

Future need of ageing people with an intellectual disability in the Republic of Ireland: lessons learned from the literature

Catriona M. Doody, Kathleen Markey and Owen Doody,

Accessible summary

- This article synthesises current literature regarding ageing and service provision for people with an intellectual disability.
- People with intellectual disability are living longer.
- Services need to respond to the needs of older people with intellectual disability.

Summary

People with an intellectual disability are living longer, and the numbers continue to rise. Ireland has and is seeing a dramatic change in the age profile of clients and the support services they require. While Ireland had specifically trained nurses in intellectual disability, they predominately work in residential settings. This can be seen as been at odds with the philosophy of supporting people with intellectual disability live at home with their family and the primary care system. As the ageing population is rising, intellectual disability services need to proactively develop and respond to this changing age profile by reviewing and adjusting the way in which they deliver services, not only in terms of how services develop and respond to a changing age profile but also in terms of collaborative working across all health services.

Keywords

Ageing, intellectual disability, Ireland, literature review, service provision

Introduction

The phenomenon of ageing with a lifelong disability is relatively new illustrated by the dramatic changes in life expectancy for people with intellectual disability (Carter & Jancer 1983; Strauss & Eyman 1996; Bigby 2004). First surfacing in the United States (US) in the 1980s and emerged mainly because of the growth in the number of older people with intellectual disability outliving or expected to outlive their family carers (Walker & Walker 1998; Fisher 2004). The definition of aged and ageing has long been debated, and just as gerontologists have had difficulty in agreeing terminology and definitions, so too have professionals working in the area of intellectual disability (Janicki & Wisniewski 1985; Bigby 2004). Gerontologists use a three tier classification system described by Janicki (1984) where ageing individuals are classified into one of three groups. Classification usually begins at 65 years the 'young old', 75 years the 'middle old' and 85 years the 'old old'. However, Seltzer & Krauss (1989) identify that while this may be a valid attempt at defining ageing and aged, it is not one that meets the universal approach of researchers in intellectual disability who have chosen cut-off ages as low as 45 years and as high as 75 years. Hogg et al. (1988) identify that aetiology and severity of intellectual disability are important determinants to ageing and, in general, lower functioning individuals and those with a genetic cause to their disability tend to age earlier. However, Hogg & Lambe (2000) and Grant (2001) identify that a trend is emerging, particularly in UK literature, to offset the stereotype of premature ageing in intellectual disability and adopt the conventional age of 60 years used for the rest of the population, which may recognise and identify middle age as a life phase for people with intellectual

disability. This paper presents a review that utilised a broad approach to select papers for inclusion. Computerised searches using the terms, 'old age, aged, ageing, age, mortality, morbidity', were used in conjunction with the terms 'intellectual disability, mental handicap and mental retardation' to allow cognisance of changing terminology of intellectual disability over time and gain an international perspective. These words covered the essential elements and enabled the sourcing of articles relevant and necessary to complete this review. Searches were conducted through electronic databases (EBSCO and CINAHL) within the limitation of research published between 1980 and 2010 so as to include the most recent literature. This review presents the context of intellectual disability in Ireland and ageing for people with intellectual disability under the domain concepts of increased longevity and service provision.

Context of intellectual disability in Ireland

Many definitions have advanced over the years to explain the concept of intellectual disability; however, the World Health Organisation (WHO 2000) definition is generally accepted: 'a condition of arrested or incomplete development of mind characterised by the impairment of skills and overall intelligence in areas such as cognition, language, motor and social abilities'. Aetiology of intellectual disability can be attributed to many sources those of a known organic or unknown aetiology (Burack et al. 1980; Wilska & Kaski 2001; Healthcare Commission 2007). Approximately 25% of people with intellectual disability have a known organic genesis and tend to have a severe or profound degree of disability, whilst the mild-to-moderate categories tend to have an unidentifiable basis for the presenting disability (Zigman et al. 1984; Fraser & Green 1990; Healthcare Commission 2007). Intellectual disability affects 1–2.5% of the population in the Western world, but prevalence rates vary internationally (White et al. 2005). In Ireland, there are 26 066 people registered on the National Intellectual Disability Database (NIDD 2009) an increase of 37% since the 1974 Census (Kelly et al. 2009). Proportionately, the number of people with intellectual disability over 35 has increased from 29% in 1974 to 49% (n = 10 725) in 2009, reflecting an increased lifespan for people with intellectual disability (Kelly et al. 2009). The increased longevity has been attributed to improved health and well-being, the control of infectious diseases, the move to community living, improved nutrition and the quality of health care services (Bigby 2004; Kelly et al. 2009). This changing age profile has major implications for service planning, including a demand for support services for ageing caregivers and services designed specifically to meet the needs of older people with intellectual disability (Bigby 2004). Irish government policies have highlighted the need for appropriate services for individuals suited to their needs (Commission of Inquiry on Mental Handicap 1965; Planning for the Future 1984; Needs and Abilities 1990; Shaping a Healthier Future 1994; Quality and Fairness 2001). These sit well with International age-related policies and practices, which highlight equal benefit to medical treatment for both physical and psychological disorders and good-quality social provision as that of their peers within society (DoH 2001; US Department of Health and Human Services 2002; NHS Scotland 2003; Meijer et al. 2004). However, Hogg (1997) and Hogg et al. (2001) identify that interest in the older person with intellectual disability is primarily a reflection of the fact that despite service developing based on normalisation principles, they remain readily identifiable as people in receipt of specialist intellectual disability services differentiated from the mainstream of older people generally.

Increased longevity of the older person with intellectual disability

The social and medical factors' leading to increased longevity has increased the lifespan of people with intellectual disability in both developed and developing countries (Hogg et al. 1988). Increased longevity has been reported in European countries including Austria, Germany and Switzerland (Wieland 1987), Denmark (Dupont et al. 1987), the Netherlands (Maaskant 1993), Ireland (Mulcahy & Reynolds 1984; Lavin et al. 2006), UK (Hogg et al. 1988), United States (Janicki 1988; Janicki et al. 1999) and Australia (Ashman et al. 1995). While there is documentation that people with severe or profound disability, multiple disability and persons with Down syndrome (Haveman et al. 1989; Eyman et al. 1989, 1991; Mc Carron et al. 2005) still have a reduced life expectancy, age-specific mortality rates among people with mild intellectual disability and adults within the general population in developed countries are comparable (Eyman et al. 1987; Zigman et al. 1991). Tait's (1983) Scottish study identifies that if the excess mortality among the profoundly disabled and those with Down syndrome were discounted, then the remainder of the population with intellectual disability have a life expectancy approaching that of the normal population. In his study, mortality figures were studied on individuals (n = 260), and the average age at death was 70 years for men and 68 for women. This is one study that predicted greater life expectancy for men than for women. However, McLoughlin (1988) in a study in Newcastle upon Tyne (UK) broke down data in terms of degree of disability and found that the average age of death for individuals with mild intellectual disability was 71.8 years, with moderate 65 years and with severe 56.5 years.

Carter & Jancer (1983) reviewed mortality rate between 1930 and 1980 in Stoke Park Hospital in Bristol (UK). A total of 1383 deaths occurred, of which 49% were men and 51% were women. The study sample comprised of 1600 individuals with a severe and profound level of disability, and it is possible that this could have contributed to higher mortality rates. However, studies on mortality rates, which focused on institutionalised populations, have to be interpreted accordingly when being generalised to a non-institutionalised population. They do not account for the differences in terms of service provision received by clients between 1930 and 1980. The ideological basis for service provision has undergone radical change over the course of those 50 years, and new approaches such as normalisation or social role valorisation, small community-based residences and improved access to medical services could have all facilitated a decrease in mortality rates and an increase in life expectancy since. However, this was becoming evident even in Carter & Jancer (1983) study when comparing the first 25 years to the later 25, in relation to ages at death. Prior to 1955, the majority of residents died below the age of 50, while increasing numbers survived above age 50 between 1955 and 1980.

Tyrer et al. (2007) conducted a study in Leicestershire and Rutland (UK) using the standardised all-cause and disease mortality ratios over a 13-year period (1993–2005). The overall population comprised of those over the age of 20 totalling 700 000, of which 2436 people had an intellectual disability. The range of disability included 30.8% (n = 751) moderate intellectual disability, 36.7% (n = 894) severe and 32.5% (n = 791) profound; however, within this study, people with mild intellectual disability were excluded. Almost two-thirds of individuals were under 50 with 57% men and 43% women. Overall mortality rates were three times higher in the intellectual disability population than in the general population but varied

considerably with age; the largest difference was noted in the 20–29 age group, where mortality was almost nine times higher in men and more than 17 times higher in women. However, these effects diminished with increasing age with adults in the older age groups having mortality rates more similar to the general population suggesting a healthy survivor effect (Tyrrer et al. 2007). Excess deaths in the younger age groups may be due to improvements in neonatal and post-natal care, resulting in children with intellectual disability now living longer (Fryers 1984; Bittles et al. 2002). However, Tyrrer et al. (2007) identify that these young adults inconsequently may have long-term and unavoidable chronic conditions, which predispose them to an early death, where previously they would have died in childhood. Also, percentages of deaths increased coinciding with severity of disability with 13.4% in the moderate grouping, 16.6% in the severe grouping and 20.4% in the profound grouping. Highlighting the aspect that severity of intellectual disability has an impact on longevity and in the light of the fact that most people with intellectual disability in residential care settings are from the severe to profound category, this placing an onus on nursing staff to focus care delivery to persons whose risk of mortality is high.

From an Irish perspective, Lavin et al. (2006) reviewed the age of death from statistics from the NIDD from 1996 to 2001, of a sample of 1120 persons with intellectual disability comprising of 590 (52.7%) men and 530 (47.3%) women. The average age of death calculated per group was 48.88 for mild intellectual disability, 51.16 for moderate intellectual disability, 44.53 for severe intellectual disability and 29.37 for profound intellectual disability, giving an average of 45.68 years for the total intellectual disability population. The study highlighted significant differences between family (n = 412), independent (n = 26), supervised (n = 358) and hospital residence (n = 225); however, given the small number in independent residence, comparisons between groups cannot be reliably interpreted. Hospital residence resulted in the longest lifespan with supervised residence and family residence the shortest. However, for mild levels of intellectual disability, family residence was associated with shorter lifespan, while supervised and hospital did not differ from one another. While comparisons of mortality rates with other countries is difficult as industrialised countries have varying rehabilitative, residential philosophies and practices in the way health care and other services are delivered, figures are similar to past studies (Hollins et al. 1998; Evenhuis et al. 2001). The study also highlighted that lifespan among those with intellectual disability decreases as severity of intellectual disability increases similar to other studies (Patja et al. 2000; Bittles et al. 2002). However, there was no difference in lifespan between men and women, which is in contrast to mortality rates of the general population in Ireland where men's mortality rate is 75.1 and 80.3 years for women (Central Statistics Office 2002). Interestingly, lifespan for the moderate group was slightly longer than that of the mild, and this may be a reflection that traditionally people with a mild intellectual disability did not receive any service and are often affected by physical or sensory disabilities that compromise their health and longevity. This is in concurrence with Bigby (2004) who recognises that despite an individual's level of intellectual disability, ageing carries with it some concept of deterioration in health, vitality and cognitive process. However, a limitation of Bigby's (2004) study would be that it did not include factors such as feeding, mobility, continence, presence of seizures, cerebral palsy, ambulation and medical diagnosis, which have been identified as having a profound effect on life expectancy (Hollins et al. 1998). Additionally, Petersen and Yamamoto (2005) identify that when risk factors for chronic diseases and functional decline are

minimised and proactive factors are maximised, people enjoy longer and better quality life.

It has been identified by Maaskant et al. (2002) and Lavin et al. (2006) that it is hard to compare the studies regarding mortality in people with intellectual disability as when comparing results, it can be impossible to determine whether discrepancies in outcomes are because of differences in studies populations or to real differences in mortality rates (Maaskant et al. 2002; Lavin et al. 2006). Measuring health outcomes in terms of functioning ability rather than degree of intellectual disability is a greater indicator of life expectancy and mortality (Sutherland et al. 2002; Lavin et al. 2006). This may also be useful for service delivery planning because, although aetiology in intellectual disability may vary, the older persons may share the same or similar service provision and health monitoring environments (Sutherland et al. 2002). Research on mortality for people with intellectual disability is only useful if death rates can inform those people who provide services and make policy decisions so as to impact on health during people's lives (Blancher 1998; Hayden 1998; Sutherland et al. 2002). However, few studies have rigorous mechanisms to report on factors that may influence mortality such as service provision and environmental factors. Subsequently, Patja et al. (2001) and Sutherland et al. (2002) reiterate that descriptions on health-based or the risk of dying does not necessarily fit within contemporary concepts of health and reflect little about the health status of people with intellectual disability. While increased longevity and improved services have led to an unprecedented growth in the population of people with intellectual disability (Walsh et al. 2001), more recent studies show that they experience a variety of health inequalities compared with the general population including higher mortality rates (Forsgren et al. 1996; Hollins et al. 1998; Patja et al. 2000; Darvasula et al. 2002; Tyrer et al. 2007). Although current health policies aim to address these health inequalities, the needs of people with intellectual disability have received little attention, which may reflect assumptions that such differences are an inevitable consequence of the underlying condition (Tyrer et al. 2007). Health care professionals must be prepared for the inevitability of old age by adopting a lifespan approach to care (Bigby 2004; Grant 2005).

Service provision for older people with an intellectual disability

Much of the care delivery for persons with an intellectual disability is directed towards community-based settings rather than long-stay settings; however, Gates (2002) highlights that the extent to which this meets the needs of the individual in a climate of true acceptance and inclusion is debatable. While the change in the actual physical make-up of services may be significant, the rate of progress towards enabling people with an intellectual disability who attain socially valued roles and valued lifestyles remains slow with services remaining largely segregated institutions offering little variety and as such not meeting the needs of the individual (Gates 2007). This has to be considered within the social context, as within Ireland, most service providers within the intellectual disability sector are non-statutory organisations (religious bodies) and both residential and community-based services have mainly developed on their existing sites. The DoH (2001) identifies that progress towards inclusion for people with intellectual disability across the lifespan requires special consideration in relation to later years of life. However, the National Disability Authority (NDA 2010) suggests that people with an intellectual disability experience

social, political and economic exclusion and that there is poor co-ordination and fragmented services for people with intellectual disability.

Primary care is the appropriate setting to meet 90–95% of all health and personal social service needs. It is the first point of contact that people have with the health and personal social services, and when services and resources are available, it has the potential to prevent the development of conditions, which might later require hospitalisation (DoHC 2001). Conversely Ziviani et al. (2004) in a qualitative Australian study on the factors that impact on medical consultations with General Practitioners (GPs) (n = 5), persons with intellectual disability (n = 3), carers (n = 7) and advocates (n = 2) identified that responding to the health care needs of people with intellectual disability may be a challenge for the primary care team. GPs identified themselves as ill-equipped to provide for this diverse group feeling they ought to strive to meet their health and social needs and, however, think they are best managed outside of primary care services due to communication issues, lack of time, knowledge and skills. In concurrence, Powrie (2003) in a mixed method in Scotland distributed a questionnaire to practice nurses within the primary care teams. A response rate of 62% was achieved (n = 127) that highlighted communication barriers exist, which prevent access and screening for persons with intellectual disability and pose complex problems for practice nurses and other members of the primary team. Additionally, Hunt et al. (2001) recognise that primary care teams have little knowledge of the needs of people with an intellectual disability and lack the awareness to provide insight into the issues that compromise their health. However, Matthews (2002) propounds that the primary health care team cannot be reasonably expected to undertake a comprehensive, individual health screening necessary to fully recognise the health needs of people with intellectual disability. Therefore, it must rest with specialised intellectual disability services, working along side and under the broad umbrella of the primary health care team. Just as other nurses provide specialised services within primary health care, so too can the Registered Nurse Intellectual Disability (RNID) (Matthews 2002). This collaborative working would coincide with our counterparts in the UK and Northern Ireland (NI), where the community learning disability nurse works and supports the person and other community services. So Ireland needs to consider the system of care delivery and the co-ordination of that system.

Within Ireland, 25.6% of people with an intellectual disability live in residential services, while 75% of an intellectual disability nurses work in this setting (Sheerin 2004). With such a large proportion of people with an intellectual disability living in the home and such a low percentage of RNIDs supporting the community arena, this calls for a rethink on service provision and co-operation between all parties to allow for recognised nursing support in the community. However, in Ireland, community RNID nursing mainly exists for those that have moved to the community from residential settings and fails to encapsulate those residing at home, who are dependent on the primary care system. This structure fails to support the primary care system and clients living at home, which may highlight the need for the RNID to support/collaborate with primary care teams and families allowing for all services to deliver best care in support of each other. However, Bigby (2004) emphasises that policy and service development for older people with a lifelong disability must be cast wider than which service system has responsibility and focus on the ways disability and aged care service systems can combine their resources and attain optimum

outcomes for older people with an intellectual disability. Given that life expectancy has increased for people with intellectual disability in Ireland, there will be an increased demand for ongoing therapeutic support services for people living with their families, and increasing demands for intensive services and services designed specifically to meet the needs of older people with intellectual disability.

More recently, national and international agencies have argued for further improvements in health care opportunities for individuals with intellectual disability and the narrowing of health differentials with that of the general population (Bittles & Glasson 2004). However, Cooper et al. (2004) identify that people with intellectual disability have different patterns of health needs, epilepsy, gastro-oesophageal reflux, sensory impairments, osteoporosis, schizophrenia, dementia, dysphagia, dental disease, musculo-skeletal problems and nutritional problems are all much more commonly experienced. Causes of death for people with intellectual disability also differ from the general population with their leading cause of death being cancer followed by ischaemic heart disease and cerebral vascular disease; however, for people with intellectual disability, respiratory disease followed by cardiovascular disease related to congenital heart disease are the leading causes of death with cancer ranked lower. Patterns of cancers also differ for people with an intellectual disability with lower rates of lung, prostate and urinary tract cancer and higher rates of oesophageal, stomach, gall bladder and leukaemia (Patja et al. 2001; Cooper et al. 2004). Like all persons, the needs of people with intellectual disability change with age, and it is imperative that RNIDs are aware of the different patterns of health needs of the older person with an intellectual disability and respond effectively (Chance 2005). Therefore, the fact that people with intellectual disability have greater care needs is undisputed; consequently, the problem remains concerning the professional ownership of the key role in the effective provision of health care (Howells 1996; Thornton 1999; McGrother et al. 2006). Expertise from the aged care and disability sectors need to be unified to ensure its services are appropriate, accessible and sensitive to the needs of this group (DoHC 2001; Bigby 2002). Presently, Ireland through the NDA and the Office for Older People is developing a Positive Ageing Strategy, on issues of disability in old age, including the needs in old age of people who have had long-standing disabilities. This is an important development and taken from an inclusive perspective rather than a segregated approach and also given that the last policy addressing these issues from a disability perspective was in 1990 (Needs and Ability).

Bland et al. (2003) and Lavin et al. (2006) emphasise that local service providers need to understand the specific health problems and needs affecting the older person with intellectual disability in their area highlighting that this is a more accurate means of identifying health care needs as opposed to relying on national estimates. Reducing health inequalities has been the focus of government policy, and developing guidelines can improve health by influencing policy, commissioning of services and practice. However, Aldrich et al. (2003) and Cooper et al. (2004) identify that current strategies are based on the health needs of the general population, and as the patterns of health needs and causes of death differ for people with intellectual disability, most current policies and health initiatives will widen rather than close the health inequality gap. As the amount of evidence relating to people with an intellectual disability is less than for other groups, hence relevant issues are unlikely to be selected for the development of guidelines and are unlikely to include expertise on the differing health

needs of the older person with intellectual disability. Therefore, there should be an emphasis to address these inequalities and to develop high-quality research to identify additional supports or adjustments required that will benefit people with intellectual disability (Cooper et al. 2004). The Disability Act (Government of Ireland 2005) recognises the participation of people with disability in society, and their statutory entitlement to impartial independent assessment of need and Quality and Fairness (DoHC 2001) has recommended an action plan be drawn up to co-ordinate the needs of ageing and older people.

The literature identifies that intellectual disability services remain unprepared for the changing need of the older person with intellectual disability, and generic services for the elderly are not readily accessible. With increased longevity and low turnover rate in residential services low, this leads to an even larger proportion of aged than expected from the natural ageing process (Maaskant et al. 2002). For most of the population, life is structured into infancy, childhood, working adult life and retirement. However, Holland (2000) identifies that many expectations that people have of life are not available for people with intellectual disability, the most striking example is 'work'. This concurs with Bigby et al. (2004) and Ashman et al. (1995) who reiterate that few older people with intellectual disability have any experience in the workforce; instead, most have participated in disability day programmes orientated towards hobbies, community access and skill development. Consequently, when considering retirement for older people with intellectual disability, the critical issue is that whether officially retired or not, the manner in which older people spend their time has a major impact on other aspects of their life including their health and quality of life (Janicki 1990; Holland 2000; Bigby et al. 2004). Therefore, Holland (2000) emphasises that the social care environment must be responsive to the changing lifestyles and social circumstances of later life and acknowledge when appropriate the place of retirement.

Conclusion

Historically, many people with intellectual disability did not survive into old age either as a result of their associated physical conditions or lack of appropriate medical and social support (Hubert & Hollins 2000; Emerson 2005). However, service provision over the last 30 years has been revolutionised witnessing a change in the way service provision has sought to provide care for people with intellectual disability. Knowledge of probable age-related change is vital to the mobilisation of action to slow its occurrence or minimise its impact through appropriate individual or environmental adaptation and compensation. Differentiation of normal from pathological changes is important to help identify unexpected or disease-related changes that require medical diagnosis and treatment. Evidence suggests that too often general assumptions are made that physical decline or poor health is because of the impact of 'ageing'. As a consequence, medical conditions, particularly those that are chronic, may remain unacknowledged, uninvestigated and untreated in older people with intellectual disability (Cooper 1997; Bigby et al. 2001). Given that the current primary care system cannot be reasonably expected to undertake a comprehensive assessment, individual health screening is necessary to fully recognise the health needs of people with intellectual disability. There must be co-operation and collaborative working of specialised intellectual disability services and primary health care teams. So as all care professionals provide specialised services within primary health care so too can the RNID.

This multiprofessional team working is a crucial element in identifying and meeting individual needs and providing a seamless service for the client (Thompson & Pickering 2001). Personal contact between professionals may not be enough to facilitate effective working relationships, rather there needs to be a feeling of equal status between members (Jenkins et al. 2006; Northway & Jenkins 2007). However, Turnbull (2004) and Horan (2006) identify that while many health and social care professionals work with people with intellectual disability, the RNID is the sole professional educated specifically to work with the person with intellectual disability. This is supported by Hart (2002) and Northway & Jenkins (2007) emphasising the role of the RNID as vital in the collaboration of care and is reflected in attitudes, practices and partnerships with others. Therefore, continuity of care and effective teamwork require more proficient communication with the RNID, adopting a leading role in collaboration and planning of care. While Jenkins et al. (2006) identify that a wide range of professionals can be involved in the provision of specialist services to older people with intellectual disability. The families know the person better than anyone else, and their involvement in care delivery results in a more positive impact for the client providing a wealth of information, which positively influences care provision (Barr 2002; Farvis 2002). Family's perspectives should be acknowledged, and their contribution valued as an integral and valuable part of the team in caring for the older person with intellectual disability.

Service provision is not always focused on the inevitability of an ageing client group; the implications of increased longevity are highly relevant to the planning and provision of services to people with intellectual disability (Hubert & Hollins 2000; Bigby 2005). Increased life expectancy during the past 30 years means that ageing has become an integral part of the life-course for people with intellectual disability. However, Bigby (2005) emphasises that as knowledge about later life for people with intellectual disability increases, many of the individual changes and the altered social context and expectations should be anticipated. Thompson & Pickering (2001) identify that there is a fundamental belief that services and supports should be developed according to the client's wants/needs. This can be reinforced by the independent assessment of need as an entitlement within the Disability Act (Government of Ireland 2005). However, given the current economic climate and in an environment of nonreplacement of staff and staff embargoes, it is vital that we remain focused on the support we provide and the impact this has on our clients and their families (Doody 2011). Additionally, there is a review of disability services under the value for money and policy review initiative 2008–2011, and given the current economic climate, one may be concerned that improved outcomes may not be valued against financial savings (Doody 2011). However, it is clear that 'one size fits all' approach to health and personal care services will not produce the desired results (NDA 2010).

Current health reforms (DoHC 2003) and the existing challenges in health service environments create an environment, in which nurses have the opportunity to be innovative in their practice as they are in a pivotal position when compared with other health care workers within the health care system (Allen 1999). The ageing population affects health care planning and influences the nature of the service required both in the immediate and in the longer term (Hendel & Kidron 2000; DoHC 2003). As a health care professional, the RNID must actively advocate for age-

specific services, retirement planning and the health need of the person, in addition to supporting the family and been actively involved with other service providers.

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