applies to adults with an intellectual disability and dementia. The Summit proposed a model that encompassed seven focal areas: post-diagnostic counseling; psychological and medical surveillance; periodic reviews and adjustments to the dementia care plan; early identification of behavior and psychological symptoms; reviews of care practices and supports for advanced dementia and end of life; supports to carers/ support staff; and evaluation of quality of life. It also explored current practices in providing PDS in intellectual disability services. The Summit concluded that although there is limited research evidence for pharmacological or non-pharmacological interventions for people with intellectual disability and dementia, viable resources and guidelines describe practical approaches drawn from clinical practice. Post diagnostic support is essential, and the model components in place for the general population, and proposed here for use within the intellectual disability field, need to be individualized and adapted to the person’s needs as dementia progresses. Recommendations for future research include examining the prevalence and nature of behavioral and psychological symptoms (BPDS) in adults with an intellectual disability who develop dementia, the effectiveness of different non-pharmacological interventions, the interaction between pharmacological and non-pharmacological interventions, and the utility of different models of support.

Donaldson S. Work stress and people with Down syndrome and dementia. Down’s Syndrome, Research and Practice, 2002, 8(2), 74-78. Abstract: Author assessed how staff ratings of challenging behavior for people with Down syndrome and dementia affected the self-reported well-being of care staff. Data were collected from 80 care staff in 5 day centers in a large city in England. The data were collected by use of a questionnaire. There was no significant difference between those who cared for individuals with Down syndrome and dementia and those caring for service users with other non-specified learning disabilities without dementia, regarding their self-reported well-being. Self-reported well-being did correlate with staff rating of challenging behavior in both those who cared for people with Down syndrome and dementia and those who did not care for such service users, with well-being declining as perceived challenging behavior increased. The findings indicate that challenging behavior prevention and reduction may be of benefit to both service users and care staff well-being.

Eisner, D.A. Down’s syndrome and aging: Is senile dementia inevitable? Psychological Reports 1983, 52(1), 119-124. https://doi.org/10.2466/pr0.1983.52.1.119 Abstract: Numerous studies have reported that in elderly Down’s Syndrome individuals there is a high preponderance of senile dementia. An examination of these investigations shows that, while there is accelerated neurological aging, there is not a high incidence of behavioral or overt senile dementia. Changes in cognitive functioning for Down’s Syndrome persons are similar to those found in non-Down’s retarded populations.


ENIDA Face to face: Respectful coping with dementia in older people with intellectual
This review focuses on the rates and contributing factors to the longevity of adults with DS who are at high risk for some conditions. Along with this longer life expectancy comes a need for improved care strategies. The Finnish version of the NTG-EDSD is being used as a diagnostic instrument, but an administrative screen that can be used by people who know the client well. The NTG-EDSD is not an assessment or diagnostic instrument, but an administrative screen that can be used by people who know the client well. The NTG-EDSD is being translated into Finnish to be used in the screening of dementia in people with IDD. These components are shortly outlined. Psychosocial functioning: Early detection of neurocognitive disorders in people with IDD is multidisciplinary teamwork. The family context for healthy aging in adults with Down syndrome is increasingly acknowledged. In order to operationalize a route towards person-centered care, we introduce the hierarchy model (Pearce, 1999) as a tool to focus the attention of policy and practice on all aspects of care. Mental health, and support needs. We compared those with comorbid dementia, with comorbid psychopathology, and with no comorbid conditions. Differences in behavioral problems and to be living at home with their families. Adults with no comorbidities were most likely to be involved in community employment. Differences in behavioral presentation can help facilitate clinical diagnoses in aging in Down syndrome, and implications for differential diagnosis and service supports are discussed.

Esbensen, A.J., Mailick, M.R., & Silverman, W.
Long-term Impact of parental well-being on adult outcomes and dementia status in individuals with Down syndrome.

Abstract: Parental characteristics were significant predictors of health, functional abilities, and behavior problems in adults with Down syndrome (n = 75) over a 22-year time span, controlling for initial levels and earlier changes in these outcomes. Lower levels of behavior problems were predicted by improvements in maternal depressive symptoms. Higher levels of functional abilities were predicted by prior measures of and improvements in maternal depressive symptoms. Better health was predicted by prior measures of and improvements in maternal depressive symptoms, maternal positive psychological well-being, relationship quality between fathers and their adult children, and improvements in maternal positive psychological well-being. Dementia status was also predicted by parental characteristics. The study suggests the importance of the family context for healthy aging in adults with Down syndrome.

Evenhuis H.M.
The natural history of dementia in Down's syndrome.

Abstract: In a prospective longitudinal study with death as the end point in 17 middle-aged patients with Down's syndrome, dementia was clinically diagnosed in 15 patients, by means of careful observations in daily circumstances. Autopsies were performed in 10 cases: 8 demented patients and 2 nondemented patients. Neuropathologically, Alzheimer-type abnormalities were demonstrated in 9 patients, both demented and nondemented, and combined Alzheimer-type abnormalities with infarctions were demonstrated in 1 patient. In the 14 demented patients who did not show evidence of cerebrovascular or systemic vascular disease, dementia had an early onset and was rapidly progressive (mean age at onset, 51.3 years in the moderately retarded patients and 52.6 years in the severely retarded patients; mean duration of symptoms, respectively, 4.9 and 5.2 years). Cognitive and behavioral decline corresponded to symptoms of dementia of the Alzheimer's type in patients without Down's syndrome, but often were not recognized early. In the present group of patients, there was a remarkably high incidence of gait and speech deterioration. Also, the incidence of epileptic seizures and myoclonus was about eightfold, as compared with dementia of the Alzheimer's type in patients without Down's syndrome.

Esbensen, A.J.
Health conditions associated with aging and end of life of adults with Down syndrome.

Abstract: Expectations for the life course of individuals with Down syndrome (DS) have changed, with life expectancy estimates increasing from 12 in 1949 to nearly 60 years of age today. Along with this longer life expectancy comes a larger population of adults with DS who display premature age-related changes in their health. There is thus a need to provide specialized health care to this aging population of adults with DS who are at high risk for some conditions and at lower risk for others. This review focuses on the rates and contributing factors to medical conditions that are common in adults with DS or that show changes with age. The review of medical conditions includes the increased risk for skin and hair changes, early onset menopause, visual and hearing impairments, adult onset seizure disorder, thyroid dysfunction, diabetes, obesity, sleep apnea and musculoskeletal problems. The different pattern of conditions associated with the mortality of adults with DS is also reviewed.

Esbensen, A.J., Boshkoff Johnson, E., Amaral, J.L., Tan, C.M., & Macks, R.
Differentiating aging among adults with Down syndrome and comorbid psychopathology.

Abstract: Differences were examined between three groups of adults with Down syndrome in their behavioral presentation, social life/activities, health, and support needs. We compared those with comorbid dementia, with comorbid psychopathology, and with no comorbid conditions. Adults with comorbid dementia were more likely to be older, have lower functional abilities, have worse health and more health conditions, and need more support in self-care. Adults with comorbid psychopathology were more likely to exhibit more behavior problems and to be living at home with their families. Adults with no comorbidities were most likely to be involved in community employment. Differences in behavioral presentation can help facilitate clinical diagnoses in aging in Down syndrome, and implications for differential diagnosis and service supports are discussed.

Forbat, L., & Service, K.P.

Abstract: The complexity of the relationship between intellectual disability (ID) and dementia is increasingly acknowledged. In order to operationalize a route towards person-centered care, we introduce the hierarchy model (Pearce, 1999) as a tool to focus the attention of policy and practice on all aspects of caregiving. This tool, which is taken from the family therapy literature, enables practitioners to examine the broad systems that impact on the delivery and receipt of care. In this article, we focus on its utility in scrutinizing end-of-life and later stages of dementia by illustrating its use with three key areas in dementia care. These three areas provide some of the most challenging situations at the end stages, because of the possible treatment options, they are: nutrition, medical interventions, and the location of care provision. This model enables a
focused approach to understanding how meaning is created within social interaction. The article draws out implications for practice and policy and has applications for practice internationally.

### Foundation for People with Learning Disabilities

**Down's syndrome and dementia - Briefing for Commissioners**


**Abstract:** Backgrounder document, written for funders of services in the United Kingdom, outlines the epidemiology of dementia and Down's syndrome and identifies key support services necessary as part of a package of local services to be established for persons affected by dementia and intellectual disabilities (ID). While titled for dementia and Down's syndrome applicable for all persons with ID. Written in brief style, covers main issues and funding considerations and serves as an excellent planning tool for establishing services. Also covers basic clinical diagnostic information and basis for care management decision making. Routes the reader to associated organizations for further information.

### Fray, M.T.

**Caring for Kathleen: A sister's story about Down's syndrome and dementia.**


**Abstract:** Biographical monograph on the aging and eventual death and death of a woman with Down syndrome as told by her sister. Provides many insights in service barriers and successes, while also providing a vivid case example of how Alzheimer's disease affects a family carer of a person with an intellectual disability.

### Gittin, L.N., and Corcoran, M.

**Making homes safer: environmental adaptations for people with dementia.**

**Alzheimer's Care Quarterly, 2000, 1(1), 50-58**

**Abstract:** Evaluating the safety of the home environment is an important component of clinical care for persons with dementia. This article discusses safety concerns for persons with dementia living at home alone or with family members, specific modifications to the physical environment to address these issues, and guiding principles for implementing environmental change. A wide range of environmental strategies can be introduced to maximize home safety. Different adaptations may need to be implemented with progressive memory loss thus necessitating periodic reevaluation of the home.

### Hammond, B., & Beneditti, P.

**Perspectives of a care provider**

In M.P. Janicki & A.J. Dalton (Eds.), Dementia, Aging, and Intellectual Disabilities. pp. 32-41


**Abstract:** Book chapter that provides a descriptive chronology of a middle-aged woman with Down syndrome who, once diagnosed with Alzheimer disease, follows a classic course of decline and eventual debilitation and death. Staff of her residence chronicled the progression of her dementia and provide some insights into the care management practices used in providing for her care. The authors place the course of her disease in perspective and offer comments on the stresses and strains on agency resources. Suggestions are offered for agencies facing similar challenges in providing day to day care for adults with dementia.

### Hassiotis, A., Strydom, A., Allen, K., & Walker, Z.

**A memory clinic for older people with intellectual disabilities**

**Aging & Mental Health, 2003, 7(6), 418-423**

**Abstract:** Cognitive decline in older people with intellectual disabilities (ID) is often under-recognized. Following the publication of the National Service Framework for Older People and the white paper Valuing People, older people with intellectual disabilities of all aetiologies should have access to a systematic assessment of their cognitive function in order to detect decline in cognition and adaptive skills and implement appropriate treatments as early as possible. The development of a memory clinic for older people with ID is described, including instruments used and characteristics of attendees. Such projects are in line with current UK government policies and can contribute to the improvement of standards of care and support research in this vulnerable group of people.

### Head, E., Powell, D., Gold, B.T., Schmitt, F.A.

**Alzheimer's Disease in Down Syndrome**


**Abstract:** A key challenge to adults with Down syndrome (DS) as they age is an increased risk for cognitive decline, dementia, and Alzheimer disease (AD). In DS persons ranging from 40-49 years of age, 5.7-55% may be clinically demented and between 50-59 years, dementia prevalence ranges from 4-55% (reviewed in [1]). Despite the wide ranges reported for dementia prevalence, a consistent feature of aging in DS is the progressive accumulation of AD brain pathologies. By the age of 40 years, virtually all have sufficient senile plaques and neurofibrillary tangles for a neuropathological diagnosis of AD [2]. Thus, there is dissociation between the age of onset of AD neuropathology (40 years) and increasing signs of clinical dementia. We discuss the hypothesis that frontal impairments are a critical factor affecting cognitive function and are associated with white matter (WM) and AD neuropathology. While these may be an early sign of conversion to dementia, we also review several other clinical comorbidities that may also contribute to dementia onset.

### Hellen, C.R.

**Alzheimer's disease - activity-focused care (2nd Ed.)**


**Abstract:** A 13-chapter text that provide voluminous information on developing and provision of activities for persons affected by Alzheimer's disease and related dementias - with application to persons with intellectual disabilities. Written from a practitioner viewpoint, it is designed to promote an individual's cognitive, physical and psychosocial well-being. It includes forms and profiles for use by program personnel, presents a holistic intervention program, features content on refocusing activities for physically combative or violent situations. Contains chapters on communication, daily living care activities, aiding at mealtimes, facilitating physical wellness (mobility and exercise), addressing dementia induced behaviors, creating meaningful activities for daily life, and aiding in terminal care, among others.

### Higgins, L., & Mansell, J.

**Quality of life in group homes and older persons’ homes.**

**British Journal of Learning Disabilities, 2009, 37, 207–212**

**Abstract:** Older people with intellectual disabilities sometimes live in older people's homes rather than homes for people with intellectual disabilities. Little is known about their quality of life in these homes. A non-equivalent comparison group design was used to compare the quality of life of 59 people in three groups; older people without an intellectual disability living in older people's homes (n = 20), older people with an intellectual disability living in older people's homes (n = 19) and older people with an intellectual disability living in intellectual disability homes (n = 20). Data were collected on participant characteristics, adaptive behavior and three aspects of quality of life; community involvement, participation in domestic living and choice making. The three groups were comparable in terms of gender, ethnicity and additional impairments but the older people without an intellectual disability were older and had more adaptive skills than the other groups. Older people with an intellectual disability experienced better quality of life outcomes in terms of participation in meaningful activity and community access when they lived in intellectual disability homes compared with older people's homes. It was not possible to achieve reliability on the measure of choice-making. This study provides some evidence to suggest that older people with an intellectual disability may be best served in intellectual disability homes rather than older people homes and that it is an area of research which needs further exploration.

### Holland, A.J.

**Ageing and its consequences for people with Down's syndrome**

**Fact Sheet Series - Learning about intellectual disabilities and health**

Holland, A.J., Karlinsky, H. & Berg, J.M.
Alzheimer’s disease in persons with Down syndrome: Diagnostic and management considerations
In J.M. Berg, H. Karlinsky, A.J. Holland (Eds.), Alzheimer’s Disease, Down Syndrome, and Their Relationship, pp. 96-114
Abstract: Book chapter that examines the implications of Alzheimer’s disease for adults with Down syndrome, including assessment and diagnosis and specialty service provision. Authors note that assigning a tenable diagnosis of Alzheimer disease requires careful and comprehensive data assembly, including medical history, clinical examination, neuropsychological assessment and laboratory investigations. Once the diagnosis is established, effective ongoing management should focus on supporting not only the affected individual (including advocacy for his or her rights) but also the family and professional carers. During the course of the illness various medical, psychiatric and psychological interventions can be helpful as can changes in the environment. A wide range of services for persons with Down syndrome who develop Alzheimer’s disease makes it possible for affected individuals, despite deterioration, to remain in the family home or in community residential settings. Authors proffer some general suggestions for services and adaptations.

Holland, A.J., Hon, J., Huppert, F.A., & Stevens, F.
Incidence and course of dementia in people with Down’s syndrome: findings from a population-based study.
Abstract: The prevalence rate of Alzheimer’s disease (AD) in people with Down’s syndrome (DS) increases significantly with age. However, the nature of the early clinical presentation, course and incidence rates of dementia are uncertain. The aims of the present study were to investigate the characteristics of age-related clinical changes and incidence rates for dementia in a population-based sample of people with DS aged 30 years and older at the age of risk for dementia. A modified version of the Cambridge Examination for Mental Disorders of the Elderly informant interview was used to determine the extent and nature of changes in memory, personality, general mental functioning and daily living skill 18 months after a similar assessment. At the time of the first assessment, the initial changes reported were predominately in behaviour and personality. At the second assessment, overall estimated incidence rates for frontal-like dementia were high (0.24), mainly in the younger groups, with incidence rates of AD, meeting both ICD-10 and DSM-IV criteria, of 0.04 predominately in the older groups. The present authors have hypothesized that the observed personality changes and the high estimated incidence rates for frontal-like dementia in the younger groups may indicate that functions served by the frontal lobes are the first to be compromised with the progressive development of Alzheimer-like neuropathology in people with DS.

Horvath, S., Garagnani, P., Boccalini, M.G., Pirazzini, C., Salvioli, S., Davide, G., Di Blasio, A.M., Giuliani, C., Tung, S., Vinters, H.V., & Franceschi, C.
Accelerated epigenetic aging in Down syndrome
Aging Cell, 2015, 1-5, eprint. doi: 10.1111/acel.12325
Abstract: Down syndrome (DS) entails an increased risk of many chronic diseases that are typically associated with older age. The clinical manifestations of accelerated aging suggest that trisomy 21 increases the biological age of tissues, but molecular evidence for this hypothesis has been sparse. Here, we utilize a quantitative molecular marker of aging (known as the epigenetic clock) to demonstrate that trisomy 21 significantly increases the age of blood and brain tissue (on average by 6.8 years, \( P = 7.0 \times 10^{-14} \)).

Huxley, A., Van-Schaik, P., & Witts, P.
A comparison of challenging behavior in an adult group with Down’s syndrome and dementia compared with an adult Down’s syndrome group without dementia.
Abstract: This study investigated the frequency and severity of challenging behavior in adults with Down’s syndrome with and without signs of dementia. Care staff were interviewed using the Aberrant Behavior Checklist-Community version (M.G. Aman & N.N. Singh, Slosson, East Aurora, NY, 1994), to investigate the frequency and severity of challenging behavior. Individuals’ ‘dementia status’ was assessed by using the Dementia Scale for Down’s Syndrome (Gedye Research and Consulting, Vancouver, 1995). The results showed that the dementia group displayed more frequent and severe forms of challenging behavior than the nondementia group. The difference in reported levels of challenging behavior of both groups with the general learning disabilities population was not considered to be clinically significant and levels fell predominantly within the ‘normal range’. The findings of this study suggest that frequent and severe forms of challenging behavior in adults with Down’s syndrome is more likely to be a behavioral symptom associated with the onset of a dementing illness and not due to normal aging alone.

Abstract: Disability staff are being increasingly required to support adults with Down syndrome who develop Alzheimer’s disease. They have little understanding of the nature of care required, and may lack input from aged care and dementia services, which lack knowledge of intellectual disability. The aim of this study was to report on the experiences of disability staff in group homes supporting residents with Down syndrome and Alzheimer’s disease in relation to their under understanding of what was happening to these residents, their responses to them, and how they felt about their support role. Disability support staff for nine adults with Down syndrome who had a diagnosis of Alzheimer’s disease were interviewed twice, over intervals of 6-9 months. Interviews were transcribed and analyzed for themes. Authors found that three key themes emerged: (i) struggling to understand change, (ii) taking each day as it comes, and (iii) he’s got a disability and that’s our job. Staff had only limited understanding of how Alzheimer’s disease impacted the adults with Down syndrome, their responses to changes were ad hoc, and they used strategies on a trial and error basis. They were committed to providing care, but at the risk of rejecting input and support. The need for collaboration across disability, and aged and disability care was evident to facilitate aging-in-place and planned care transitions.

Jacbs, J., Schwartz, A., McDougle, C.J., & Skotko, B.G.
Rapid clinical deterioration in an individual with Down syndrome
Abstract: A small percentage of adolescents and young adults with Down syndrome experience a rapid and unexplained deterioration in cognitive, adaptive, and behavioral functioning. Currently, there is no standardized work-up available to evaluate these patients or treat them. Their decline typically involves intellectual deterioration, a loss of skills of daily living, and prominent behavioral changes. Certain cases follow significant life events such as completion of secondary school with friends who proceed on to college or employment beyond the individual with DS. Others develop this condition seemingly unprovoked. Increased attention in the medical community to clinical deterioration in adolescents and young adults with Down syndrome could provide a framework for improved diagnosis, evaluation, and treatment. This report presents a young adult male with Down syndrome who experienced severe and unexplained clinical deterioration, highlighting specific challenges in
the systematic evaluation and treatment of these patients.

Jamieson-Craig, R., Scior, K., Chan, T., Fenton, C., & Strydom, A. Reliance on carer reports of early symptoms of dementia among adults with intellectual disabilities
Abstract: As clinicians often rely on carer reports to identify adults with intellectual disabilities (ID) with early signs of dementia, this study focused on carer-reported symptoms to ascertain whether carer reports of decline in everyday function would be a more effective screening method to detect possible cases of dementia than reports of memory decline in older adults with ID. Subjects were 154 participants who were reassessed along with their carers two to three years after baseline. A questionnaire for carer-reported change in everyday function and the Dementia Questionnaire for Persons with Mental Retardation (DMR) were used to assess carer views of everyday function and memory. The diagnosis of dementia was confirmed by two psychiatrists working independently. Participants who developed dementia displayed both everyday function and memory decline. Overall, decline in everyday function appeared to be the best indicator of new dementia cases. Retrospective carer report of change in everyday function was as good as, if not better than, prospective ratings to identify dementia; however, in those with mild ID, memory change was a better indicator of dementia, while in those with more severe ID, decline in everyday function was a better indicator. Decline in everyday function (whether prospective change from baseline or reported retrospectively by carers) appears to be a better screening method for dementia than memory decline, particularly for participants with moderate/severe ID.

Janicki, M.P. Quality outcomes in group home dementia care for adults with intellectual disabilities.
Abstract: Dementia, as a public health challenge, is a phenomenon vexing many care organizations providing specialized residential and family supports for older adults with intellectual disabilities. With increasing survivorship to ages when risk is greatest, expectations are that many more adults in service will present with cognitive decline and diagnosed dementia as they grow older. As persons with dementia present with new needs, there is often a call for a reorientation of services. With respect to residential supports, agencies may need to adapt current methods of care, with particular attention to providing care in small group homes. However, dementia-related care also must be quality care and applicable standards need to be met. The author reviewed relevant policy and practice organizational guidelines and applied research literature addressing components of care and service provision that were critical to quality care and that were consistent with professional practice. Examined were the nuances and contributing factors of quality dementia care and it was proposed that quality of care criteria need to be universally applicable and serve as a framework for adapting extant residential environments and make them "dementia-capable." It is proposed that efforts to evaluate dementia-related care provision with respect to quality need to consider quality of care provision components such as (1) clinically relevant early and periodic assessment; (2) functional modifications in the living setting; (3) constructive staff education and functionality for stage-adapted care; and (4) flexible long-term services provision that recognizes and plans for progression of decline and loss of function.

Dementia, 2005, 4, 361-385.
Abstract: The growing numbers of individuals with intellectual disabilities affected by Alzheimer disease and related dementias has raised new challenges for community care providers. This paper examines means of providing community group home-based care in a sample of care providers in five different countries. The aim is to identify trends that have emerged. Two samples of group homes for adults with intellectual disabilities affected by dementia were studied to determine: (1) what are the physical characteristics of the homes; (2) what physical environmental adaptations have been made in response to behavioral deterioration expressed by residents with dementia, and (3) what are the demands on staff resulting from dementia care. The first sample of group homes in five countries provided comparative international data on home designs, staffing, costs, and residents. The second sample, drawn from homes in the USA and the UK, provided data on the impact of dementia. Findings revealed staffing and design of homes varied but generally abided by general practices of dementia care; homes relied on existing resources to manage changes posed by dementia care; programmatic and environmental adaptations were implemented to address progression of dementia; and residents with dementia presented more demands on staff time with respect to hygiene maintenance and behavior management when compared to other residents not affected by dementia.

Journal of Intellectual Disability Research, 1996, 40, 374-382
Abstract: The AAMR/IASSID practice guidelines, developed by an international workgroup, provide guidance for stage-related care management of Alzheimer's disease, and suggestions for the training and education of carers, peers, clinicians, and program staff. The guidelines suggest a three step intervention activity process, that includes: (1) recognizing changes, (2) conducting assessments and evaluations, and (3) instituting medical and care management. They provide guidance for public policies that reflect a commitment for aggressive care of people with Alzheimer's disease and intellectual disability, and avoidance of institutionalization solely because of a diagnosis of dementia. [This report is available also on www.aamr.org at the following URL: http://161.58.153.187/Bookstore/Downloadables/index.shtml]

Abstract: Due to the "greying" of the nation's population, dementia associated with Alzheimer’s disease and other causes, has become another challenge for providers of services to adults with intellectual disabilities. In this book chapter, the authors explore the factors, policies, and support structures that can help agencies provide continued "aging-in-place" dementia-capable care, develop "in-place progression" dementia specific programs, or choose alternative care settings. It also explores some features of dementia-related behaviors that may need to be taken into account in program design and makes suggestions for staff training and planning for dementia programs.

Janicki, M.P., McCallion, P., & Dalton, A.J. Dementia-related care decision-making in group homes for persons with intellectual disabilities
Abstract: The number of age-associated pathologies is increasing, with the increase in the number of elderly persons. One such age-associated condition, Alzheimer's disease and related dementias, affects a significant number of adults with intellectual disability (ID), in particular those with Down syndrome. Many affected adults live in small community group homes or with their families. How to provide sound and responsive community care is becoming a challenge for agencies faced with an increasing number of affected adults. This study reports the outcome of a survey of group homes serving adults with ID and dementia, explores the onset, duration and effects of dementia and their impact on planning for community care of adults with ID. It also examines emerging community care models that provide for "dementia capable" supports and services. Two models, "aging in place," and "in place progression" are examined with regard to care practices and critical agency decision making. An approach, the ECEPS model, for responding to dementia is offered.

Janicki, M.P. & Dalton A.J. Care management, diagnostic and epidemiologic considerations in adults with intellectual disabilities and Alzheimer disease
British Journal of Developmental Disabilities, 1996, 42(Supplement), s84
Abstract: Review of the process and outcome of the Invitational International Colloquium on Alzheimer Disease among Persons with Intellectual Disabilities
held in Minneapolis, Minnesota (USA) and the subsequent development of a set of international practice guidelines and reports on the assessment, epidemiology, and care management of adults with intellectual disabilities affected by dementia.

Janicki, M.P., & Dalton, A.J.
Dementia in developmental disabilities
In N. Bouras (Ed.), Psychiatric and Behavioral Disorders in Developmental Disabilities and Mental Retardation (1999) pp. 121-153
Cambridge: Cambridge University Press
Abstract: This book chapter provides a brief overview of the current status of knowledge about dementia and its relationship to intellectual disability, touching on current developments in the evaluation of possible comorbid psychiatric, medical and age-associated conditions. The clinical presentation of dementia is examined as well as relevant contemporary issues related to diagnosis, assessment, and care management. Lastly, questions of dementia policy and suggestions for training programs on dementia and intellectual disability are addressed.

Janicki, M.P., & Dalton, A.J.
Dementia and public policy considerations
Philadelphia: Brunner-Mazel
Abstract: This book chapter examines a number of the major public policy considerations related to the aging of adults with intellectual disabilities who evidence change due to dementia. Specifically addressed is the changing structure of at-risk adult populations with intellectual disabilities in service systems, the programmatic and policy issues raised by providers attempting to cope with these changes, needs for further training, education and dissemination of information on aging, and lastly, the challenges and policy imperatives to be confronted with the new millennium.

Janicki, M.P., & Dalton, A.J.
Dementia, aging, and intellectual disabilities: A handbook
488pp.
Abstract: Twenty-one chapter text on dementia issues and intellectual disabilities. Six parts: Introduction, Biomedical considerations, Assessment considerations, Clinical considerations, Program considerations, and Education and policy considerations. Text provides most up-to-date information available about Alzheimer’s disease and related dementias as they affect persons with mental disabilities. Text examines biology and physiology of dementia, neurological and medical complications associated with dementia, best practices to meet the needs of aging persons with intellectual disabilities, policy issues raised by the growing number of older adults with ID, and case studies of affected individuals. Contains glossary of terms, and appendices with AAMI/AASID practice guidelines for dementia diagnosis and care management in adults with intellectual disabilities, as well as Newroth & Newroth guidelines for coping with Alzheimer’s disease in persons with Down syndrome.

Janicki, M.P., & Dalton, A.J.
Prevalence of dementia and impact on intellectual disability services
Mental Retardation, 2000, 38, 277-289
Abstract: A statewide survey, conducted to ascertain the administrative prevalence of dementia in adults with an intellectual disability, found a prevalence of about 3% of the adult service population over the age of 40 years (a rate of 28/1000), 6.1% of the population over the age of 60 years, and 12.1% of the population over the age of 80 years (or rates of 68.7/1000 and 121.3/1000, respectively). The rate of dementia was consistent with that for adults in the general population, except for those adults with Down syndrome (who made up a third of the overall group) who had a much higher rate: 22.1% among adults age 40 and older and 56.4% among adults age 60 and older. Onset was observed to occur in the mid-60s (early 50s for Down syndrome). Alzheimer-type dementia was the most frequent diagnosis. Late-onset seizures were reported in about 12% of the cases. With the occurrence of dementia expected to rise proportionately with the increase of longevity among adults with an intellectual disability, it is clear that care systems will have to raise the “index of suspicion” among staff and families, adapt to become “dementia capable,” and improve their diagnostic and technical resources, as well as their community-based care management supports.

Consensus statement of the international summit on intellectual disability and dementia related to nomenclature
Abstract: A working group of the 2016 International Summit on Intellectual Disability and Dementia was charged to examine the terminology used to define and report on dementia in publications related to intellectual disability (ID). A review of related publications showed mixed uses of terms associated with dementia or causative diseases. Like general applications, language related to dementia in ID field often lacked precision and could lead to a misunderstanding of the condition(s) under discussion. Most articles related to ID and dementia reporting clinical or medical research generally provided a definition of dementia or related terms; social care articles tended toward term use without definition. Toward terminology standardization within studies/ reports on dementia and ID, the Summit recommended (a) gaining familiarity with dementia-related diagnostic, condition-specific, and social care terms (as identified in the working group’s report), (b) creating a guidance document on accurately defining and presenting information about individuals or groups referenced, and © that in reports on neuropathologies or cognitive decline or impairment, definitions are used and data include subjects’ ages, sex, level of ID, residential situation, basis for dementia diagnosis, presence of Down syndrome (or other risk conditions), years from diagnosis, and if available, scores on objective measures of changing function.

Janicki, M.P., Zendell, A., & DeHaven, K.
Coping with dementia and older families of adults with Down syndrome.
Abstract: The authors studied a group of older carers of aging adults with Down syndrome (DS) to ascertain what effects such caregiving may have on them given the presence or possibility of age-associated decline or dementia. The study also examined the comparative levels of care provided, key signs noted when decline was beginning, the subjective burden experienced, and what were the key associated health factors when carers faced a changed level of care. The authors found that this group was made up of long-term, committed carers who had decided early to look after their relative with DS over their lifetime. When faced with the onset and ongoing progression of dementia, their commitment was still evident as evidenced by adopting physical accommodations and finding ways to continue to provide care at home, while also seeking help from outside sources. Most saw a family or group home environment as the place of choice for their relative with DS when they decided they could no longer offer care. The study did not ascertain any burn-out or significant health related problems associated with their continued caregiving save for their concerns about day-to-day strain and what will happen in the future.

Janicki, M.P., & McCallion, P.
A group home cluster model for providing community-based dementia care.
Abstract: Paper reports on a study undertaken of an innovation group home program operated by a provider organization serving older adults with intellectual disabilities. The provider built three co-located group homes for five adults within a neighborhood setting. Each of the adults resident at the homes have some degree of diagnosed dementia. The adults were both males and females, all were age 50+, and some had Down syndrome. The homes are staffed by paid staff working 24/7. The residents were studied for health co-morbidities, program activities, and degrees of impairment and compared with a matched group of adults without dementia. The study examined administrative and programmatic factors related to the operation of the homes, as well as shifts in characteristics related to their intellectual disability and the effects of dementia mapping in intellectual disability residential services: A follow-up study.

Jaycock, S., Persaud, M. & Johnson, R.
The effectiveness of dementia care mapping in intellectual disability residential settings.
Jervis, N., & Prinsloo, L.

How we developed a multidisciplinary screening project for people with Down’s syndrome given the increased prevalence of early onset dementia

Abstract: Much research has identified an increased prevalence of dementia in adults with Down syndrome when compared with the general population. Neuropathological changes associated with Alzheimer’s dementia in the brain have been found in most people with Down syndrome who die over the age of 35 years. Given the limitations of many assessments for dementia in relation to people with Down syndrome for a single completion, it has been recommended that all people with Down syndrome are assessed at least once in early adulthood in order that they have their own baseline which can be compared with in the future if changes in skills and abilities occur. The authors have had many requests from other services enquiring about their project and how a similar initiative could be set up. Therefore, this article focuses on the way the Manchester Learning Disability Partnership approached screening 135 adults with Down syndrome and details the assessments used, practical considerations, what has been learned and future service implications.

Johannsen, P., Christensen, J.E.J., & Mai, J.

The prevalence of dementia in Down syndrome
Dementia, 1996, 7(4), 221-225.

Abstract: The authors assess the prevalence of clinical dementia in three age groups of persons with Down syndrome in the county of Aarhus, Denmark. Group 1 was composed of 14-16 year olds (n=13), group 2 was composed of 23-29 year olds (n=34), and group 3 was composed of 50-60 year olds (n=25). Of the 85 subjects, 72 (85%) participated. Carers were interviewed and a neurological examination was performed. An EEG was recorded in 50 of the Ss. Definite clinical dementia was defined as a acquired and progressive decline in 4 or more out of 17 items that are considered to indicate dementia in people with Down syndrome. Possible dementia was considered when 1-3 items were affected. Six adults (24%) in group 3 had definite clinical dementia and 6 adults in group 3 and 2 (6%) in group 2 had possible dementia. Authors note that this was the first Danish population-based study of the prevalence of dementia in people with Down syndrome.

Johnson, N., Fahey, C., Chicoine, B., Chong, G., & Gitelman, D.

Effects of donepezil on cognitive functioning in Down syndrome

Abstract: This study to determined whether donepezil, an acetylcholinesterase inhibitor, would improve cognitive functioning in 19 subjects with Down syndrome and no dementia. They were assigned to either a donepezil or placebo group. Cognitive functioning and caregiver ratings were measured at baseline, 4 weeks, and 8 weeks. With the exception of one area (language), no improvement was noted in any of the cognitive subtests, behavioral scores, or caregiver ratings. Subjects in the donepezil group showed an improvement in language scores compared to subjects in the placebo group. The results suggest that donepezil may improve language performance in subjects with Down syndrome and no dementia, but further studies need to be done on a larger group to confirm this result.


The middle years and beyond: Transitions and families of adults with Down syndrome

Abstract: Normally expected transitions connect the various periods of life. Often these transitions are prompted by life events that require adaptation to a changed circumstance and may challenge both individual and family quality of life. Such transitions may be planful (proactive) or demand (reactive). Little, however, has been written about the nature of such transitions and how they specifically affect older-aged families of adults with Down syndrome. Such families are often predominate lifelong carers of adults with Down syndrome. Drawing on research and experience, the authors examined three transition points from a family perspective. Each of these points of change requires that people adapt and may lead to various outcomes, including at times outcomes that are unexpected, stressful, and challenging. The three points of transition examined include moving away from the parental home, changes occurring within a residential service (e.g., staff changes, relocations), and the reactions to the onset and course of dementia. Vignettes and quotes illustrate the complexities of these transitions and show that, even with planful management, often such transitions can go awry and produce unpredictable outcomes.

Guidelines for Structuring Community Care and Supports for People With Intellectual Disabilities Affected by Dementia

Abstract: To assist families and organizations in their planning for extended care that accompanies the diagnosis of dementia, the National Task Group on Intellectual Disabilities and Dementia Practices (NTG) in the United States adopted a set of practice guidelines covering the period from when suspicions are aroused to when care ends with eventual death. These guidelines are drawn from the research literature as well as clinical experiences and demonstrated best practices. The guidelines delineate what actions should be undertaken and are presented in a manner that reflects the progressive nature of prevalent dementias. To enable the development of the most appropriate and useful services and care management for adults with intellectual disabilities affected by dementia, the NTG adopted the staging model generally accepted for practice among generic dementia services. The staging model follows the flow from a prediagnosis stage when early recognition of symptoms associated with cognitive decline are recognized through to early, mid, and late stages of dementia, and characterizes the expected changes in behavior and function. In keeping with the National Plan to Address Alzheimer’s Disease recommendations for earlier and more widespread efforts to detect possible symptoms, the guidelines cite the application of the NTG-Early Detection Screen for Dementia as a first step in documenting early signs of cognitive and functional changes among people with intellectual disabilities. The guidelines also provide information on nonpharmacological options for providing community care for persons affected by dementia as well as commentary on abuse, financial, managing choice and liability, medication, and nutritional issues.

Kalsy, S., McQuillan, S., Oliver, C., Hall, S.

Manual for the “Assessment for Adults with Developmental Disabilities” (A.A.D.S.) Questionnaire
School of Psychology. University of Birmingham, Edgbaston, Birmingham B15 2TT (2000).

Scales designed to assess behaviors associated with dementia and levels of caregiving. American version is available for download from www.uic.edu/orgs/rtc-am/dementia.
Kalsy, S., Heath, R., Adams, D., & Oliver, C.
Abstract: Whereas there is a knowledge base on staff attributions of challenging behavior, there has been little research on the effects of training, type of behavior and biological context on staff attributions of controllability in the context of people with intellectual disabilities and dementia. A mixed design was used to investigate the effects of three factors on staff attributions of the controllability of challenging behavior. Pre- and post-training measures were administered to participants (n = 97) attending training on ageing, dementia and people with intellectual disabilities. Authors found no significant effects of diagnosis or type of behavior on attributions were found. There was a significant increase in knowledge after training (P < 0.001) and training was found to significantly decrease the attribution of controllability (P < 0.001). Conclusion was that the results suggest that training that focuses on aspects of change relevant to behavior can favorably influence care staff's knowledge and attributions of controllability within the context of people with Down syndrome and dementia.

Kerins, G., Petrovic, K., Bruder, M.B., & Gruman, C.,
Abstract: Authors the presence of medical conditions and medication use within a sample of adults with Down syndrome. The author employed a retrospective chart review using a sample of 141 adults with Down syndrome and age range of 30 to 65 years. They identified 23 categories of commonly occurring medical conditions and 24 categories of medications used by adults with Down syndrome. From their work, the authors concluded that approximately 75% of older adults with Down syndrome in their sample experienced memory loss and dementia. Hypothyroidism, seizures, and skin problems also occurred commonly. The prevalence of cancer (i.e., solid tumors) and hypertension was extremely low. Older adults with Down syndrome used anticonvulsants more often than younger adults with Down syndrome. The use of multivitamins and medications such as pain relievers, prophylactic antibiotics, and topical ointments was common

Kerr, D.
Down's syndrome and dementia
76 pp.
Abstract: Text providing a comprehensive review of issues and practices relative to adults with Down syndrome affected by Alzheimer's disease. Covered are a range of topics related to care management, including assessment of need, communication, creating a therapeutic environment, how to maintain skills, and dealing with challenging behaviors. Also covered are specific interventions and supporting carers.

Kirk, L.J., Hick, R., & Laraway, A.
Abstract: As life expectancy increases for people with intellectual disabilities, the impact of dementia on people with intellectual disabilities and their families, carers and services is becoming more apparent. Psychological services for intellectual disabilities are receiving an increasing number of referrals requesting dementia assessment. Health and social care services are adapting to the diverse needs of an ageing population with intellectual disabilities. The authors describe a study investigating the relationship between two assessments for dementia in people with intellectual disabilities. Carers of people with intellectual disabilities over the age of 50 (or 40 if the individual had Down syndrome) completed the Dementia Questionnaire for Mentally Retarded People (DMR) and the Adaptive Behavior Scale–Residential and Community (ABS). Overall, the two questionnaire measures showed significant relationships. However, results suggested that both assessments have clinical value in informing individual needs and aiding diagnosis. The authors discuss the implications for both clinical and social care services.

Koens, B.R.
Aged and dementia care issues for people with an intellectual disability: Best practices (vol. 2).
80 pp.
Brighton, South Australia: MINDA, Inc. (1995)
Abstract: Text covering a range of useful topics related to service provision for dementia among persons with intellectual disabilities. Highly detailed chapters cover health issues, physical decline, behavioral changes, and social aspects. Specific remedial information is provided on communication issues and adapting the environment. A chapter also addresses counseling strategies, examining a diverse range of approaches.

Kozma, C.
Abstract: Down syndrome (DS) is one of the most common genetic conditions with an estimated incidence of 1 in 750 in the general population. It results from an extra chromosome 21 with the total chromosome count being 47 instead of the normal 46. The classic features of DS include hypotonia, atypical facial characteristics, an increased incidence of major and minor anomalies, vision and hearing deficits, other health problems, and intellectual disabilities. People with DS are living longer and experiencing premature aging, specifically Alzheimer disease (AD). The incidence of AD among adults with DS varies significantly according to studies averaging between 11% to 22% for people aged 40 to 49 years, 24.9% for people aged 50 to 59 years, and 25.6% to 77% for people older than 60 years. All studies indicate an early onset of AD as well as an exponential increase in prevalence with age. Furthermore, senile plaques and neurofibrillary tangles, the neuropathological characteristics of AD, are seen in the brain of all people with DS. Annual screening for AD should become part of routine medical practice of older adults with DS, because an early diagnosis is important for comprehensive care.

Krinsky-McHale SJ, & Silverman W.
Abstract: Individuals with intellectual disability (ID) are now living longer with the majority of individuals reaching middle and even "old age." As a consequence of this extended longevity they are vulnerable to the same age-associated health problems as elderly adults in the general population without ID. This includes dementia, a general term referring to a variety of diseases and conditions causing substantial loss of cognitive ability and functional declines; adults with Down syndrome are at especially high risk. A great deal of recent effort has focused on the very earliest detectable indicators of decline (and even prodromal stages of dementia-causing diseases). A condition called mild cognitive impairment (MCI) has been conceptually defined as a decline in functioning that is more severe than expected with typical brain aging but not severe enough to meet criteria for a diagnosis of dementia. Consensus criteria for both dementia and MCI have been developed for typically developing adults but are of limited applicability for adults with ID, given their pre-existing cognitive impairments. Early diagnosis will continue to be of growing importance, both to support symptomatic treatment and to prevent irreversible neuropathology when interventions are developed to slow or halt the progression of underlying disease. While the intellectual and developmental disabilities field has for some time recognized the need to develop best-practices for the diagnosis of MCI and dementia, there remains a pressing need for empirically based assessment methods and classification criteria.

Lin LP, Hsu SW, Hsia YC, Wu CL, Chu C, Lin JD.
Abstract: Few studies have investigated in detail which factors influence activities of daily living (ADL) in adults with intellectual disabilities (ID) comorbid with/without dementia conditions. The objective of the present study was to describe the relation between early onset dementia conditions and progressive loss of ADL capabilities and to examine the influence of dementia conditions and other possible factors toward ADL scores in adults with ID. This study was
The subjective experience of individuals with Down syndrome living with dementia

Lloyd, V., Kalsy, S., & Gatherer, A.

Dementia, 2007, 6(1), 63-88.

Abstract: An increasing number of studies have begun to explore the subjective experience of individuals with dementia. However, despite the increased prevalence of dementia in individuals with Down syndrome, no such research has been undertaken within this population. The aim of this study was to explore the perspectives and subjective experiences of six individuals with Down syndrome and dementia. Semi-structured interview accounts were analyzed using Interpretative Phenomenological Analysis, in order to gain a deeper understanding of the impact of dementia upon respondents' experiences. The main themes emerged: (1) Self-image, (2) The Relational Self, (3) Making Sense of Decline, (4) Coping Strategies, and (5) Emotional Experience. Whilst the process of adjusting to dementia appeared comparable to the general population, the content of this study was influenced by multiple levels of context specific to having a concomitant intellectual disability.

Impact of dementia upon residential care for individuals with Down syndrome

Lloyd, V., Kalsy, S., & Gatherer, A.


Abstract: Despite the increased prevalence of dementia in individuals with Down syndrome, relatively little is known about its impact upon care provision. Carers may be familiar with the demands of assisting a person with Down syndrome, but generally have little knowledge about the course or impact of dementia. This dissonance may lead to stress, which can have a detrimental effect on the carer and the quality of care for the recipient. In this exploratory study, the authors examined the objective and subjective impact of dementia upon paraprofessional paid carers of individuals with Down syndrome working in residential settings. The study used the Caregiver Activities Scale—Intellectual Disabilities (CAS-ID), the Caregiver Difficulties Scale—Intellectual Disabilities (CDS-ID), and the Maslach Burnout Inventory (MBI). Responses given for these measures by paraprofessional carers of individuals with Down syndrome and dementia (n = 9) were compared with responses from those caring for recipients with Down syndrome and no additional cognitive decline (n = 11). No significant differences were found in the responses from these sets of carers on measures of objective (CAS-ID) or subjective burden (CDS-ID). However, the MBI revealed that carers of individuals with Down syndrome and dementia reported significantly increased levels of emotional exhaustion. Findings suggested that, while even when there is little difference in the level of caregiving tasks or the subjective difficulties of caregiving, the onset of dementia in individuals with Down syndrome resulted in increased emotional exhaustion for carers. Additional factors not considered within this study, such as challenging behavior, may also be pertinent to carer burden.

The needs of people with learning disabilities who develop dementia: A literature review.

Llewellyn, P.


Abstract: People with intellectual disabilities (ID) are living longer and are increasingly developing age-related conditions including dementia. If this occurs, their medical and social needs pose many challenges for services. Literature review was undertaken of articles published between 1996-2006. Data were collected relating to the needs of people with ID and dementia, their carers and their peers. The primary medical need is for timely and accurate diagnosis. There is a multitude of diagnostic tools and advice is available as to which are most suitable for different client groups. The needs of carers are intertwined with those of people with ID and dementia and meeting their needs for education, training and increased staff numbers, has proved beneficial. Although multiple services will be responsible for the needs of this client group, there is a consensus that ID services should be at the heart of service provision.
dementia in people with ID changes their needs, what adjustments have to be
made in the support practices, and what service barriers and successes are
experienced; (ii) how adults with ID and dementia experience living in a home
specializing in dementia support and how stakeholders perceive this model of
support; and (iii) what are the ways policymakers can better respond to the
changing needs of people with ID and dementia. Two social processes were
identified: ‘marginalization’ and ‘supported empowerment’. Marginalization
depicted how dementia affected adults with ID as they incurred multiple losses
in ability, home, and community. Despite losses, the adults maintained their
’selfhood’ with good health support, decision-making, self-agency, and
autonomy as the home provided an individualized transition process, consistent
and person-centered support, and elevated empathy to facilitate freedom of
choice. Supported empowerment was found as an empowering social model
with micro-practices that harnessed elements of empowerment necessary to
support people with dual disabilities. Seven policy considerations that prevent
premature placement in nursing homes, enable aging in place, and maintain a
participatory life in community were recommended.

Margallo-Lana M.L., Moore, P.B., Kay, D.W., Perry, R.H., Reid, B.E.,
Berney, T.P., Tyrer, S.P.
Fifteen-year follow-up of 92 hospitalized adults with Down's syndrome:
incidence of cognitive decline, its relationship to age and neuropathology
Abstract: The clinical and neuropathological features associated with
dementia in Down's syndrome (DS) are not well established. To examine
clinico-pathological correlations and the incidence of cognitive decline in
a cohort of adults with DS. A total of 92 hospitalized persons with
DS were followed up from 1985 to December 2000. At outset, 87 participants
were dementia-free, with a median age of 38 years. Assessments included the
Prudhoe Cognitive Function Test (PCFT) and the Adaptive Behavior Scale
(ABS), to measure cognitive and behavioral deterioration. Dementia was
diagnosed from case records and caregivers' reports. Eighteen (21%) patients
developed dementia during follow-up, with a median age of onset 55.5 years
(range 45-74). The PCFT demonstrated cognitive decline among those with a
less severe intellectual disability (mild and moderate) but not among the
profoundly disabled people (severe and profound). Clinical dementia was
associated with neuropathological features of Alzheimer's disease, and
 correlated with neocortical neurofibrillary tangle densities. At the age of 60
years and above, a little more than 50% of patients still alive had clinical
evidence of dementia. Authors concluded that clinical dementia associated with
measurable cognitive and functional decline is frequent in people with DS after
middle age, and can be readily diagnosed among less severely intellectually
disabled persons using measures of cognitive function such as the PCFT and
behavioral scales such as the ABS. In the more profoundly disabled people, the
diagnosis of dementia is facilitated by the use of behavioral and neurological
criteria. In this study, the largest prospective DS series including
neuropathology on deceased patients, the density of neurofibrillary tangles
related more closely to the dementia of DS than senile plaques. In people with
DS surviving to middle and old age, the development of dementia of Alzheimer
type is frequent but not inevitable, and some people with DS reach old age
without clinical features of dementia.

Marler, R., & Cunningham, C.
39 pp.
London: Down's Syndrome Association [155 Mitcham Road, London, UK
Abstract: This booklet for community carers and agency staff covers some of
the fundamentals concerning adults with Down syndrome and Alzheimer's
disease, including information on obtaining diagnoses, approaches to care
management, and securing services in the UK. Contains some vignettes and a
small glossary and references.

May, H.L., Fletcher, C., Alvarez, N., Zuis, J., & Cavallari, S.G.
Alzheimer’s disease and Down syndrome: A manual of care
Wrentham, Mass.: Alzheimer’s Committee of Wrentham Developmental Center
(1996)
89 pp.
Abstract: A 9-chapter staff training manual covering the basic issues related to
the occurrence of Alzheimer’s disease in adults with Down syndrome. Chapters
include an introduction, Alzheimer's disease and Down syndrome, assessment,
family and guardian considerations, early Alzheimer’s disease, mid-stage
Alzheimer’s disease, feeding and nutrition concerns, and understanding difficult
behaviors. Appendix contains a “Level of Capacity Scale,” and table outlining
implications and treatment suggestions for persons with intellectual disabilities
affected by dementia.

McBrien, J., Whitham, S., Olverman, K., & Masters, S.
Screening adults with Down’s syndrome for early signs of Alzheimer’s disease.
Abstract: Given the now well-recognized risk of Alzheimer's Disease (AD) for
adults with Down's Syndrome (DS) as they reach middle age, services for
people with learning disability (LD) need to meet this new challenge. Good
practice guidance from the Foundation for People with Learning Disabilities
recommended that every service for people with learning disability should set up
a register of adults with DS, conduct a baseline assessment of cognitive and
adaptive functioning before the age of 30 years, develop specialist skills in this
area, offer training to other professionals, front-line staff and carers, and seek
high-quality co-ordination between agencies. This article reports the progress of
one LD service in meeting these challenges, highlighting the successes and
difficulties that may guide other teams considering such a development.

McCallion, P.
Maintaining communication
In M.P. Janicki & A.J. Dalton (Eds.), Dementia, Aging, and Intellectual
Disabilities pp. 261-277
Abstract: This book chapter is based on the premise that progression of
dementia among persons with intellectual disabilities appears to be similar to
that in the general population. Therefore, it explores how existing service models
and programs may be adapted for the population with intellectual disabilities. A
five part program, Maintaining Communication and Independence (MCI), is
proposed which adapts an existing program for persons with dementia to better
meet the needs of persons with intellectual disabilities. The five parts to MCI
are: (1) strengths identification and deficit assessment, (2) environ-mental
modification, (3) good communication, (4) memory aids, and (5) taking care of
the carer.

McCallion, P., & Janicki, M.P.
Intellectual disabilities and dementia (Computer-based Course)
2 CD-Rom set
Center for Excellence in Aging Services, School of Social Welfare, Richardson
Abstract: 2 disk set - usable on Windows 9.X/2000 on 233 MHZ Pentium or
faster with audio/video playback. Instructional course on aging, intellectual
disabilities and dementia. Contains digital video version of “Dementia and
People with Intellectual Disabilities-- What Can We Do?”

McCarron, M.
Some issues in caring for people with the dual disability of Down's syndrome
and Alzheimer's dementia
Journal of Learning Disabilities for Nursing, Health and Social Care, 1999, 3(3),
123-129
Abstract: Virtually all individuals with Down's syndrome over the age of 35
years have neurological changes characteristic of Alzheimer's disease. It has
become increasingly recognized that people with Down's syndrome and
dementia have very special needs, and those who care for them require
specialist knowledge and skills. This paper aims to explore some important
issues in caring for persons with this dual disability. It commences with a brief
outline on the prevalence of dementia in this population. Diagnostic issues and
the clinical presentation of dementia in persons with Down's syndrome are
reviewed. In an attempt to help staff respond to the opportunities and
challenges they encounter, issues discussed, include: promoting well-being,
developing a shared vision on which to build practice, mealtimes — a therapeutic
event, reality orientation and validation therapy, communication, activity and
entertainment.

McCarron, M., Gill, M., Lawlor, B., & Begley, C.
Time spent caregiving for persons with the dual disability of Down's syndrome
Aging and Mental Health
Ireland
Responding to the challenge of ageing and dementia in intellectual disability in Ireland
Aging and Mental Health, 2003, 7(8), 413-417
Abstract: The intellectual disability (ID) population in Ireland is ageing and the number of older persons with the dual disability of ID and dementia is increasing. In spite of these demographic trends, as in other countries adequate policy and service provision for this population are lacking. This paper draws upon data available on the population with ID and dementia, reviews both generic and ID specific literature, considers the policy context and argues for a specific model of service provision. A service model is proposed for the development of multidisciplinary specialist teams within ID, delivered through mobile regional ID dementia clinics.

McCarron, M., Gill, M., Lawlor, B., & Beagly, C.
A pilot study of the reliability and validity of the Caregiver Activity Survey – Intellectual Disability (CAS-ID)
Journal of Intellectual Disability Research, 2002, 46, 605-612
Abstract: Authors undertook to amend the Caregiver Activity Survey (Davis et al., 1997) and apply it for use with caregivers of persons with intellectual disabilities. Under this study, the CAS-ID was tested with 30 adults and convergent validity was assessed by comparing the CAS-ID with other measures of cognitive and functional impairment of adults with intellectual disabilities. Final version of the CAS-ID contains 8 items: dressing, bathing/showering, grooming, toileting, eating and drinking, housekeeping, nursing care-related activities, and supervision/behavior management. Authors content that the CAS-ID has the potential for identifying and measuring care and resource requirements for people experiencing decline associated with dementia.

McCarron, M., Gill, M., McCallion, P., & Begley, C.
Health co-morbidities in ageing persons with Down syndrome and Alzheimer's dementia.
Abstract: Consideration of the relationship between physical and mental health co-morbidities in ageing persons with Down syndrome (DS) and Alzheimer's dementia (AD) is of clinical importance both from a care and resource perspective. Aim: To investigate and measure health co-morbidities in ageing persons with Down syndrome with and without AD. Methods: Recorded physical and mental health needs were ascertained for 124 persons with DS >35 years through a systematic and detailed search of individual medical and nursing case records. Differences in persons with and without AD were investigated, by stage of dementia and by level of intellectual disability (ID). A summed score for health co-morbidities was created and compared using r-tests. Results: Persons with AD had significantly higher co-morbidity scores than persons without AD: r = .852, d.f. = 121, P<0.0001). There was also a significant difference in summed co-morbidity scores for persons at end-stage vs. persons at midstage AD (r = -6.429, d.f. = 56, P<0.0001). No differences were found by level of ID. Conclusions: Increasing health co-morbidities in persons with DS and AD have important implications for care and resources. Appropriate environmental supports combined with competent skilled staff are crucial and will have an important impact on the quality of life for this increasingly at risk population.

McCarron, M., & Lawlor, B.A.
Responding to the challenge of ageing and dementia in intellectual disability in Ireland
Aging and Mental Health, 2003, 7(6), 413-417
Abstract: The intellectual disability (ID) population in Ireland is ageing and the number of older persons with the dual disability of ID and dementia is increasing. In spite of these demographic trends, as in other countries adequate policy and service provision for this population are lacking. This paper draws upon data available on the population with ID and dementia, reviews both generic and ID specific literature, considers the policy context and argues for a specific model of service provision. A service model is proposed for the development of multidisciplinary specialist teams within ID, delivered through mobile regional ID dementia clinics.

McCarron, M., Gill, M., McCallion, P., Begley, C.
Alzheimer’s dementia in persons with Down’s syndrome: predicting time spent on day-to-day caregiving.
Abstract: The aim of this study was to investigate the amount of time formal caregivers spend addressing activities of day-to-day care activities for persons with Down’s syndrome (DS) with and without Alzheimer’s dementia (AD). Caregivers completed for 63 persons with DS and AD, and 61 persons with DS without AD, the Caregiving Activity Survey-Intellectual Disability (CAS-ID). Data was also gathered on co-morbid conditions. Regression analysis was used to understand predictors of increased time spent on day-to-day caregiving. Significant differences were found in average time spent in day-to-day caregiving for persons with and without AD. Mid-stage and end-stage AD, and co-morbid conditions were all found to predict increased time spent caregiving. Nature and tasks of day-to-day caregiving appeared to change as AD progressed. The study concluded that staff time to address day-to-day caregiving needs appeared to increase with onset of AD and did so most dramatically for persons with moderate intellectual disability. Equally, while the tasks for staff were different, time demands in caring for persons at both mid-and end-stage AD appeared similar.

McCarron, M., McCallion, P., Fahey-McCarthy, E., Connaire, K., & Dunn-Lane, J.
Supporting persons with Down syndrome and advanced dementia: Challenges and care concerns
Abstract: To understand staff perceptions of critical issues in caring for persons with intellectual disability (ID) and advanced dementia. There has been growing interest in addressing resource, training, and service redesign issues including an increase in collaborative practices in response to the growing incidence of dementia among persons with ID. Most recently this has included consideration of the specific issues in advanced dementia. Thirteen focus group interviews were held involving staff in six ID services and one specialist palliative care provider in Ireland. A qualitative descriptive approach was taken to analysis. Staff identified three key themes: (1) readiness to respond to end of life needs, (2) the fear of swallowing difficulties, and (3) environmental concerns and ageing in place. Four underlying issues that emerged in this study offer clues to solutions: (a) differences in staff preparation associated with settings, (b) lack of understanding and lack of collaboration with palliative care services, (c) uncertainties about the ability to transfer existing palliative care models to persons with ID and dementia and (d) the need to develop training on end stage dementia and related care approaches.

McCarron, M., McCallion, P., Fahey-McCarthy, E., & Connaire, K.
Staff perceptions of essential prerequisites underpinning end-of-life care for persons with intellectual disability and advanced dementia.
Abstract: To better address palliative care and end-of-life issues for persons with intellectual disability (ID) and dementia, work was undertaken to understand the perspectives of agency staff in both the ID services and specialist palliative care fields. A qualitative descriptive design composed of 13 focus group interviews involved 50 participants drawn from six ID service providers and seven participants from one specialist palliative care service. Analysis was an iterative process; codes were identified and through thematic analysis, collapsed into two core themes: building upon services’ history and personal caregiving—offering quality and sensitive care, and supporting comfort and optimal death in persons with ID and advanced dementia. Challenges were raised for service systems in the areas of aging in place, person-centered care, and interservice collaboration. Authors recommend both more practice relationship based and collaborative approaches to care and a stronger evidence-based research program on the timing and the efficacy of palliative care for persons with ID and dementia.

McCarron, M., McCallion, P., Fahey-McCarthy, E., & Connaire, K.
The role and timing of palliative care in supporting persons with intellectual disability and advanced dementia.
Abstract: To better describe the role and timing of palliative care in supporting persons with intellectual disabilities and advanced dementia (AD). Specialist palliative care providers have discussed mostly on people with cancers. Working with persons with intellectual disabilities and AD offers opportunities to expand...
such palliative care to other populations and disease conditions and to better understand the timing and role of palliative care delivery. Thirteen focus group interviews were held involving staff in six intellectual disability services and one specialist palliative care provider in Ireland. A qualitative descriptive approach was taken to analysis. Specialist palliative care staff recognized that person-centered care delivered in intellectual disability services was consistent with palliative approaches, but staff in intellectual disability services did not consider advanced dementia care as ‘palliative care’. Both groups were unsure about the role of palliative care at early stage of dementia but appreciated specialist palliative care contributions in addressing pain and symptom management challenges. Successful extension of palliative care principles, philosophy and services to persons with intellectual disabilities and AD will require in-depth understanding of prevailing care philosophies and agreement regarding timing and the unique contributions of specialist palliative care services.


McCarron, M., Reilly, E., & Dunne, P. Achieving quality environments for person centred dementia care 45 pp. Dublin, Ireland: Daughters of Charity Service Abstract: Provides an overview of principles and practices designed to enable the operation of small group homes, including covering the planning process, design of private and public spaces, as well as therapeutic uses. Illustrated by two Daughters of Charity homes established for dementia specific care for people with ID. One home offers care for people with moderate dementia and includes 4 permanent beds and 2 respite beds for people both living with their families in the community and community group homes. Home also has a 6 bed step-down palliative care unit for people with ID in the later stages of dementia. These purpose built facilities were designed to be responsive to the changing needs of persons across the continuum of dementia. The home-like environments support people with dementia and staff to participate and complete tasks together, as well as informal impromptu unplanned activities. The homes are designed so that each resident has his or her own bedroom, with numerous communal areas including sitting rooms and garden areas.

McGuire, B. E.; Whyte, N., & Hardardottir, D. Alzheimer's disease in Down Syndrome and intellectual disability: A review. The Irish Journal of Psychology, 2006, 27(3-4), 114-129. The authors review the literature on Alzheimer's disease (AD) in persons with general intellectual disabilities and those with Down syndrome. It focuses on the prevalence, clinical manifestations, diagnosis and management of AD in these populations. The literature indicates that people with Down syndrome have a greatly increased risk of dementia from their early 40s, while people with general intellectual disabilities have similar rates of AD to the general population. Taking into account the life expectancy of people with intellectual disabilities and those with Down syndrome, guidelines are provided for estimating the proportion of service users in a population that are at risk of developing dementia. The difficulties around diagnosis are reviewed and a particular emphasis is placed on the range of psychometric measures that may contribute to assessment and diagnosis. The management of service users who develop dementia is also reviewed and the implications for service providers are highlighted.

McKenzie, K., Harte, C., Patrick, S., Matheson, E., & Murray, G.C. The assessment of behavioural decline in adults with Down’s syndrome Journal of Learning Disabilities, 2002, 6, 175-184 Abstract: Article reports study the examined two methods of using the Vineland Adaptive Behavioral Scales (VABS) to measure behavioral change in adults with Down syndrome who were surmised to be at-risk of Alzheimer’s disease. The first approach used the VABS within a semi-structured interview and all areas of behavioral change identified by staff were noted. The second approach used the basal rule of the VABS as indicated in the Scales’ manual. Comparison of the two approaches indicated that using the second approach highlighted significant decline in scores (for adults meeting the criteria for “probable Alzheimer’s disease) on a number of domains between baseline and 12-24 months. One limitation of this approach that was noted was that this scoring method appeared to miss more subtle changes on behavior, which may be indicative of early Alzheimer’s disease – which were picked up by the first approach. Authors recommend flexibility in using the VABS for assessment purposes and caution researchers to be explicit in reporting how the VABS was used in studies assessing dementia.

McQuillan, S., Kalsy, S., Oyebode, J., Millichap, D., Oliver, C., & Hall, S. Adults with Down’s syndrome and Alzheimer’s disease Tizard Learning Review, 2003, 8(4), 4-13 Abstract: Adults with Down’s syndrome are at risk of developing Alzheimer’s disease in later life. This paper gives an overview of the current research in the area and discusses the implications it raises for individuals, carers, and service providers. Information on the link between Down’s syndrome and Alzheimer’s disease and prevalence rates are given. The clinical symptoms of Alzheimer’s disease and a stage model documenting the progression of the disease are presented. Attention is drawn to the problems inherent in assessing and diagnosing Alzheimer’s disease in a person with a pre-existing intellectual disability. Also discussed are the management of Alzheimer’s disease, a focus on care management practices, and recommendations for service provision (including guidelines for supporting individuals which include maintaining skills, adapting a person-centered approach, implementing psychosocial interventions, and multi-disciplinary care management. Recommendations for the future include increasing education and awareness, implementing screening services, improving assessment methods, and developing appropriate services.

Menéndez M. Down syndrome, Alzheimer's disease and seizures. Brain Development, 2005, 27(4), 246-252. Abstract: Neuropathologically, Alzheimer-type abnormalities are demonstrated in patients with Down syndrome (DS), both demented and nondemented and more than a half of patients with DS above 50 years develop Alzheimer's disease (AD). The apolipoprotein E epsilon4 allele, oestrogen deficiency, high levels of Abeta1-42 peptide, elevated expression of BACE2, and valine polymorphism of prion protein gene are associated with earlier onset of dementia in DS individuals. Advanced AD alone may be an important risk factor for new-onset seizures in older adults and age above 60 years is a recognized risk factor for poor outcome from convulsive and nonconvulsive status epilepticus. DS patients aged over 45 years are significantly more likely to develop Alzheimer's disease than those less than 45 years and up to 84% demented individuals with DS develop seizures. Late-onset epilepsy in DS is associated with AD, while early-onset epilepsy is associated with an absence of dementia. In AD patients with a younger age of dementia onset are particularly susceptible to seizures. DS adults with epilepsy score significantly higher overall on the adaptive behaviour profile. Language function declined significantly more rapidly in AD patients with seizures and there is a good correlation between the severity of
EEG abnormalities and cognitive impairment whereas in DS slowing of the dominant occipital rhythm is related to AD and the frequency of the dominant occipital activity decreases at the onset of cognitive deterioration.

**Moss, S., & Patel, P.**


Abstract: Detailed data on health and functional ability of 101 people with intellectual disability over 50 years of age are presented. Using a combination of informant interviewing, observation and measurement of cognitive change over a 3-year period, 12 of these individuals were identified as suffering from dementia. Their data are compared to those of the non-dementia sufferers. The people suffering from dementia had a greater number of chronic physical health problems and chronic disability resulting from physical health problems. Their capacity for self-directed activity was lower. The subjects had a reduced capacity to enjoy things, and were more irritable and more prone to violence. However, the outlook is somewhat different from a strategic perspective. The population of people with intellectual disability shows considerable epidemiological changes across the lifespan because of the effects of differential survival. The interaction of these factors tends to mask the impact of dementia-related skill loss in this population.

**Nagdee, M.**


Abstract: The evaluation of dementia in individuals with intellectual disability, which will guide subsequent intervention, care and management depends on the systematic review of a number of factors: (1) the individual historical context, obtained from multiple sources, (2) evaluation of the pre-existing cognitive, behavioral, psychiatric, medical and adaptive skill profile, (3) the constellation, and pattern of evolution, of presenting signs and symptoms, (4) results of focused investigations, and (5) refinement of the differential diagnosis. In patients with ID, standard clinical methods need to be supplemented by careful, longitudinal behavioral observations, and individually tailored assessment techniques. Co-morbidity, multiple biological, psychological and socioenvironmental factors, and complex interactions among events, are the reality for many ageing people with ID. Determining the various influences is often a formidable clinical task, but should be systematically carried out using medical, cognitive, behavioral, neuropsychiatric and psycho-social frameworks.
When people with developmental disabilities age
Frontal lobe dysfunction is likely to be an early manifestation of Alzheimer's in brain imaging and the presence of pathological reflexes, suggested that MRI and from neurological examination. These results, along with abnormalities during the course of AD which were associated with abnormal findings from initial testing. In these subjects, the primary emotional change was a decline in emotional functioning about individuals with DS at two different time points (1 year apart). Levels of cognitive functioning were measured and neurological and MRI examinations were performed on all subjects at initial testing. Significant group effect separated those with and without pathological findings on MRI and neurological exam across three different scales: depression, indifference, and pragmatic language functioning. Problems of poor pragmatic language functioning appeared later in the course of suspected Alzheimer's disease (AD), as demonstrated by a significant group effect at time 2, but not at initial testing. In these subjects, the primary emotional change was a decline in social discourse (e.g. conversational style, literal understanding, verbal expression in social contexts). These emotional levels were stable over time, regardless of degree of cognitive decline. Specific emotional changes occur during the course of AD which were associated with abnormal findings from MRI and from neurological examination. These results, along with abnormalities in brain imaging and the presence of pathological reflexes, suggested that frontal lobe dysfunction is likely to be an early manifestation of Alzheimer's Disease in Down Syndrome.
years of age, prevalence rates are lower. The diagnosis of AD in persons with DS is challenging, complicated by atypical presentations, baseline intellectual disability and normal age associated cognitive decline. Effective screening is limited by a paucity of diagnostic criteria, cognitive screening instruments and screening programs. Both observer-rated questionnaires and direct neuropsychological testing are suggested to screen for cognitive impairment, each with different strengths and weaknesses. This paper reviews commonly used screening instruments and explores the unique challenges of screening for AD in persons with DS. It concludes that single, one-dimensional screening tools and opportunistic evaluations are insufficient for detecting dementia in this population. These should be replaced by batteries of tests, incorporating informant questionnaires, direct neuropsychological testing, assessment of activities of daily living and behaviors, measured at baseline and reassessed at intervals. Developing these strategies into organized screening programs should improve diagnostic efficiency and management.

Oliver, C., & Holland, A.J.
Abstract: Neuropathological change found in nearly all individuals with Down syndrome over the age of 35 years closely resembles that of Alzheimer's disease. The extent to which dementia occurs as a result of this change is unclear, and the studies which have investigated presumed cognitive deficits are reviewed. The theories put forward to explain the association between these two disorders and their possible significance to the understanding of the aetiology of Alzheimer's disease are discussed.

Oliver, C., Crayton, L., Holland, A., & Hall, S.
Cognitive deterioration in adults with Down syndrome: effects on the individual, caregivers, and service use American Journal on Mental Retardation, 2000, 103, 455-465
Abstract: Individuals with Down syndrome (N = 49) who had participated in serial neuropsychological assessments were assigned to one of three groups comparable in level of premorbid intellectual disability: (1) those showing cognitive deterioration, (2) those comparable in age but not showing cognitive deterioration and (3) those not showing cognitive deterioration but younger. Those experiencing cognitive deterioration were less likely to receive day services, had more impoverished life experiences, and required more support compared to groups without cognitive deterioration. When age was controlled for, cognitive deterioration was significantly positively associated with carer difficulties and service use and negatively associated with life experiences for the individual. Results suggest a potential role for carer difficulties in influencing life experiences of adults with Down syndrome showing cognitive decline.

Oliver, C., Kalsy, S., McQuillan, S., & Hall, S.
Abstract: Informant-based assessment of behavioral change and difference in dementia in Down syndrome can aid diagnosis and inform service delivery. To date few studies have examined the impact of different types of behavioral change. The Assessment for Adults with Developmental Disabilities (AADS), developed for this study, assesses behavioral excesses (11 items) and deficits (17 items) associated with dementia. Inter-informant reliability, internal consistency and concurrent validity were evaluated and found to be robust. A comparison of the AADS subscale scores for three groups (n = 12) of adults with Down syndrome demonstrated more frequent deficits and excesses and greater management difficulty and effects on the individual in a dementia group than age comparable and younger groups. The AADS is a promising dementia specific measure for people with intellectual disability. Further research should evaluate change as dementia progresses and the nature of management difficulty and effects on the individual.

Olsen, R.V., Ehrenkrantz, E., & Hutchings, B.
Creating the movement-access continuum in home environments for dementia care Topics in Geriatric Rehabilitation, 1996, 12(2): 1-8
Abstract: Since the majority of people with Alzheimer's disease receive some care at home, the environment of that home must be safe and supportive. In-depth interviews of 90 "seasoned" caregivers identified tactics for creating these settings through home modifications and technology. A successful modification strategy follows a three-stage movement-access continuum that responds to the disease course – assistance, restriction with compensation, and wheelchair accessibility. Approaching home modifications along this continuum encourages independence and movement when appropriate while providing safety and control. With a sensitive and ongoing modification strategy, the home environment can become an asset rather than a liability for caregiving.

Olsen, R.V., Ehrenkrantz, E., & Hutchings, B.
Creating supportive environments for people with dementia and their caregivers through home modifications Technology and Disability, 1993, 2(4): 47-57
Abstract: Article examines what caregivers did to enhance or modify their homes when a spouse or other family member had dementia. Authors address controlling access (using locking techniques, blocking access with gates and partial doors, and the like, as examining modifications to kitchens, bathrooms, and furniture. Data showed that many built ramps, double railings, hand grips, as well as extending landings for ease of wheelchair use, reducing riser heights, removing steps, and installing electric chair lifts. Home owners also reconfigured space and rooms. Authors conclude that home owners modified spaces to increase access and independence in some life areas and to limit or curtail access in others. Article is a good source of information for how the process and outcome of families tackle home modifications.

Olsen, R.V., Ehrenkrantz, E., & Hutchings, B.
Homes that help: Advice from caregivers creating a supportive home (Alzheimer's and Related Dementias) 77 pp.
Newark, New Jersey: New Jersey Institute of Technology [Architecture and Building Science Research Group, School of Architecture, NJIT, University Heights, Newark, New Jersey 07102-1982] (1993)
Abstract: Manual that details examples of how to adapt a home for persons affected by dementia, covering care management techniques, physical adaptations, and personal monitoring strategies.

Owens, D., Dawson, J. C., & Losin, S.
Abstract: Although neuropathologists describe Alzheimer's changes in the brains of all victims of Down's syndrome over 35 yr. of age, only 3 cases of clinical dementia in such individuals are described in the literature. In order to establish clinical correlates of Alzheimer's disease, psychiatric and neuropsychological findings obtained from a middle-aged group were compared to those of Down's syndrome patients in their early 20s. The older group exhibited significantly greater incidence of abnormality in (a) object identification, (b) snout reflex, (c) Babinski sign, and (d) palomental sign. Both groups displayed mild hypertonia rather than hypotonia, and face-hand test was abnormal in 75% of Ss tested. While dementia is uncommon, subtle neurological changes reflect neuropathological findings present in aging sufferers of Down's syndrome.

Patti, P., Amble, K. & Flory, M.
Abstract: Aging adults with Down's syndrome (DS) experience more relocations...
and other life events than adults with intellectual disabilities aged 50 and older without DS. Age-related functional decline and the higher incidence of dementia were implicated as the contributing factors that led to relocation and nursing home placement. A retrospective study of adults with intellectual disabilities who were born prior to the year 1946 was conducted to analyze the number of relocations experienced over a 5- and 10-year period. The cohort consisted of 140 individuals (61 with DS between ages 50–71 years, and 79 without DS between ages 57–89 years) who had been referred to a diagnostic and research clinic. Analyses revealed the number of relocations over a 5- and 10-year period were significantly greater in the DS group. Placement in a nursing home for end of life care was significantly higher in the DS group whereas the majority (90%) in the non-DS group remained in a group home setting. Mortality was significantly earlier in the DS group with the mean age at death to be 61.4 years compared with 73.2 years in the non-DS group. The authors concluded that the present results suggest that aging adults with DS encounter more relocations, and are more likely to have their final placement for end of life care in a nursing home. In contrast, the adults without DS were subjected to less relocation and remained in the same group home setting.

Persaud, M., & Jaycock, S.  
Evaluating care delivery: the application of dementia care mapping in learning disability residential services  
Abstract: Measurement and evaluation in intellectual disability services is still in its infancy. This report explores how good practice in relation to quality of care initiatives in dementia care transpire into intellectual disability settings. The authors applied dementia care mapping (DCM) to evaluate its effectiveness and efficiency in generic intellectual disability settings. Results showed that the application of the method to be partially successful. The data produced compared favorably in quality, quantity and detail with those collected in dementia care areas. Analysis of data revealed great potential for the method; however, result indices and coding frameworks need to be modified and adapted in future studies. No subject had dementia.

Prasher, V.P.  
Review of donepezil, rivastigmine, galantamine and memantine for the treatment of dementia in Alzheimer’s disease in adults with Down syndrome: implications for the intellectual disability population  
Abstract: The management of dementia in Alzheimer’s disease has dramatically changed since the development of anti-dementia drugs. However, there is limited information available regarding the bio-medical aspects of the differing drugs; particularly relating to adults with intellectual disability. Indeed the information available for the intellectual disabled population is limited to adults with Down syndrome. This review highlights the important pharmacological and clinical aspects of donepezil, rivastigmine, galantamine and memantine and supports the view that such drugs play an important part in the management of dementia in adults with intellectual disability. Future clinical and research issues are discussed.

Prasher, V., Farooq, A. & Holder, R.  
Abstract: The diagnosis of dementia in Alzheimer's disease remains at times problematic in adults with intellectual disability. The analysis of 5-year consecutive data developed a research-based clinical screening tool for dementia in Alzheimer's disease in adults with Down syndrome. The Adaptive Behavior Dementia Questionnaire (ABDQ) is a 15-item questionnaire, which is used to detect change in adaptive behavior. The scale has good reliability and validity, with an overall accuracy of 92%. It is one of the first clinical tools designed specifically to screen for dementia in Alzheimer’s disease in adults with Down syndrome.

Prasher, V.P., & Filer, A.  
Behavioural disturbance in people with Down’s syndrome and dementia.  
Abstract: Behavioral disturbance associated with dementia in people with Down syndrome has not been fully researched. This study investigated such problems in subjects with Down syndrome and dementia and controls with Down syndrome but free of dementia. Changes in mood, difficulty with communication, gait deterioration, loss of self-care skills, sleep disturbance, day-time wandering and urinary incontinence were found to be associated with dementia. Problems giving the greatest cause for concern to carers were restlessness, loss of communication skills, urinary incontinence and wandering. Care provision specifically focused on management of behavioral disturbance in individuals who develop dementia is recommended.

Prasher, V.P., Mahmood, H., & Mitra, M.  
Degenerative Neurological and Neuromuscular Disease, 2016, 6, 85-94.  
Abstract: Dementia in Alzheimer’s disease (DAD) is more common in adults with Down syndrome (DS), with characteristically an earlier onset. The treatment of DAD is not too dissimilar in the general population and in people with intellectual disabilities. However, the underlying intellectual disability can make the management of DAD more challenging in older adults with DS. This literature review aimed to look at the management of DAD in people with DS. The management of dementia is holistic. This includes treating reversible factors, aiming to slow the cognitive decline, psychological therapies, ensuring that the environment is appropriate, and use of psychotropic medication when necessary to manage behavioral problems, psychotic symptoms, depressive symptoms, and sleep difficulty. Antidementia medications have a role to play but remain limited. The management of DAD in the DS population can be at times challenging, but good clinical practice should involve accurate diagnosis of dementia, treating any reversible additional factors, consideration of psychological and behavioral management, use of antidementia medication, and a multidisciplinary team approach.

Prasher, V.P., Metsegharun, T., & Haque, S.  
Weight loss in adults with Down syndrome and with dementia in Alzheimer’s disease.  
Abstract: An association between weight loss and Alzheimer’s disease has been established in the general population but little information is available regarding this association in people with intellectual disabilities. A 4-year longitudinal study of adults with Down syndrome with and without Alzheimer’s disease was undertaken. Age-associated weight loss was seen in virtually all older adults with Down syndrome. A significant association between weight loss and Alzheimer’s disease was found for older adults with Down syndrome. This study highlights important research and clinical issues regarding weight loss and nutrition in Down syndrome adults with dementia.

Proveda, B., & Broxholme, S.  
Assessments for dementia in people with learning disabilities: Evaluation of a dementia battery developed for people with mild to moderate learning disabilities  
Learning Disability Practice, 19(1), 31-40. doi.org/10.7748/ldp.19.1.31.s23  
Abstract: An intellectual disabilities’ dementia battery was developed to assess cognitive abilities in individuals referred to the intellectual disabilities service because of concerns of possible dementia. The present study aimed to establish concurrent validity with previously validated measures of cognitive ability and its clinical effectiveness in detecting dementia in this population. Fifty-five individuals aged 29 and over (range: 29 to 71), received a baseline and a follow-up assessment using the dementia battery between 2000 and 2010. Differences in performance between individuals allocated to ‘probable’, ‘unsure’
Puri, B.K., Ho, K.W., & Singh, I.

Age of seizure onset in adults with Down's syndrome.


Abstract: In a cohort of 68 adults (35 males and 33 females) with Down's syndrome aged 29-83 years, a history of seizures was found in 26.5%. The overall mean age of onset of seizures was 37 years, males (22 years) being significantly younger than females (51 years). The age of onset was bimodally distributed, with the first peak occurring in the first two decades, and a late-onset peak occurring in the fifth and sixth decades. A strong association between Alzheimer's disease and seizures was confirmed. Of those with a history of seizures, those aged over 45 years were significantly more likely to develop Alzheimer's disease than those younger than 45. It is suggested that late-onset epilepsy in Down's syndrome is associated with Alzheimer's disease, while early-onset epilepsy is associated with an absence of dementia.

Reid, A. H., & Aungle, P. G.


Abstract: Review of literature on dementia and Down to date.

Robertson, J., Hatton, C., Emerson, E., Baines, S.

Prevalence of epilepsy among people with intellectual disabilities: A systematic review.

Seizure, 2015, 29, 46-62. doi: 10.1016/j.seizure.2015.03.016

Abstract: Epilepsy is more common in people with intellectual disabilities than in the general population. However, reported prevalence rates vary widely between studies. This systematic review aimed to provide a summary of prevalence studies and estimates of prevalence based on meta-analyses. Studies were identified via electronic searches using Medline, Cinahl and PsycINFO and cross-citations. Information extracted from studies was tabulated. Prevalence rate estimates were pooled using random effects meta-analyses and subgroup analyses were conducted. A total of 48 studies were included in the tabulation and 46 studies were included in meta-analyses. In general samples of people with intellectual disabilities, the pooled estimate from 38 studies was 22.2% (95% Cl 19.6-25.1). Prevalence increased with increasing level of intellectual disability. For samples of people with Down syndrome, the pooled estimate from data in 13 studies was 12.4% (95% Cl 9.1-16.7), decreasing to 10.3% (95% Cl 8.4-12.6) following removal of two studies focusing on older people. Prevalence increased with age in people with Down syndrome and was particularly prevalent in those with Alzheimer's/dementia. Epilepsy is highly prevalent in people with intellectual disabilities. Services must be equipped with the skills and information needed to manage this condition.

Sheehan, R., Sinai, A., Bass, N., Blatchford, P., Bohnen, I., Bonell, S., ... Strydom, A.

Dementia diagnostic criteria in Down syndrome

International Journal of Geriatric Psychiatry, 2015, 30(8), 857–863.

Abstract: Dementia is a common clinical presentation among older adults with Down syndrome. The presentation of dementia in Down syndrome differs compared with typical Alzheimer's disease. The performance of manualized dementia criteria in the International Classification of Diseases (ICD)-10 and Diagnostic and Statistical Manual of Mental Disorders-IV-Text Revision (DSM-IV-TR) is uncertain in this population. The authors aimed to determine the concurrent validity and reliability of clinicians' diagnoses of dementia against ICD-10 and DSM-IV-TR diagnoses. Validity of clinical diagnoses were also explored by establishing the stability of diagnoses over time. We used clinical data from memory assessments of 85 people with Down syndrome, of whom 64 (75.3%) had a diagnosis of dementia. The cases of dementia were presented to expert raters who rated the case as dementia or no dementia using ICD-10 and DSM-IV-TR criteria and their own clinical judgement. The authors found that clinician's judgement corresponded best with clinically diagnosed cases of dementia, identifying 84.4% cases of clinically diagnosed dementia at the time of diagnosis. ICD-10 criteria identified 70.3% cases, and DSM-IV-TR criteria identified 56.3% cases at the time of clinically diagnosed dementia. Over time, the proportion of cases meeting ICD-10 or DSM-IV-TR diagnoses increased, suggesting that experienced clinicians used their clinical knowledge of dementia presentation in Down syndrome to diagnose the disorder at an earlier stage than would have been possible had they relied on the classic description contained in the diagnostic systems. Clinical diagnosis of dementia in Down syndrome is valid and reliable and can be used as the standard against which new criteria such as the DSM-5 are measured.

Shultz, J.M., Aman, M.G., & Rojahn, J.

Psychometric evaluation of a measure of cognitive decline in elderly people with mental retardation.


Abstract: Forty elderly persons with mental retardation were assessed by their care providers on a modified version of the Short Informant Questionnaire on Cognitive Decline in The Elderly (IQCODE) an instrument designed to quantify cognitive decline in elderly people in the general population. They were also assessed for IQ, aberrant behavior, and current mental status; test-retest and interrater reliability were evaluated as well. Internal consistency, as assessed by coefficient alpha, was moderately high (alpha = .86). Test-retest reliability was mediocre and interrater reliability levels did not reach statistical significance. The Short IQCODE was not correlated with a variety of demographic features or with behavior ratings, showing evidence of divergent validity. However, the Short IQCODE was only weakly (nonsignificantly) correlated with a measure of current mental status, which challenges its concurrent validity. The Short IQCODE probably needs to be modified further for satisfactory psychometric performance.

Robinson, A., Spencer, B., & White, L.

Understanding difficult behaviors: Some suggestions for coping with Alzheimer's disease and related illnesses

80 pp.

Geriatric Education Center of Michigan (Alzheimer's Education Program, Eastern Michigan University, P.O. Box 981337, Ypsilanti, MI 48198-1337; www.emich.edu/public/alzheimers) (1999 rev.)

Abstract: Manual format publication providing detailed information on addressing difficult behaviors and understanding their causes and environmental relationships. Specific detailed sections on angry, agitated behavior; hallucinations and paranoia; incontinence; problems with bathing, dressing, eating, sleeping and wandering; repetitive actions, screaming and verbal noises, and wanting to go home. Appendix contains selected readings, and audio-visual materials. Does not specifically focus on intellectual disabilities, but is good generic resource.

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in people with mental retardation. However, some features of this study may have resulted in suboptimal estimates of the Short IQCODE's psychometric characteristics.

Schupf, N., Kapell, D., Nightingale, B., Rodriguez, A., Tycko, B., & Mayeux, R.
Abstract: Virtually all individuals with Down syndrome (DS) have neuropathologic changes characteristic of Alzheimer's disease (AD) beginning at 40 years of age. Few studies have examined factors that influence age at onset of AD in DS. We investigated whether sex differences in age at onset and risk of AD among adults with DS are similar to those observed in the general population and whether the effect of sex on risk of AD is modified by apolipoprotein E (APOE) genotype. A community-based sample of 111 adults with cytogenetically confirmed DS (34 to 71 years of age) was ascertained through the New York State Developmental Disabilities system. A semi-structured interview with caregivers and review of medical records was used to ascertain the presence or absence of AD. APOE genotyping was carried out without knowledge of the subject's medical history or clinical diagnosis. Both male gender and the presence of an APOE 3/4 allele were associated with an earlier onset of AD. Compared with women, men with DS were three times as likely to develop AD. No individual with an APOE epsilon4 allele developed AD. No evidence of interaction of sex and APOE genotype was found in risk of AD. The higher risk of AD in men may be related to differences in hormonal function between men and women with DS that are distinct from those in the general population.

Abstract: Several lines of evidence suggest that loss of estrogen after menopause may play a role in the cognitive declines associated with Alzheimer's disease (AD). Women with Down syndrome (DS) experience early onset of both menopause and AD. This timing provides a model to examine the influence of endogenous estrogen deficiency on risk of AD. We hypothesized that low serum levels of bioavailable estradiol (E2) would be associated with increased risk of AD. One hundred and nineteen postmenopausal women with DS, 42-59 years of age, were ascertained through the New York State developmental disability service system and followed at 18-month intervals. Information from cognitive assessments, caregiver interviews, medical record review and neurological examination was used to establish the diagnosis of dementia. Women with DS who developed AD had lower levels of bioavailable E2, lower levels of total estradiol, higher levels of sex-hormone binding globulin, and lower levels of dehydroepiandrosterone sulfate at baseline than women who remained dementia free over the course of follow-up. Women who had low levels of bioavailable E2 at baseline were four times as likely to develop AD (HR=4.1, 95% CI: 1.2-13.9) and developed AD, on average, 3 years earlier, than those with high levels of bioavailable E2, after adjustment for age, level of mental retardation, ethnicity, body mass index, history of hypothyroidism or depression and the presence of the apolipoprotein varepsilon4 allele. Our findings support the hypothesis that reductions in estrogen following menopause can contribute to the cascade of pathological processes leading to AD.

Onset of dementia is associated with age at menopause in women with Down's syndrome. 
Abstract: Women with Down's syndrome experience early onset of both menopause and Alzheimer's disease. This timing provides an opportunity to examine the influence of endogenous estrogen deficiency, indicated by age at menopause, on risk of Alzheimer's disease. A community-based sample of 163 postmenopausal women with Down's syndrome, 40 to 60 years of age, was ascertained through the New York State Developmental Disability service system. Information from cognitive assessments, medical record review, neurological evaluation, and caregiver interviews was used to establish ages for onset of menopause and dementia. We used survival and multivariate regression analyses to determine the relation of age at menopause to age at onset of Alzheimer's disease, adjusting for age, level of mental retardation, body mass index, and history of hypothyroidism or depression. Women with early onset of menopause (46 years or younger) had earlier onset and increased risk of Alzheimer's disease (AD) compared with women with onset of menopause after 46 years (rate ratio, 2.7; 95% confidence interval [CI], 1.2-5.9). Demented women had higher mean serum sex hormone binding globulin levels than nondemented women (86.4 vs 56.6 nmol/L; p = 0.02), but similar levels of total estradiol, suggesting that bioavailable estradiol, rather than total estradiol, is associated with dementia. Our findings support the hypothesis that reductions in estrogens after menopause contribute to the cascade of pathological processes leading to AD.

Scottish Down's Syndrome Association
What is dementia? - A booklet about dementia for adults who have a learning
Service, K.P.
Considerations in care for individuals with intellectual disability with advanced dementia
Abstract: A number of physical, psychosocial, or ethical issues related to the care of the individual with advanced dementia are reviewed and related to individuals with intellectual disabilities. The sources used include the published literature and illustrations drawn from personal observations. The author notes that through anticipation and early planning, advanced directives and service planning (which looks to adaptation of services and other care management interventions), can effectively impact care at the end. Areas that need to be addressed include technical information, including a review of and, as appropriate, adaptation of general advanced dementia resources, relief, rest, support, reassurance, receipt of on-going information, participation in planning, a sense of humor, and appreciation. Also noted, are the differences experienced because of the presence of paid staff as carers and residence outside of the family home. It is concluded that, although the goals of quality care is the same for all people with advanced dementia, the process by which to reach these goals often needs further consideration and adaptation for people with intellectual disabilities.

Service, K.P., Lavoie, D. Herlihy, J.E.
Coping with losses, death and grieving
Abstract: This book chapter uses a composite case to demonstrate strategies to address the issues related to losses and death for people with intellectual disability and the diagnosis of dementia and for their families and staff. Dealing with the diagnosis and changes are explained in the framework of the stages of death and dying as developed by Kubler-Ross. The responses to the losses of dementia which are manifested by affected individuals and members of their personal networks are reflective of a number of factors. The dilemma related to personal value systems, professional roles, and philosophies of care is explored in the context of ethical concerns. The impact of program considerations such as rules, regulations, policies, and economics is examined. Bereavement work for peers and housemates can be further developed for carers, family, and staff. Recommendations for research and interventions for public policy are given.

Dying well with an intellectual disability and dementia
Abstract: An international summit on intellectual disability and dementia identified three areas where the added complexity of advanced dementia warrants particular attention around end-of-life services in people with an intellectual disability. The three areas were: (a) ascertainment of advanced stage of dementia, (b) place of care, and (c) active support. The authors discuss each of these three issues and note the particular challenges that arise when someone with dementia also has an intellectual disability. The summit proffered a series of recommendations that included ongoing exchange of experiences and skills across professions, development of tools and scales that facilitate understanding of the progression of dementia, and more equitable access to palliative care and hospice services with increased and timely referral.

Dementia diagnostic criteria in Down syndrome.
Abstract: Dementia is a common clinical presentation among older adults with Down syndrome. The presentation of dementia in Down syndrome differs compared with typical Alzheimer’s disease. The performance of manualised dementia criteria in the International Classification of Diseases (ICD)-10 and Diagnostic and Statistical Manual of Mental Disorders-IV-Text Revision (DSM-IV-TR) is uncertain in this population. We aimed to determine the concurrent validity and reliability of clinicians’ diagnoses of dementia against ICD-10 and DSM-IV-TR diagnoses. Validity of clinical diagnoses were also explored by establishing the stability of diagnoses over time. The authors used clinical data from memory assessments of 85 people with Down syndrome, of whom 64 (75.3%) had a diagnosis of dementia. The cases of dementia were presented to expert raters who rated the case as dementia or no dementia using ICD-10 and DSM-IV-TR criteria and their own clinical judgement. The authors found that clinician’s judgement corresponded best with clinically diagnosed cases of dementia, identifying 84.4% cases of clinically diagnosed dementia at the time of diagnosis. ICD-10 criteria identified 70.3% cases, and DSM-IV-TR criteria identified 56.3% cases at the time of clinically diagnosed dementia. Over time, the proportion of cases meeting ICD-10 or DSM-IV-TR diagnoses increased, suggesting that experienced clinicians used their clinical knowledge of dementia presentation in Down syndrome to diagnose the disorder at an earlier stage than would have been possible had they relied on the classic description contained in the diagnostic systems. The authors concluded that clinical diagnosis of dementia in Down syndrome is valid and reliable and can be used as the standard against which new criteria such as the DSM-5 are measured.

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Abstract: Dementia is a common clinical presentation among older adults with Down syndrome. The presentation of dementia in Down syndrome differs compared with typical Alzheimer’s disease. The performance of manualised dementia criteria in the International Classification of Diseases (ICD)-10 and Diagnostic and Statistical Manual of Mental Disorders-IV-Text Revision (DSM-IV-TR) is uncertain in this population. We aimed to determine the concurrent validity and reliability of clinicians’ diagnoses of dementia against ICD-10 and DSM-IV-TR diagnoses. Validity of clinical diagnoses were also explored by establishing the stability of diagnoses over time. The authors used clinical data from memory assessments of 85 people with Down syndrome, of whom 64 (75.3%) had a diagnosis of dementia. The cases of dementia were presented to expert raters who rated the case as dementia or no dementia using ICD-10 and DSM-IV-TR criteria and their own clinical judgement. The authors found that clinician’s judgement corresponded best with clinically diagnosed cases of dementia, identifying 84.4% cases of clinically diagnosed dementia at the time of diagnosis. ICD-10 criteria identified 70.3% cases, and DSM-IV-TR criteria identified 56.3% cases at the time of clinically diagnosed dementia. Over time,
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Sigal, M. J., & Levine, N. Down’s syndrome and Alzheimer’s disease. *Journal of the Canadian Dental Association*, 1993, 59(10), 823–5, 829. Abstract: Individuals with Down’s syndrome (DS) who live to be 40 years of age will demonstrate neuropathological changes that are consistent with Alzheimer’s disease (AD). Due to modern medical intervention, we are now observing an aging DS population. Middle-aged Down’s syndrome adults are actually considered to be “very old,” and it is not uncommon to observe a progressive loss of cognitive function and a decline in the ability to perform daily tasks consistent with that seen in Alzheimer’s disease. At this stage, the DS individual will not be able to perform daily preventive dental care and may be unable to cooperate for professional dental care. Clinicians who care for DS adults must be aware of this problem when preparing their dental treatment plans, which must emphasize preventive care prior to the onset of dementia and the maintenance of that program during their patients’ cognitive decline. In the latter stages of AD, it may be necessary to extract all the remaining teeth due to the inability of the individual or care giver to provide adequate oral hygiene to prevent dental caries or periodontal disease.

Simard, M., & van Reekum, R. Dementia with Lewy bodies in Down’s syndrome. *International Journal of Geriatric Psychiatry*, 2001, Mar;16(3), 311-20. Abstract: The association between Down’s syndrome (DS) and Alzheimer’s disease is well established. This paper presents a review of the literature, suggesting a possible association between DS and the more recently recognized dementia with Lewy bodies (DLB). Patients with DLB frequently present with changes in affect and behavior, and in particular with psychotic symptoms. The literature suggests a possible role for atypical neuroleptics in the management of psychosis in DLB.

Soliman, A., & Hawkins, D. The link between Down’s syndrome and Alzheimer’s disease: 1. *British Journal of Nursing*, 1998, Jul 9-22;7(13):779-784. Abstract: This article, the first of two parts, considers the link between Down’s syndrome and Alzheimer’s disease and how this link has been a significant factor with regards to research into the aetiology of Alzheimer’s disease. It describes some of the suggested causes of Alzheimer’s disease in people with Down’s syndrome. The diagnosis, signs and symptoms of Alzheimer’s disease are briefly discussed. The second article concludes with the implications of Alzheimer’s disease in people with Down’s syndrome for family careers, services and nurses.

Soliman, A., & Hawkins, D. The link between Down’s syndrome and Alzheimer’s disease: 2. *British Journal of Nursing*, 1998, Jul 23-Aug 12;7(14):847-850. Abstract: In this article, the second of two parts, the needs of family and professional carers of people with Down’s syndrome and Alzheimer’s disease are examined. Substantial numbers of people with Down’s syndrome survive to the age of 50 and beyond and so work still needs to be done on finding solutions to the problems faced by this client group and its carers. As well as the difficulties faced by any family carer of a person with dementia, those caring for someone with Down’s syndrome and Alzheimer’s disease may also have to deal with additional worries and problems. Consideration is given to service provision and the implications for nursing. A case study will illustrate some of the points made.

Strydom, A., & Hassiotis, A. Diagnostic instruments for dementia in older people with intellectual disability in clinical practice *Aging & Mental Health*, 2003, 7(6), 431-437. Abstract: There is a need for simple and reliable screening instruments for dementia in the intellectual disability (ID) population that can also be used to follow their progress, particularly if they are being treated with anti-dementia drugs. Commonly used tests for the general population such as the Mini Mental State Examination (MMSE) are not appropriate for many people with ID. This paper is a literature review of alternative instruments that have been used in research or recommended by experts since 1991 and have the potential to be used as screening instruments. Two types of tests have been identified: those administered to informants, and those that rely on direct assessment of the individual. The most promising informant rated screening tool in most adults with ID including Down syndrome (DS) is the Dementia Questionnaire for Persons with Mental Retardation (DMR). However, sensitivity in single assessments is variable and cut-off scores need further optimization. In those with DS, the Dementia Scale for Down Syndrome (DSSD) has good specificity but mediocre sensitivity. The Test for Severe Impairment and Severe Impairment Battery are two direct assessment tools that show promise as screening instruments, but need further evaluation.

Strydom, A., & Hassiotis, A. Livingston, G., & King, M. Prevalence of dementia in older adults with intellectual disability without Down syndrome *Journal of Applied Research in Intellectual Disabilities*, 2006, 19, 253. Abstract: The aim of this study was to determine the prevalence of dementia in older adults with intellectual disability (ID) without Down syndrome. The authors identified the total population of adults with ID aged 60+ in the five London boroughs served through local social services registers, ID teams and residential services providers and then screened the Ss with a simple object memory task, information about functional status, and the Dementia Questionnaire for Persons with Mental Retardation (DMR). Screen positives on the DMR, or those with unexplained functional decline or memory deficits underwent detailed examination. Full assessment of cognitive and physical function was undertaken and additional information was collected from informants and medical records. All information was summarized to determine dementia status with IDC-10, DSM-IV, and DC-LD criteria. The authors identified 264 adults with ID and 222 (84%) participated in the study. One in four screened positive. The prevalence rate for ICD-10 or DSM-IV was 12%. Prevalence differed between those with mild and severe ID, and between diagnostic criteria. The authors concluded that dementia is common in older adults with ID without DS, but prevalence in severe ID deviated from prediction and the use of diagnostic criteria needs to be reviewed.

Strydom, A., Hassiotis, A., & Livingston, G. Mental health and social care needs of older people with intellectual disabilities *Journal of Applied Research in Intellectual Disabilities*, 2005, 18(3), 229-235. Abstract: Older people with intellectual disabilities (ID) are a growing population but their age-related needs are rarely considered and community services are still geared towards the younger age group. We aimed to examine the mental health and social care needs of this new service user group. We identified all adults with ID without Down syndrome (DS) aged 65+ living in the London boroughs of Camden and Islington. The Psychiatric Assessment Schedule for Adults with a Developmental Disability (PASADD) checklist was used to detect psychiatric disorder, the Vineland Behavior Scale (maladaptive domain) for problem behaviors and the Dementia Questionnaire for Persons with Mental Retardation (DMR) to screen for dementia. Carers reported health problems and disability. Needs were measured with the Camberwell Assessment of Need for adults with Intellectual Disabilities (CANDID-S). A total of 23 older people with ID (13 had mild ID and nine more severe ID) and their carers participated in the survey. In which, 74% had one or more psychiatric symptoms; 30% were previously known with a diagnosis of mental illness. One-third of the older
people screened positive for dementia (range: 17-44%, depending on sensitivity of DMR scores used). Three quarters of the group had physical health problems, 74% had poor sight, 22% had hearing loss and 30% had mobility problems. Carers rated unmet needs for accommodation (22%), day activities, and eyesight and hearing. The people with ID rated unmet needs to be social relationships (44%), information and physical health. Authors concluded that older people with ID without DS have considerable prevalence of health problems and psychiatric disorders, including symptoms of functional decline and dementia. Such symptoms are often not recognized and further research into their needs is a priority.

**Strydom, A., Livingston, G., King, M., & Hassiotis, A.**

Prevalence of dementia in intellectual disability using different diagnostic criteria.  
Abstract: Diagnosis of dementia is complex in adults with intellectual disability owing to their pre-existing deficits and different presentation. To describe the clinical features and prevalence of dementia and its subtypes, and to compare the concurrent validity of dementia criteria in older adults with intellectual disability. The Becoming Older with Learning Disability (BOLD) memory study is a two-stage epidemiological survey of adults with intellectual disability without Down syndrome aged 60 years and older, with comprehensive assessment of people who screen positive. Dementia was diagnosed according to ICD–10, DSM–IV and DC–LD criteria. The DSM–IV dementia criteria were more inclusive. Diagnosis using ICD–10 excluded people with even moderate dementia. Clinical subtypes of dementia can be recognized in adults with intellectual disability. Alzheimer’s dementia was the most common, with a prevalence of 8.6% (95% CI 5.2–13.0), almost three times greater than expected. Dementia is common in older adults with intellectual disability, but prevalence differs according to the diagnostic criteria used. This has implications for clinical practice.

**Strydom, A., Hassiotis, A., King, M., Livingstone, G.**  
The relationship of dementia prevalence in older adults with intellectual disability (ID) to age and severity of ID.  
Abstract: Previous research has shown that adults with intellectual disability (ID) may be more at risk of developing dementia in old age than expected. However, the effect of age and ID severity on dementia prevalence rates has never been reported. We investigated the predictions that older adults with ID should have high prevalence rates of dementia that differ between ID severity groups and that the age-associated risk should be shifted to a younger age relative to the general population. A two-staged epidemiological survey of 281 adults with ID without Down syndrome (DS) aged 60 years; participants who screened positive with a memory task, informant-reported change in function or with the Dementia Questionnaire for Persons with Mental Retardation (DMR) underwent a detailed assessment. Diagnoses were made by psychiatrists according to international criteria. Prevalence rates were compared with UK prevalence and European consensus rates using standardized morbidity ratios (SMRs). Dementia was more common in this population (prevalence of 18.3%; SMR 2.77 in those aged 65 years). Prevalence rates did not differ between mild, moderate and severe ID groups. Age was a strong risk factor and was not influenced by sex or ID severity. As predicted, SMRs were higher for younger age groups compared to older age groups, indicating a relative shift in age-associated risk. Criteria-defined dementia is 2-3 times more common in the ID population, with a shift in risk to younger age groups compared to the general population.

Dementia in older adults with intellectual disabilities—epidemiology, presentation, and diagnosis  
Abstract: As life expectancy of people with intellectual disabilities (ID) extends into older age, dementia is an increasing cause of morbidity and mortality. To update and summarize current knowledge on dementia in older adults with ID, the authors conducted a comprehensive review of the published literature from 1997–2008 with a specific focus on: (1) epidemiology of dementia in ID in general as well as in specific genetic syndromes; (2) presentation; and (3) diagnostic criteria for dementia. The review drew upon a combination of searches in electronic databases Medline, EMBASE, and PsychINFO for original research papers in English, Dutch, or German. The authors report that varied methodologies and inherent challenges in diagnosis yield a wide range of reported prevalence rates of dementia. Rates of dementia in the population with intellectual disability not because of Down syndrome (DS) are comparable with or higher than the general population. Alzheimer’s disease onset in DS appears earlier and the prevalence increases from under 10% in the 40s to more than 30% in the 50s, with varying prevalence reported for those 60 and older. Incidence rates increase with age. Few studies of dementia in other genetic syndromes were identified. Presentation differs in the ID population compared with the general population; those with DS present with prominent behavioral changes believed to be because of frontal lobe deficits. Authors recommend large-scale collaborative studies of high quality to further knowledge on the epidemiology and clinical presentation of dementia in this population.

**Temple, V., & Konstantareas, M.M.**  
A comparison of the behavioural and emotional characteristics of Alzheimer's dementia in individuals with and without Down syndrome.  
Abstract: The behavioral and emotional changes associated with Alzheimer's disease (AD) are compared for individuals with Down syndrome and AD and individuals with AD from the general population (AD-only). The primary caregivers of 30 people with Down syndrome and AD and 30 people with AD-only completed the BEHAVE-AD and the Apathy subscale of the CERAD. As well, behavioral observations at adult day programs were undertaken with selected participants (n=26). The Down syndrome group experienced fewer delusions and had lower total scores on the BEHAVE-AD, indicating fewer problem behaviors overall. Day program observations suggested that the AD-only group were more likely to be sedentary and observe the activities of others, while the Down syndrome group were more physically active. Improving our understanding of the similarities and differences between these two groups may help facilitate the integration of individuals with Down syndrome into adult day programs for the general population.

**Temple, V., Jozsvai, E., Konstantareas, M.M., & Hewitt, T.A.**  
Alzheimer dementia in Down's syndrome: the relevance of cognitive ability.  
Abstract: More years of education have been found to be associated with a lower rate of Alzheimer disease (AD) in individuals without intellectual disability. It has been proposed that education reflects greater 'synaptic reserve' and that greater synaptic reserve may defer the development of AD. The present study compared individuals with Down’s syndrome (DS) who were found to have symptoms of dementia with those who remained symptom-free to determine if the two groups differed in their level of education, employment, recreational activities, years in an institution or overall level of cognitive functioning. Thirty-five adults with DS aged between 29 and 67 years were assessed. The participants were recruited from a community health facility and included individuals with a wide range of ability levels. Neuropsychological testing, caregiver report and the Dementia Scale for Down Syndrome (Gedye 1995) were used to identify decline in participants over periods of 6 months to 3 years. After the effect of age was statistically removed, multiple regression analyses revealed that level of cognitive functioning was significantly associated with decline such that a higher level of cognitive functioning predicted less decline. None of the environmental variables (i.e. educational level, years in an institution and employment) were directly associated with decline; however, a post hoc regression using level of cognitive functioning as the outcome variable
revealed that level of cognitive functioning itself was associated with these environmental variables. A higher level of cognitive functioning was associated with fewer cases of dementia in individuals with DS, and level of cognitive functioning appears to be associated with environmental factors such as level of education, years in an institution and employment. The present findings suggest that environmental interventions aimed at improving level of cognitive functioning may also be useful in deferring the onset of dementia.

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Thompson, D.J., Ryrie, I., & Wright, S. People with intellectual disabilities living in generic residential services for older people in the UK Journal of Applied Research in Intellectual Disabilities, 2004, 17, 101-108 Abstract: As part of a UK program of work focusing on older people with ID, the circumstances of those who reside in generic services for older people were investigated. Some 215 people with ID were identified living in 150 homes. They were significantly younger than other residents and were placed in these homes more because of organizational change or the aging/death of family carers, rather than due to their own needs. Of the residents, 24 adults had Down syndrome, 8 of whom were noted to have dementia. Of the 215, 45 had dementia. Average age of people with DS upon entry was 60 and those remaining at the homes was about 65. |

Torr, J., Strydom, A., Patti, P. & Jokinen N. Aging in Down syndrome: Morbidity and mortality. Journal of Policy and Practice in Intellectual Disabilities, 2010, 7, 70-81. Abstract: The life expectancy of adults with Down syndrome has increased dramatically over the last 30 years, leading to increasing numbers of adults with Down syndrome now living into middle and old age. Early-onset dementia of the Alzheimer type is highly prevalent in adults with Down syndrome in the sixth decade, and this has overshadowed other important conditions related to aging among adults with Down syndrome. The authors’ aim was to update and summarize current knowledge on these conditions, and examine causes of morbidity and mortality in older people with Down syndrome by conducting a systematic review of the published literature for the period: 1993–2008. They reviewed English-language literature drawn from searches in the electronic databases Medline, CINAHL, and PsycINFO, as well as supplementary historical papers. The authors conclude that functional decline in older adults with Down syndrome cannot be assumed to be due only to dementia of the Alzheimer type (which is not inevitable in all adults with Down syndrome). Functional decline may be the result from a range of disorders, especially sensory and musculoskeletal impairments. Given the high rates of early-onset age-related disorders among adults with Down syndrome, programmatic screening, monitoring, and preventive interventions are required to limit secondary disabilities and premature mortality. With respect to assessment and treatment, in the absence of specialist disability physicians, geriatricians have a role to play. |

Tsiouris, J.A., & Patti, P.J. Drug treatment of depression associated with dementia or presented as "pseudodementia" in older adults with Down syndrome. Journal of Applied Research in Developmental Disabilities, 1997, 10 (4), 312-322. Abstract: The response to antidepressant drugs, mainly the selective serotonin reuptake inhibitors (SSRIs), was evaluated in adults with intellectual disability (ID) and Down syndrome (DS) who presented with depression and decline in activities of daily living (ADL) skills. Among other patients with ID referred to a specialised clinic for diagnostic work-up, 37 adults with DS over the age of 40 and a mean age of 51.4 years were evaluated and 34 were followed-up. Depression associated with dementia was diagnosed in 16 cases, and depression presented as functional decline 'pseudodementia' was found in 4 cases. Recommendations for treatment with antidepressants were followed in 10 cases with a marked improvement in functioning compared to a rapid decline in 10 cases where treatment was refused. Treatment with the SSRI antidepressant drugs resulted in improved quality of life, differentiated 'pseudodementia' from dementia, and possibly delayed the dementing process in adults with DS and presentation of depression associated with dementia. |

Tsiouris, J.A., Patti, P.J., Tipu, O. & Raguthu, S. Adverse effects of phenytoin given for late-onset seizures in adults with Down syndrome. Neurology, 2002 59, 779-780. Summary (no abstract): A brief report that indicates the adverse effects of therapeutic levels of phenytoin and the improvement observed when phenytoin was replaced with other antiepileptics in 17 adults with DS, Alzheimer disease (AD) and late-onset seizures (LOS). The reported deterioration in the patients' condition was found to be due to the adverse effects from phenytoin and not to AD. It was suggested that practitioners avoid prescribing phenytoin to treat LOS in persons with DS and AD. If phenytoin is already prescribed, it should be replaced with another anticonvulsant agent. |

Tyler, C.V., & Shank, J.C. Dementia and Down syndrome The Journal of Family Practice, 1996, 42(6), 619-621 Abstract: Case report of a 43-year old woman with Down syndrome and progressive decline over three years that was attributed to dementia of the Alzheimer's type. Authors describe the medical conditions evident during decline, whilst living with her family. Identifies typical features associated with decline for persons with Down syndrome and defines areas for concern during examinations by physicians. |

Tyrrell, J., Cosgrave, M., McCarron, M., McPherson, J., Calvert, J., Kelly, A., McLaughlin, M., Gill, M. & Lawlor, B.A. Dementia in people with Down's syndrome. International Journal of Geriatric Psychiatry, 2001, Dec;16(12):1168-74. Abstract: To determine the prevalence of dementia in an Irish sample of people with Down's syndrome (DS) and to examine associated clinical characteristics of dementia in this group. Some 285 people with DS (Age 35-74 years, mean age +/- SD 46.5 +/- 8.2 years) were included in this cross-sectional study. The diagnosis of dementia was made using modified DSMIV criteria. Cognitive tests used were the Down's Syndrome Mental Status Examination (DSMSE), Test for Severe Impairment (TSI) and adaptive function was measured by the Daily Living Skills Questionnaire (DLSQ). The overall prevalence of dementia was 13.3%. The presence of dementia was associated with epilepsy, myoclonus, and head injury. The demented DS group were significantly older when compared to the non-demented group (35 years old vs. 30 years old, p < 0.05). The TSI and DLSQ had a satisfactory spread of scores without 'floor' or 'ceiling' effects in people with moderate and severe learning disability. Median scores in demented versus the non-demented groups were significantly different for each measure of function. Authors conclude that dementia had a prevalence of 13.3% and occurred at a mean age of 54.7 years. The combination of DLSQ score, age and presence of epilepsy were found to predict presence of dementia. |

Udell, L. Supports in small group home settings
there are areas that examine the nature of dementia and its possible impact on service provision. Its particular focus is on how agencies that decide to support people with dementia in small group home settings can accommodate their organizational and operational structure and offers insight on the perspectives and questions that agencies need to consider. Suggestions are offered on how to address some of the difficulties that organizations will encounter.

University of Maryland School of Medicine

Hi Buddy... The developmentally delayed individual with Alzheimer disease

VideoPress, the University of Maryland School of Medicine [100 North Greene Street, Suite 300, Baltimore, Maryland USA (1 800 328 7450; fax: 1 410 706 8471; www.videopress.org)]

Abstract: Video on the subject of Alzheimer's disease and adults with developmental disabilities.

University of Stirling

Building networks - Conference on learning disabilities and dementia

Dementia Services Development Centre, Department of Applied Social Science, Faculty of Human Sciences, University of Stirling, Stirling, Scotland F94 4LA (2000).

Abstract: Proceedings of conference on community dementia care and people with intellectual disabilities held in Dunblane, Scotland (November 11, 1999). The report summarizes the main points made by the numerous speakers at the conference. The conference highlighted the need for wider awareness among managers and service personnel of the need for (and for resources and developing expertise on) training staff in residential and home support services on responding to the needs of people with intellectual disabilities who have dementia. The 16 papers range from the theoretical to the practical.

Urv, T.K., Zigman, W.B., & Silverman, W.


Abstract: Changes in psychiatric symptoms related to specific stages of dementia were investigated in 224 adults 45 years of age or older with Down syndrome. Findings indicate that psychiatric symptoms are a prevalent feature of dementia in the population with Down syndrome and that clinical presentation is qualitatively similar to that seen in Alzheimer's disease within the general population. Psychiatric symptoms related to Alzheimer's disease vary by the type of behavior and stage of dementia, but do not seem to be influenced by sex or level of premorbid intellectual impairment. Some psychiatric symptoms may be early indicators of Alzheimer's disease and may appear prior to substantial changes in daily functioning. Improvements in understanding the progression of dementia in adults with Down syndrome may lead to improved diagnosis and treatment.

Verbeek, H., van Rossum, E., Zwakhalen, SM, Kempen, GI, Hamers JP.


Abstract: There is large cross-national variation in the characteristics of small, domestic-style care settings which emphasize normalized living. However, a systematic overview of existing types is lacking. This study provides an international comparison of the care concepts which have adopted a homelike philosophy in a small-scale context. Insight into their characteristics is vital for theory, planning and implementation of such dementia care settings. A literature search was performed using various electronic databases, including PubMed, Medline, CINAHL and PsycINFO. In addition, “gray” literature was identified on the internet. Concepts were analyzed according to five main characteristics: physical setting, number of residents, residents’ characteristics, domestic characteristics and care concept. 75 papers were included covering 11 different concept types in various countries. Similarities among concepts reflected a focus on meaningful activities centered around the daily household. Staff have integrated tasks and are part of the household, and archetypical home-style features, such as kitchens, are incorporated in the buildings. Differences among concepts were found mainly in the physical settings, numbers of residents and residents’ characteristics. Some concepts have become regular dementia care settings, while others are smaller initiatives. The care concepts are implemented in various ways with a changing staff role. However, many aspects of these small, homelike facilities remain unclear. Future research is needed, focusing on residents’ characteristics, family, staff and costs.

Visootsak, J., & Sherman, S.


Abstract: Down syndrome (DS), or trisomy 21, is the most common identifiable genetic cause of mental retardation. The syndrome is unique with respect to its cognitive, behavioral, and psychiatric profiles. The well-known cheerful and friendly demeanor often creates a personality stereotype, with parents and observers commenting on the positive attributes. Despite these strengths, approximately 20% to 40% of children with DS have recognized behavioral problems. Such problems persist through adulthood, with a decrease in externalizing symptoms of aggressiveness and attention problems and the emergence of internalizing symptoms of depression and loneliness. In adulthood, the presence of early-onset dementia of the Alzheimer type and cognitive decline may pose a challenge in recognizing these internalizing symptoms. Understanding the age-related changes in cognitive functioning and behavioral profiles in individuals with DS provides insight into clinical and treatment implications.

Walker, C.A., & Walker, A.

Uncertain Futures: people with learning difficulties and their ageing family carers


Abstract: This monograph provides an overview of research, policy and practice relating to service responses to adults with learning difficulties living at home with older family carers in the UK. The authors’ premise is that as life expectancy increases, a growing proportion of people with learning difficulties continues to live with family members, most frequently parents, whose caring role is being extended into their own advanced old age. Highlighted are some of the issues raised by service users, carers and service providers, including care for someone with diminishing abilities. The text argues that there is urgent need for the paid service sector to work with families to provide the necessary support and planning to take the uncertainty out of the future.

Wark, S., Hussain, R., & Parminter, T.


Abstract: The past century has seen a dramatic improvement in the life expectancy of people with Down syndrome. However, research has shown that individuals with Down syndrome now have an increased likelihood of early onset dementia. They are more likely than their mainstream peers to experience other significant co-morbidities including mental health issues such as depression. This case study reports a phenomenon in which three individuals with Down
syndrome and dementia are described as experiencing a rebound in their functioning after a clear and sustained period of decline. It is hypothesized that this phenomenon is not actually a reversal of the expected dementia trajectory but is an undiagnosed depression exaggerating the true level of functional decline associated with the dementia. The proactive identification and treatment of depressive symptoms may therefore increase the quality of life of some people with Down syndrome and dementia.

Watchman, K., Kerr, D., & Wilkinson, H.
Supporting Derek: A new resource for staff working with people who have a learning difficulty and dementia.
58 pp.
York, United Kingdom: Joseph Rowntree Foundation (2010)
Abstract: This resource pack published by the Joseph Rowntree Foundation in partnership with the University of Edinburgh, is aimed at staff supporting people with intellectual disability who develop dementia. Its focus is on helping care staff and training officers from intellectual disability and dementia care settings, as well as community, housing and health care staff. The pack is composed of 10 topic areas (chapters), including basics on dementia, understanding behavior, development care environments, pain, communication, meaningful activities, friends with dementia, nutrition and hydration, night-time care, and palliative care. The pack includes a DVD and training materials which cover many of the key issues related to diagnosing and responding to dementia in people with intellectual disabilities. A short drama included on the DVD (acted by people with an intellectual disability) provides an insight into the reality of dementia and how it might feel to the individual affected.

Watchman, K.
Critical issues for service planners and providers of care for people with Down’s syndrome and dementia.
Abstract: This discussion paper raises critical issues that need to be addressed along with suggestions as to how they may be met with. Author notes that the role of service planners and providers of care is one that cannot be understated while considering the future needs of people with Down’s syndrome and dementia. Discussed are appropriateness of accommodations, care management, diagnosis, and training.

Watchman, K.
Why wait for dementia?
Abstract: Adults with Down syndrome living in supported accommodation, who develop dementia, may also experience other preventable difficulties caused by the environment in which they live. This can result in their enforced move to a different accommodation. Yet it is known that it is beneficial for people with intellectual disabilities and dementia to remain in familiar surroundings for as long as possible. This article puts forward a new set of guidelines suggesting the modification of the living environment of adults with Down syndrome before they develop dementia. The guidelines are discussed along with possible barriers to their implementation.

Watchman, K.
Intellectual Disability and Dementia: Research into Practice. 336 pp.
Abstract: In 16 chapters, this edited text offers a balanced appraisal of the evidence base on people with intellectual disabilities who develop dementia. It includes a range of resources, and is split into three sections that address the following: (1) The association between intellectual disabilities and dementia: what do we know? (2) Experiences of dementia in people with intellectual disabilities: how do we know?, and (3) Service planning: what are we going to do? Section one explores issues such as defining and diagnosing dementia in people with intellectual disabilities, prevalence and incidence and treatment options. The authors explain the differing theories about why people with Down’s syndrome are more likely to experience dementia, which provides a useful foundation for discussions about the use of medication. Section two explores the perspectives of people with learning disabilities and their families and the experiences of families via case studies. This section also explores some checklists for use with family members to help plan for the future. Section three focuses on service planning by describing a framework that can be used by practitioners for discussing diagnosis and prognosis of dementia. This section also considers the issues related to ageing in place and dementia-specific services and suggests that training is important for staff supporting those with learning disabilities and dementia.

Watchman, K., Janicki, M.P., and the members of the International summit on intellectual disability and dementia
The intersection of intellectual disability and dementia: Report of the international summit on intellectual disability and dementia
The Gerontologist, (2017), in press
Abstract: An International Summit on Intellectual Disability and Dementia, held in Glasgow, Scotland (October 13-14, 2016) drew individuals and representatives of numerous international and national organizations and universities with a stake in issues affecting adults with intellectual disability (ID) affected by dementia. A discussion-based consensus process was used to examine and produce a series of topical reports examining three main conceptual areas: (1) human rights and personal resources (applications of the Convention for Rights of People with Disabilities and human rights to societal inclusion, and perspectives of persons with ID), (2) individualized services and clinical supports (advancing and advanced dementia, post-diagnostic supports, community supports and services, dementia-capable care practice, and end-of-life care practices), and (3) advocacy, public impact, family caregiver issues (nomenclature/ terminology, inclusion of persons with ID in national plans, and family caregiver issues). Outcomes included recommendations incorporated into a series of publications and topical summary bulletins designed to be international resources, practice guidelines, and the impetus for planning and advocacy with, and on behalf of, people with ID affected by dementia, as well as their families. The general themes of the conceptual areas are discussed and the main recommendations are associated with three primary concerns.

Watchman, K., Janicki, M.P., Splaine, M., Larsen, F.K., Gomiero, T., & Lucchino, R.
International summit consensus statement: intellectual disability inclusion in national dementia plans.
Abstract: The World Health Organization (WHO) has called for the development and adoption of national plans or strategies to guide public policy and set goals for services, supports, and research related to dementia. It called for distinct populations to be included within national plans, including adults with intellectual disability (ID). Inclusion of this group is important as having Down’s syndrome is a significant risk factor for early-onset dementia. Adults with other ID may have specific needs for dementia-related care that, if unmet, can lead to diminished quality of old age. An International Summit on Intellectual Disability and Dementia, held in Scotland, reviewed the inclusion of ID in national plans and recommended that inclusion goes beyond just description and relevance of ID. Reviews of national plans and reports on dementia show minimal consideration of ID and the challenges that carers face. The Summit recommended that persons with ID, as well as family carers, should be included in consultation processes, and greater advocacy is required from national organizations on behalf of families, with need for an infrastructure in health and social care that supports quality care for dementia.
Webber, R., Bowers, B., McKenzie-Green, B.
Staff responses to age-related health changes in people with an intellectual disability in group homes.
Abstract: The purpose of this study was to explore how supervisors in group homes caring for people with intellectual disability responded to the development of age-related health changes in their residents. Ten group home supervisors working in the disability sector were interviewed once. Data were analyzed using Dimensional Analysis. The study identified several factors related to whether a resident could stay 'at home' or would need to be moved to residential aged care (nursing home) including: nature and extent of group home resources, group home staff comfort with residents' health changes, staff skill at navigating the intersection between the disability and ageing sectors, and the supervisor's philosophy of care. The ability of older people with an intellectual disability to 'age in place' is affected by staff knowledge about and with age-related illnesses, staff skills at navigating formal services, staffing flexibility, and the philosophy of group home supervisors.

Whitehouse, R., Chamberlain, P., & Tunna, K.
Dementia in people with learning disability: a preliminary study into care staff knowledge and attributions
Abstract: This paper describes the findings of a pilot study funded by the NHS Executive Primary and Community Care Research Initiative Small Projects Scheme that investigated the knowledge and attributions of dementia held by care staff who work with older adults with learning disability. Meetings took place with 21 members of care staff identified as "keyworkers" to older adults with learning disability living in residential houses provided by Solihull Healthcare NHS Trust, Solihull, UK. The results suggest that staff have knowledge of ageing at a similar level to that of college students. Forgetfulness was the sign that they would most expect to see if they thought someone was suffering from dementia. When a change in behavior was attributed to dementia, it was most likely to be viewed as 'stable, uncontrollable' with staff feeling pessimistic about being able to change the behavior.

Whitthick, J.E.
Dementia and mental handicap: attitudes, emotional distress and caregiving
Abstract: Against the current climate of hospital closure programs and community care, attitudes to caregiving were examined in three groups of carers, namely mothers caring for a mentally handicapped child, mothers caring for a mentally handicapped adult and daughters caring for a parent with dementia. An 'attitude questionnaire' was developed by the author and administered, postally, to the three groups. Daughters were found to be more likely than the mothers to see their caring role in a negative way and were more inclined to favor institutional care. Possible reasons for this are discussed. The relationship between attitudes and emotional distress (as measured by the GHQ-30) were also examined for the sample as a whole. Negative and pro-institutional attitudes towards the caregiving situation were associated with elevated levels of emotional distress. Implications at both a local and a national level for all those involved with carers are discussed in the light of these findings.

The Edinburgh Principles with accompanying guidelines and recommendations.
Abstract: A panel of experts attending a 3-day meeting held in Edinburgh, UK, in February 2001 was charged with producing a set of principles outlining the rights and needs of people with intellectual disability (ID) and dementia, and defining service practices which would enhance the supports available to them. The Edinburgh Principles, seven statements identifying a foundation for the design and support of services to people with ID affected by dementia, and their carers, were the outcome of this meeting. The accompanying guidelines and recommendations document provides an elaboration of the key points associated with the Principles and is structured toward a four-point approach: (1) adopting a workable philosophy of care; (2) adapting practices at the point of service delivery; (3) working out the coordination of diverse systems; and (4) promoting relevant research. It is expected that the Principles will be adopted by service organizations worldwide, and that the accompanying document will provide a useful and detailed baseline from which further discussions, research efforts and practice development can progress.

Wilkinson, H., Kerr, D., & Rae, C.
People with a learning disability: their concerns about dementia
Abstract: With people with a learning disability live longer, more of them are developing dementia. In planning the services they need, an important first step is to ask them what they think. Author report information from surveying a group of older adults with intellectual disabilities.

Wilkinson, H., Kerr, D., & Cunningham, C.
Equipping staff to support people with an intellectual disability and dementia in care home settings.
Abstract: The knowledge, experiences and skills of direct care staff working in care home settings are essential in ensuring a good quality of life and care for a person with an intellectual disability (ID) who develops dementia. Drawing on the findings of a wider study, the issues of training, support and the wider needs of staff when trying to support a resident who develops dementia are explored, specifically as relating to the role played by staff and the need to determine their experiences and related training needs. Following an introduction to the policy and practice context for working with people with an ID and dementia, and a brief description of the research method, the authors discuss the attitudes and practices of staff; supportive changes at an organizational level; and the knowledge and training needs of staff and specific gaps in knowledge. The authors argue that, within the policy and practice context of aiming to support residents to 'age in place', support for staff is a crucial aspect of ensuring that such an approach is effective and provides a coordinated approach to planning, resourcing and support.

Whitwham, S., McBrien, J., & Broom, W.
Should we refer for a dementia assessment? A checklist to help know when to be concerned about dementia in adults with Down syndrome and other intellectual disabilities.
Abstract: The aim of this research was to develop a simple screening checklist to help carers and professionals know when to make a referral for a dementia assessment. A checklist was completed for all new referrals to a dementia service for people with intellectual disabilities. The obtained scores were compared to the diagnostic outcome of a comprehensive dementia assessment.
The data (n = 159) indicate a higher score on the checklist correlates significantly with a subsequent diagnosis of dementia. Cut-off scores are explored. The checklist appears to be a useful tool to prompt referrals for a full dementia assessment. By helping the referer to know when to be concerned about dementia, it may reduce the number of people referred late or not at all.

Wisniewski, K., Howe, J., Williams, D. G., & Wisniewski, H. M.
Precocious aging and dementia in patients with Down’s syndrome.
Abstract: Studied 50 unselected institutionalized patients with Down’s syndrome to determine the clinical course of precocious aging and mental and neurological deterioration. Significant differences were established in neurological and psychiatric abnormalities and mental deterioration in patients below and above age 35, indicating progressive changes in the CNS. Demonstrated were higher incidence of recent memory loss, impairment of short-term visual retention, frontal release signs, hypertension, hyperreflexia, long-tract signs, and psychiatric problems. Also noted was the presence of external features of precocious aging. Down’s syndrome appears to be a human chromosomal abnormality in which genetically determined biochemical defects leading to precocious aging and dementia can be studied.

Woods, R. T., Moniz-Cook, E., Liffie, S., Campion, P., Vernooij-Dassen, M., Zanetti, O., & Franco, M.
Abstract: Generic article about the need for quality and accurate screening and assessment of adults suspected of showing signs of Alzheimer’s disease and the need for psychosocial interventions and family carer supports. Authors note need for better training of medical practitioners who may be screening for dementia, indicating that there is a need for timely detection and diagnosis that will prevent crises, facilitate adjustment and provide access to treatments and supports.

Practical applications of the NTG-EDSD for screening adults with intellectual disability for dementia: A German-language version feasibility study.
Abstract: Authors evaluated the feasibility of using the German-language version of a recently developed screening tool for dementia for persons with intellectual disability (ID): the National Task Group – Early Detection Screen for Dementia (NTG-EDSD). Some 221 paid carers of ageing persons with ID were asked to use the NTG-EDSD and report back on its utility and on 4 feasibility dimensions, and to provide detailed feedback on aspects deemed critical or missing. All feasibility dimensions were rated good to very good, and 80% of respondents found the NTG-EDSD useful or very useful for the early detection of dementia. This highlights a high acceptability of this instrument by the main target group. The positive feasibility evaluation of the NTG-EDSD indicates the usability and adequacy of this instrument for application of early detection of dementia in persons with ID.

Zigman, W. B., & Lott, I. T.
Alzheimer's disease in Down syndrome: Neurobiology and risk.
Abstract: Down syndrome (DS) is characterized by increased mortality rates, both during early and later stages of life, and age-specific mortality risk remains higher in adults with DS compared with the overall population of people with mental retardation and with typically developing populations. Causes of increased mortality rates early in life are primarily due to the increased incidence of congenital heart disease and leukemia, while causes of higher mortality rates later in life may be due to a number of factors, two of which are an increased risk for Alzheimer’s disease (AD) and an apparent tendency toward premature aging. In this article, we describe the increase in lifespan for people with DS that has occurred over the past 100 years, as well as advances in the understanding of the occurrence of AD in adults with DS. Aspects of the neurobiology of AD, including the role of amyloid, oxidative stress, Cu/Zn superoxide dismutase (SOD-1), as well as advances in neuroimaging are presented. The function of risk factors in the observed heterogeneity in the expression of AD dementia in adults with DS, as well as the need for sensitive and specific biomarkers of the clinical and pathological progressing of AD in adults with DS is considered.

Alzheimer's disease in adults with Down syndrome.
Abstract: Down syndrome is associated with increased mortality rates due to congenital cardiac defects and leukemia early in life, and with Alzheimer's disease and a tendency toward premature aging later in life. Alzheimer's disease was once considered an inexorable result of growing old with Down syndrome, but recent data indicate that risk does not reach 100%. Although some individuals exhibit signs and symptoms of Alzheimer's disease in their 40s, other individuals have reached the age of 70 without developing dementia. This chapter presents a wealth of data from a longstanding longitudinal study with the overall objective of understanding and recounting the mechanisms responsible for these substantial individual differences.

Zigman, W. B., Schupf, N., Devenny, D., Miezejeski, C., Ryan, R., Urv, T. K., Schubert, R., & Silverman, W.
Incidence and prevalence of dementia in elderly adults with mental retardation without Down syndrome.
*American Journal on Mental Retardation*, 2004, 109, 126–141
Abstract: Rates of dementia in adults with mental retardation without Down syndrome were equivalent to or lower than would be expected compared to general population rates, whereas prevalence rates of other chronic health concerns varied as a function of condition. Given that individual differences in vulnerability to Alzheimer’s disease have been hypothesized to be due to variation in cognitive reserve, adults with mental retardation, who have long-standing intellectual and cognitive impairments, should be at increased risk. This suggests that factors determining intelligence may have little or no direct relationship to risk for dementia and that dementia risk for individuals with mental retardation will be comparable to that of adults without mental retardation unless predisposing risk factors for dementia are also present.
underwritten by U.S. Department of Education grants number
H133B980046, H133B031134, H133B080009, and H133B130007.
"The opinions contained in this publication are those of the
grantee and do not necessarily reflect those of the U.S.
Administration on Community Living."

v.17c  (Sept 2017)

Courtesy:

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