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**Occupational therapy
interventions and physical
activity interventions to
promote the mental wellbeing
of older people in primary
care and residential care**

NICE public health guidance 16

Occupational therapy interventions and physical activity interventions to promote the mental wellbeing of older people in primary care and residential care

Ordering information

You can download the following documents from www.nice.org.uk/PH16

- The NICE guidance (this document) which includes all the recommendations, details of how they were developed and evidence statements.
- A quick reference guide for professionals and the public.
- Supporting documents, including an evidence review and an economic analysis.

For printed copies of the quick reference guide, phone NICE publications on 0845 003 7783 or email publications@nice.org.uk and quote N1703.

This guidance represents the views of the Institute and was arrived at after careful consideration of the evidence available. Those working in the NHS, local authorities, the wider public, voluntary and community sectors and the private sector should take it into account when carrying out their professional, managerial or voluntary duties.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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Introduction

The Department of Health (DH) asked the National Institute for Health and Clinical Excellence (NICE) to produce public health guidance for primary care and residential care on interventions that promote the mental wellbeing of older people. This guidance focuses on the role of occupational therapy interventions and physical activity interventions in the promotion of mental wellbeing for older people. It is anticipated that this is the first of a range of NICE public health guidance on the health and wellbeing of older people.

The guidance is for NHS primary care and other professionals who have a direct or indirect role in, and responsibility for, promoting older people's mental wellbeing. This includes those working in local authorities and the wider public, private, voluntary and community sectors. It will also be relevant for carers and family members who support older people and may be of interest to older people themselves.

The guidance complements and supports, but does not replace, NICE guidance on supporting people with dementia and their carers in health and social care, managing depression in primary and secondary care, assessing and preventing falls in older people, obesity, commonly used methods to increase physical activity, physical activity and the environment, behaviour change and community engagement (for further details, see section 7).

The Public Health Interventions Advisory Committee (PHIAC) has considered a review of the evidence, an economic appraisal, stakeholder comments and the results of fieldwork in developing these recommendations.

Details of PHIAC membership are given in appendix A. The methods used to develop the guidance are summarised in appendix B. Supporting documents used in the preparation of this document are listed in appendix E. Full details of the evidence collated, including fieldwork data and activities and stakeholder comments, are available on the NICE website, along with a list of the stakeholders involved and NICE's supporting process and methods manuals. The website address is: www.nice.org.uk

This guidance was developed using the NICE public health intervention process.

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1 Recommendations

This document constitutes NICE's formal guidance on occupational therapy interventions and physical activity interventions to promote the mental wellbeing of older people.

The evidence statements that underpin the recommendations are listed in appendix C.

The evidence reviews, supporting evidence statements and economic analysis are available at www.nice.org.uk/PH16

The definition of 'mental wellbeing' used in this guidance follows that developed by NHS Health Scotland as part of their national programme of work on mental health improvement. This definition includes areas such as life satisfaction, optimism, self-esteem, mastery and feeling in control, having a purpose in life, and a sense of belonging and support (NHS Health Scotland 2006).

Occupational therapy aims to enable people who have physical, mental and/or social needs, either from birth or as a result of accident, illness or ageing, to achieve as much as they can to get the most out of life (College of Occupational Therapists 2008).

If need exceeds the resources available, there should be a focus on the most disadvantaged older people, for example, those with physical or learning disabilities, those on very low incomes or living in social or rural isolation, including older people from minority ethnic groups.

In this guidance 'older people' are people aged 65 years and over.

Occupational therapy interventions

Recommendation 1

Who is the target population?

Older people and their carers.

Who should take action?

Occupational therapists or other professionals who provide support and care services for older people in community or residential settings and who have been trained to apply the principles and methods of occupational therapy.

What action should they take?

- Offer regular group and/or individual sessions to encourage older people to identify, construct, rehearse and carry out daily routines and activities that help to maintain or improve their health and wellbeing. Sessions should:
 - involve older people as experts and partners in maintaining or improving their quality of life
 - pay particular attention to communication, physical access, length of session and informality to encourage the exchange of ideas and foster peer support
 - take place in a setting and style that best meet the needs of the older person or group
 - provide practical solutions to problem areas.

- Increase older people's knowledge and awareness of where to get reliable information and advice on a broad range of topics, by providing information directly, inviting local advisers to give informal talks, or arranging trips and social activities. Topics covered should include:
 - meeting or maintaining healthcare needs (for example, eye, hearing and foot care)
 - nutrition (for example, healthy eating on a budget)
 - personal care (for example, shopping, laundry, keeping warm)
 - staying active and increasing daily mobility
 - getting information on accessing services and benefits
 - home and community safety
 - using local transport schemes.

- Invite regular feedback from participants and use it to inform the content of the sessions and to gauge levels of motivation.

Physical activity

Recommendation 2

Who is the target population?

Older people and their carers.

Who should take action?

Physiotherapists, registered exercise professionals and fitness instructors and other health, social care, leisure services and voluntary sector staff who have the qualifications, skills and experience to deliver exercise programmes appropriate for older people.

What action should they take?

- In collaboration with older people and their carers, offer tailored exercise and physical activity programmes in the community, focusing on:
 - a range of mixed exercise programmes of moderate intensity (for example, dancing, walking, swimming)
 - strength and resistance exercise, especially for frail older people
 - toning and stretching exercise.
- Ensure that exercise programmes reflect the preferences of older people.
- Encourage older people to attend sessions at least once or twice a week by explaining the benefits of regular physical activity.
- Advise older people and their carers how to exercise safely for 30 minutes a day (which can be broken down into 10-minute bursts) on 5 days each week or more. Provide useful examples of activities in daily life that would help achieve this (for example, shopping, housework, gardening, cycling).
- Invite regular feedback from participants and use it to inform the content of the service and to gauge levels of motivation.

Walking schemes

Recommendation 3

Who is the target population?

Older people and their carers.

Who should take action?

GPs, community nurses, public health and health promotion specialists, 'Walking the way to health initiative' walk leaders, local authorities, leisure services, voluntary sector organisations, community development groups working with older people, carers and older people themselves.

What action should they take?

- In collaboration with older people and their carers, offer a range of walking schemes of low to moderate intensity with a choice of local routes to suit different abilities.
- Promote regular participation in local walking schemes as a way to improve mental wellbeing for older people and provide health advice and information on the benefits of walking.
- Encourage and support older people to participate fully according to health and mobility needs, and personal preference.
- Ensure that walking schemes:
 - are organised and led by trained workers or 'Walking the way to health initiative' volunteer walk leaders from the local community who have been trained in first aid and in creating suitable walking routes
 - incorporate a group meeting at the outset of a walking scheme that introduces the walk leader and participants
 - offer opportunities for local walks at least three times a week, with timing and location to be agreed with participants

- last about 1 hour and include at least 30–40 minutes of walking plus stretching and warm-up/cool-down exercises (depending on older people’s mobility and capacity)
- invite regular feedback from participants and use it to inform the content of the service and to gauge levels of motivation.

Training

Recommendation 4

Who is the target population?

Health and social care professionals, domiciliary care staff, residential care home managers and staff, and support workers, including the voluntary sector.

Who should take action?

- Professional bodies, skills councils and other organisations responsible for developing training programmes and setting competencies, standards and continuing professional development schemes.
- NHS and local authority senior managers, human resources and training providers and employers of residential and domiciliary care staff in the private and voluntary sector.

What action should they take?

- Involve occupational therapists in the design and development of locally relevant training schemes for those working with older people. Training schemes should include:
 - essential knowledge of (and application of) the principles and methods of occupational therapy and health and wellbeing promotion
 - effective communication skills to engage with older people and their carers (including group facilitation skills or a person-centred approach)

- information on how to monitor and make the best use of service feedback to evaluate or redesign services to meet the needs of older people.
- Ensure practitioners have the skills to:
 - communicate effectively with older people to encourage an exchange of ideas and foster peer support
 - encourage older people to identify, construct, rehearse and carry out daily routines and promote activities that help to maintain or improve health and wellbeing
 - improve, maintain and support older people's ability to carry out daily routines and promote independence
 - collect and use regular feedback from participants.

2 Public health need and practice

There are 9.7 million people aged 65 and older in the UK and by 2020 one in five UK citizens will be aged 65 or older. Though many older people lead happy, well-balanced and independent lives the transition into later life can be affected by many different variables, including physical health, financial security, societal attitudes, geographical location, access to support and services and responsibility for the care of others (Age Concern England and Mental Health Foundation 2004).

Despite better health and increases in wealth over the last 50 years, there is evidence that many older people are becoming increasingly dissatisfied, lonelier and more depressed, many living with low levels of life satisfaction and wellbeing (Allen 2008). Forty per cent of older people attending GP surgeries, and 60% of those living in residential institutions are reported to have 'poor mental health' (UK Inquiry into Mental Health and Well-being in Later Life 2006). A decline in mental wellbeing should not be viewed as a natural and inevitable part of ageing and there is a need to raise both older people's and societal expectations for mental wellbeing in later life (Mental Health and Older People Forum 2008).

Five key factors affect the mental health and wellbeing of older people: discrimination (for example, by age or culture), participation in meaningful activity, relationships, physical health (including physical capability to undertake everyday tasks) and poverty (UK Inquiry into Mental Health and Well-being in Later Life 2006).

The Social Exclusion Unit reports that many older people continue to experience discrimination despite the establishment of the Commission for Equality and Human Rights (including age equality) and the National Service Framework for Older People, which aims to stop age discrimination in health and social care (DH 2001). Commissioning, service provision and regulatory processes still do not consistently reflect established national policy. Direct and indirect age discrimination is evident through reductions in service and

investment for older people's mental health (Mental Health and Older People Forum 2008).

Isolation is a particular risk factor for older people from minority ethnic groups, those in rural areas and for people older than 75 who may be widowed or live alone (Office of the Deputy Prime Minister 2006). Social activities, social networks, keeping busy and 'getting out and about', good physical health and family contact are among the factors most frequently mentioned by older people as important to their mental wellbeing (Third Sector First 2005; Audit Commission 2004).

Health and social care services have an important role in promoting and maintaining physical activity, health and independence (DH 2005a, DH 2005b). There is a decline in physical activity with increased age which may be associated with lack of opportunities and lack of encouragement (UK Inquiry into Mental Health and Well-being in Later Life 2006). Exercise and physical activity can be tailored to an individual's needs and abilities, increasing access for older people with disabilities and mobility needs (British Heart Foundation 2007).

The maintenance of physical activity in later life is central to improving physical health. Regular exercise has beneficial effects on general health, mobility and independence, and is associated with a reduced risk of depression and related benefits for mental wellbeing, such as reduced anxiety and enhanced mood and self-esteem (DH 2005c). Physical health and mental health, in turn, also have an impact on older people's economic circumstances and on their ability to participate in society (Marmot et al. 2003).

Self determination and a level of independence have also been associated with health and wellbeing. Self determination, in daily life, means ensuring that people have as much choice as possible about personal routines and activities (for example, when they eat or sleep, get up, go out or spend time alone) (Personal Social Services Research Unit 2006). Recent guidance for residential care homes reports that the provision of meaningful daily activities can restore and improve the health and mental wellbeing of residents (College

of Occupational Therapists and National Association for Providers of Activities for Older People 2007).

Government initiatives at local and national level all emphasise the need for local authorities, health and social care services to prioritise improvement in older people's services. Central to the success of these initiatives is the involvement of older people in service planning, particularly those groups whose health and wellbeing may be compromised by advanced age or disability (DH 2006). Reforms to home care in England in 2008 will give older people greater independence and the right to choose their own home-helps and personal carers through means-tested personal budgets (DH 2007).

Since 2000, local authorities have had discretionary power to promote social, economic and environmental wellbeing, and a duty to engage the local community (including older people) in community planning (Local Government Act 2000). Better Government for Older People is a UK-wide partnership in which older people are the key partners. It aims to ensure older people are engaged as citizens at all levels of decision making, and in shaping the development of strategies and services for an ageing population.

Partnerships for Older People Projects (POPP), led by the Department of Health, aim to shift resources and culture towards earlier and better targeted interventions for older people within community settings. The pilots deliver a range of interventions aimed at promoting independence for older people in line with local needs. For example, they provide better access to information and peer support for older people, provide health promotion activities to support healthy living, and provide low-level or simple services for older people such as help with shopping, household repairs etc. Early findings from POPP pilot sites have shown improved access for excluded groups and greater involvement of older people within steering groups, commissioning, recruitment, provision and evaluation.

3 Considerations

PHIAC took account of a number of factors and issues in making the recommendations.

- 1.1 Older people's mental wellbeing is affected by a range of factors, from an individual's makeup, personal circumstances and family background to the community in which they live, and society at large. PHIAC recognises that this guidance, though based on a review of the effectiveness and cost-effectiveness of interventions to improve mental wellbeing, can only be one element of a broader, multilevel strategy to promote the mental wellbeing of older people.
- 1.2 Public health guidance published in March 2006 ('Four commonly used methods to increase physical activity' [NICE public health guidance 2]) stated that there was insufficient evidence to recommend walking schemes to promote physical activity among adults over 16 years, other than as part of a properly designed and controlled research study to evaluate effectiveness. However, for this guidance, PHIAC considered the evidence on walking schemes to promote mental wellbeing. There was enough evidence of positive and beneficial effects using standardised measures of psychological wellbeing to enable the committee to recommend walking schemes to promote older people's mental wellbeing. The recommendations in this guidance are consistent with those in the earlier guidance which stated that professionals should continue to promote walking (along with other forms of physical activity) as a way of incorporating regular physical activity into people's daily lives.
- 1.3 PHIAC was concerned that if local resources are not available to meet the needs of all older people, the most disadvantaged should have priority of access. When determining level of need, some of the standard dimensions of disadvantage that relate to socio-economic status may not apply. Poor mental wellbeing can also affect older people from professional backgrounds and those who might not be perceived as

economically disadvantaged. For example, socially isolated older people living in wealthier urban suburbs may have significant needs, particularly if there is limited service provision in these areas. Older people who are most disadvantaged will include those with physical or learning disabilities, those on very low incomes and those living in social or rural isolation, including older people from minority ethnic groups as well as those without family support and community networks. This view is based on a principle of equity and of addressing health inequalities rather than on evidence, which was lacking.

- 1.4 PHIAAC recognised that the recommendations do not stand alone and that they should be implemented in conjunction with meeting healthcare needs as well as further health promotion, disease prevention and treatment.
- 1.5 The review identified a broad range of interventions and included evidence rarely found in traditional systematic reviews, notably qualitative research. However, most studies were of poor quality and used small samples that might not accurately represent the target population. In addition, few studies included information about the effective components of an intervention.
- 1.6 The close association between mental wellbeing and physical health is supported by the inclusion of social, mental and physical wellbeing components in most standardised quality-of-life measures or general health questionnaires. PHIAAC recognised that the distinctions between mental wellbeing and physical health in some of the evidence identified may be artificial.
- 1.7 The review showed that a preventive occupational therapy programme in the USA was both effective and cost effective in improving older people's mental wellbeing. PHIAAC noted that the standards of practice for occupational therapy in the USA (American Occupational Therapy Association 2005) are consistent with the professional competency standards detailed in the post-qualifying framework for occupational therapy practice in the UK (College of Occupational Therapists 2006).

1.8 No evidence was found of effective or cost-effective interventions to promote mental wellbeing in older people living in residential care or for those whose physical and mental health needs are complex. PHIAC agreed that though there was insufficient evidence to support drafting specific recommendations for older people in residential care homes, they should not be excluded as potential beneficiaries. PHIAC proposed that part or all of this guidance may be applied to this group if those responsible for their care decide the guidance is appropriate and would benefit their clients.

1.9 PHIAC agreed that providers need to be flexible in their approach to age-related inclusion criteria. The principles of equitable participation may be used to apply this guidance to people younger than 65 years, for example where one half of a couple is younger than 65 years.

1.10 There was a lack of UK-based evidence on how to promote mental wellbeing among older people, in particular those considered to be isolated, vulnerable and disadvantaged. US-based evidence does, however, relate to socially disadvantaged groups and minority ethnic groups of older people. Groups under-represented in the UK evidence identified include older people who:

- live in all types of residential care
- have restricted physical abilities
- have learning difficulties
- are carers
- live in rural areas
- are lesbian, gay and transgender.

1.11 PHIAC noted that many of these groups have high unmet needs and complex co-morbidities. The absence of specific recommendations for them indicates a lack of research. PHIAC noted that the gap in evidence for these groups needs to be addressed in future research. Commissioners and managers of services need in the meantime to consider how proposed interventions could be effectively delivered to

these population groups and build in locally relevant feedback mechanisms for service users as standard practice. The committee recognised the value of alternative sources of evidence from local practice and voluntary organisations. Although such evidence will not have been tested robustly the committee recognised that such work may provide valuable information.

1.12 Much of the evidence in the peer-reviewed literature relates to clinical measures of anxiety or depression. It was excluded to avoid overlap with other NICE guidance and because clinical measures are inappropriate to demonstrate improved or sustained mental wellbeing or quality of life for public health guidance.

1.13 PHIAC recognised that an intervention not considered to be cost effective from a health perspective may be cost effective with respect to associated long-term social consequences. Almost all studies of interventions to promote mental wellbeing in people aged 65 years and over have examined the effects achieved over the short term, reporting within weeks or months, up to a maximum of 1 year. It should be noted that assumptions that extrapolate short-term effects to the long term are subject to considerable uncertainty.

1.14 PHIAC noted that an intervention, policy or strategy in current practice not covered by this guidance should not be assumed to be ineffective and be discontinued. The recommendations in this document are based on the evidence from peer-reviewed literature available at the time of writing and PHIAC recognised that some interventions may not yet have been evaluated.

1.15 PHIAC recognised that many older people are carers themselves. The committee considered the importance of carers as a particular group having dual responsibility: to maintain their own mental wellbeing and that of the older people they care for. The economic value of carers' unpaid support of frail, sick, or disabled relatives has increased in the past 4 years. The committee recognised that the context of carers' daily lives can increase their vulnerability to social isolation and poverty, and

can have a marked effect on their ability to sustain a good quality of life for themselves and the older people they care for.

1.16 PH16 recognised that for the recommended interventions to be implemented effectively, levels of staffing and training requirements will need to be considered.

4 Implementation

NICE guidance can help:

- NHS organisations meet DH standards for public health as set out in the seventh domain of '[Standards for better health](#)' (updated in 2006). Performance against these standards is assessed by the Healthcare Commission, and forms part of the annual health check score awarded to local healthcare organisations.
- NHS organisations, social care and older people's services meet the requirements of the DH's 'Operating framework for 2008/09' and 'Operational plans 2008/09–2010/11'.
- NHS organisations, social care and older people's services meet the requirements of the Department of Communities and Local Government's 'The new performance framework for local authorities and local authority partnerships'.
- National and local organisations within the public sector meet government indicators and targets to improve health and reduce health inequalities.
- Local authorities fulfil their remit to promote the economic, social and environmental wellbeing of communities.
- Local NHS organisations, local authorities and other local public sector partners benefit from any identified cost savings, disinvestment opportunities or opportunities for re-directing resources.

NICE has developed tools to help organisations implement this guidance. For details see our website at www.nice.org.uk/PH16

5 Recommendations for research

PHIAC recommends that the following research questions should be addressed in order to improve the evidence relating to older people and mental wellbeing. It notes that effectiveness in this context relates not only to the size of the effect, but also to cost effectiveness, duration of effect and harmful or negative effect.

1. How can older people who might benefit most from interventions to promote mental wellbeing be identified?
2. How is the effectiveness of interventions to promote the mental wellbeing of older people affected by place of residence, advanced age, mobility or physical health, income, ethnicity, cultural background, sexual orientation, social networks and language or learning disabilities?
3. What measures of the mental wellbeing of older people and changes over time could be used consistently across studies? What is the association between standardised measures of emotional and social wellbeing and quality of life and self-reported outcomes, and how could such measures be used in economic appraisals?
4. What are the most effective and cost-effective ways of improving the mental wellbeing of the most vulnerable and disadvantaged older people? This includes those with physical or learning disabilities, those on very low incomes or living in social or rural isolation (including older people from minority ethnic groups).
5. How does the effectiveness of interventions depend on the characteristics of those delivering the intervention, the involvement of older people in their design and delivery or the involvement of family members and/or carers?

More detail on the evidence gaps identified during the development of this guidance is provided in appendix D.

6 Updating the recommendations

This guidance will be updated as needed and information on the progress of any update will be posted on the NICE website (www.nice.org.uk/PH16).

7 Related NICE guidance

Published

Community engagement to improve health. NICE public health guidance 9 (2008). Available from: www.nice.org.uk/PH9

Promoting and creating built or natural environments that encourage and support physical activity. NICE public health guidance 8 (2008). Available from: www.nice.org.uk/PH8

Behaviour change at population, community and individual levels. NICE public health guidance 6 (2007). Available from: www.nice.org.uk/PH6

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Four commonly used methods to increase physical activity: brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling. NICE public health guidance 2 (2006). Available from: www.nice.org.uk/PH2

Obesity: guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children. NICE clinical guideline 43 (2006). Available from: www.nice.org.uk/CG43

Falls: the assessment and prevention of falls in older people. NICE clinical guideline 21 (2004). Available from: www.nice.org.uk/CG21

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Appendix A Membership of the Public Health Interventions Advisory Committee (PHIAC), the NICE project team and external contractors

Public Health Interventions Advisory Committee (PHIAC)

NICE has set up a standing committee, the Public Health Interventions Advisory Committee (PHIAC), which reviews the evidence and develops recommendations on public health interventions. Membership of PHIAC is multidisciplinary, comprising public health practitioners, clinicians (both specialists and generalists), local authority employees, representatives of the public, patients and/or carers, academics and technical experts as follows.

Professor Sue Atkinson CBE Independent Consultant and Visiting Professor, Department of Epidemiology and Public Health, University College London

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Professor Simon Capewell Chair of Clinical Epidemiology, University of Liverpool

Professor K K Cheng Professor of Epidemiology, University of Birmingham

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External contractors

External reviewers: effectiveness and cost-effectiveness review and economic appraisal

Review 1: Public health interventions to promote mental well-being in people aged 65 and over: systematic review of effectiveness and cost-effectiveness was carried out by University of Wales, Bangor. The principal authors were: Professor Vanessa Burholt, Dr Dyfrig Hughes, Ms Pat Linck, Mr Rhodri Morgan, Ms Carla Reeves, Professor Ian Russell, Ms Seow Tien Yeo, Dr Rhiannon Tudor Edwards, Dr Gill Windle, Professor Bob Woods.

Fieldwork

The fieldwork 'Occupational therapy and physical activity interventions to promote the mental wellbeing of older people in primary care and residential care' was carried out by Dr Foster Intelligence.

Appendix B Summary of the methods used to develop this guidance

Introduction

The report of the review and economic appraisal include full details of the methods used to select the evidence (including search strategies), assess its quality and summarise it.

The minutes of the PHIAC meetings provide further detail about the Committee's interpretation of the evidence and development of the recommendations.

All supporting documents are listed in appendix E and are available from the NICE website at: www.nice.org.uk/PH16

The guidance development process

The stages of the guidance development process are outlined in the box below.

1. Draft scope
2. Stakeholder meeting
3. Stakeholder comments
4. Final scope and responses published on website
5. Reviews and cost-effectiveness modelling
6. Synopsis report of the evidence (executive summaries and evidence tables) circulated to stakeholders for comment
7. Comments and additional material submitted by stakeholders
8. Review of additional material submitted by stakeholders (screened against inclusion criteria used in reviews)
9. Synopsis, full reviews, supplementary reviews and economic modelling submitted to PHIAC
10. PHIAC produces draft recommendations
11. Draft recommendations published on website for comment by stakeholders and for field testing
12. PHIAC amends recommendations
13. Responses to comments published on website
14. Final guidance published on website

Key questions

The key questions were established as part of the scope. They formed the starting point for the reviews of evidence and facilitated the development of recommendations by PHIAC. The overarching question was:

What are the most effective and cost effective ways for primary and residential care services to promote the mental wellbeing of older people?

The following subsidiary questions were considered:

1. What is the frequency and duration of an effective intervention?
2. What are the significant features of an effective intervener?
3. Are interventions that engage older people in their design and delivery more effective than those that do not?
4. Are interventions that engage immediate family members or carers more effective than those that do not?
5. Does the intervention lead to any adverse or unintended effects?
6. What are the barriers to and facilitators of effective implementation?

Reviewing the evidence of effectiveness

A review of effectiveness was conducted for interventions to promote mental wellbeing in people aged 65 and over.

Identifying the evidence

The following databases were searched for all study types for the period from January 1993 to February 2007:

- Age Info
- Ageline
- AMED
- ASSIA
- British Nursing Index
- CINAHL
- Cochrane Central Register of Controlled Trials
- Cochrane Database of Systematic Reviews (CDSR)
- Current Controlled Trials
- Database of Abstracts of Reviews of Effectiveness (DARE)
- EmBase
- HMIC
- Medline

- National Electronic Library for Health (NELH) – specifically the Specialist Libraries for Later Life and Mental Health
- National Research Register
- PsycInfo
- Research Findings Register
- SIGLE
- Social Care Online
- Social Science Citation Index
- Sociological Abstracts

The following websites were searched for all study types for the period from January 1993 to February 2007:

- Age Concern England www.ageconcern.org.uk
- Centre for Policy on Ageing www.cpa.org.uk
- Department for Work and Pensions www.dwp.gov.uk
- Help the Aged www.helptheaged.org.uk
- Joseph Rowntree Foundation www.jrf.org.uk
- Mental Health Foundation www.mentalhealth.org.uk
- National Institute for Health and Clinical Excellence (NICE) www.nice.org.uk (including past work by the Health Development Agency, searched separately within the site at www.nice.org.uk/page.aspx?o=hda.publications)
- Policy Research Institute on Ageing and Ethnicity www.priae.org
- Sainsbury Centre for Mental Health www.scmh.org.uk
- Scottish Executive – research section of website www.scotland.gov.uk
- UK Independent Inquiry into Mental Health www.mhilli.org
- Welsh Assembly government – health and social care section new.wales.gov.uk

Further details of the databases, search terms and strategies are included in the review report at

www.nice.org.uk/guidance/index.jsp?action=folder&o=36395

Selection criteria

Studies were included in the effectiveness reviews if:

- they included older people, for example, studies of people aged 50–70, but only if results were subdivided by age groups
- the target population was people aged 65 and older living at home, in the community, in supported housing or in residential care homes
- they included interventions and activities that promote or sustain mental wellbeing in older people, provided by their carers, families, peers, practitioners, professionals or volunteers.

The wide range of interventions considered included:

- self-care interventions (for example, health promotion, education, advice and information, exercise and physical activity and dietary advice)
- psychological interventions (for example, cognitive training, relaxation techniques)
- social interventions (for example, peer/social support, volunteering, group activity or participation, befriending, leisure activities)
- environmental interventions (for example, housing adaptations, low-level support, technology, transport).

All study designs were included, and their limitations noted.

Interventions were included that aimed to promote, improve, enhance, sustain and benefit mental wellbeing and that included validated measures and self-reported indicators of outcomes such as: quality of life, autonomy, acceptance, purpose in life, control, affect, resilience, psychological wellbeing, competence, happiness, optimism, personal growth and self-esteem (further details are given in the full review).

Studies were excluded if:

- they included older people undergoing treatment for a clinically diagnosed physical illness (for example, cancer) or mental illness (for example, dementia)

- they made assessments for long-term continuing care
- they included community interventions to improve the physical and social environment not targeted directly at people aged 65 and older, or their carers
- they were tailored to people in acute or palliative care
- they were medical or surgical interventions
- they were related to pre-retirement financial planning schemes
- they used specific therapeutic interventions (for example, reminiscence therapy) covered by NICE clinical guidelines.

Quality appraisal

Included papers were assessed for methodological rigour and quality using the NICE methodology checklist, as set out in the NICE technical manual 'Methods for development of NICE public health guidance' (see appendix E). Each study was described by study type and graded (++, +, –) to reflect the risk of potential bias arising from its design and execution.

Study type

- Meta-analyses, systematic reviews of randomised controlled trials (RCTs) or RCTs (including cluster RCTs).
- Systematic reviews of, or individual, non-randomised controlled trials, case-control studies, cohort studies, controlled before-and-after (CBA) studies, interrupted time series (ITS) studies, correlation studies.
- Non-analytical studies (for example, case reports, case series).
- Expert opinion, formal consensus.

Study quality

- ++ All or most criteria have been fulfilled. Where they have not been fulfilled the conclusions are thought very unlikely to alter.
- + Some criteria fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.

- Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

The interventions were also assessed for their applicability to the UK and the evidence statements were graded as follows:

- A likely to be applicable across a broad range of settings and populations
- B likely to be applicable across a broad range of settings and populations, assuming they are appropriately adapted
- C applicable only to settings or populations included in the studies – broader applicability is uncertain
- D applicable only to settings or populations included in the studies.

Summarising the evidence and making evidence statements

The review data were summarised in evidence tables (see full reviews).

The findings from the review were synthesised and used as the basis for a number of evidence statements relating to the key question. The evidence statements reflect the strength (quantity, type and quality) of evidence and its applicability to the populations and settings in the scope.

Economic analysis

The economic appraisal consisted of a review of economic evaluations and a cost-effectiveness analysis.

Review of economic evaluations

The following databases were searched for the period from January 1993 to February 2007:

- ECONLIT
- HEED
- NHS EED

The search strategies for these reviews were developed by NICE in collaboration with the Centre for Reviews and Dissemination at the University of York. Further detail can be found in the full reviews: www.nice.org.uk/PH16

For the health economic and modelling review, studies were identified that included economic evaluation/analyses as well as health economics, cost benefit, cost containment, cost effectiveness, cost utility, cost allocation, socioeconomics, healthcare costs and healthcare finance.

For published studies that met the inclusion criteria the quality of the evidence was established using the Drummond checklist (Drummond MF, Jefferson TO [1996] Guidelines for authors and peer reviewers of economic submissions to the BMJ. BMJ 313: 275–83).

Cost-effectiveness analysis

Interventions identified in the effectiveness review that did not have supporting economic evidence were selected for inclusion in an economic model developed for the assessment of benefits (expressed in quality-adjusted life years; QALYs) relative to their respective costs. Algorithms were applied to the profile of scores covering physical and emotional health used in the identified studies, often measured by means of the SF-36 or SF-12 questionnaires, to derive SF-6D health state utility indices to enable the calculation of cost utility estimates. The results are reported in 'Public health interventions to promote mental well-being in people aged 65 and older: systematic review of effectiveness and cost-effectiveness'. They are available at www.nice.org.uk/PH16

Fieldwork

Fieldwork was carried out to evaluate the relevance and usefulness of NICE guidance and the feasibility of implementation. Practitioners and commissioners who are involved in health and social care services for older people were involved. They included those working in primary care, public health and health promotion, occupational therapy and community pharmacy in the NHS, leisure services, residential and domiciliary care services and the

voluntary sector services for older people and their carers. Fieldwork also included a group discussion with older people and their carers.

The fieldwork included:

- Group discussions, paired depth interviews and individual depth interviews were conducted at Wakefield, Derbyshire, Leeds, Cheshire, Staffordshire, Barking and Dagenham and Redbridge in February and March 2008 by Dr Foster Intelligence. Those who took part included:
 - PCT and local authority commissioners and directors of services for older people
 - social services managers and staff
 - public health advisers and health promotion specialists
 - occupational therapists working with older people
 - GPs
 - practice nurses
 - community pharmacists
 - residential care managers, activity coordinators and staff
 - domiciliary care managers and staff
 - voluntary sector workers who provide services for or represent the views of older people.

- A group discussion with older people in residential care and their carers was carried out in Staffordshire by Dr Foster Intelligence.

The main issues arising from these sessions are set out in appendix C under fieldwork findings. The full fieldwork report 'Occupational therapy and physical activity interventions to promote the mental wellbeing of older people in primary care and residential care: fieldwork report' is available at www.nice.org.uk/PH16

How PHIAC formulated the recommendations

At its meetings in September 2007, November 2007, April 2008 and June 2008, PHIAC considered the evidence of effectiveness and cost effectiveness of interventions to promote the mental wellbeing of older people to determine:

- whether there was sufficient evidence (in terms of quantity, quality and applicability) to form a judgement
- whether, on balance, the evidence demonstrates that the intervention is effective or ineffective, or whether it is equivocal
- where there is an effect, the typical size of the effect.

PHIAC developed draft recommendations through informal consensus, based on the following criteria.

- Strength (quality and quantity) of evidence of effectiveness and its applicability to the populations/settings referred to in the scope.
- Effect size and potential impact on population health and/or reducing inequalities in health.
- Cost effectiveness (for the NHS and other public sector organisations).
- Balance of risks and benefits.
- Ease of implementation and the anticipated extent of change in practice that would be required.

Where possible, recommendations were linked to an evidence statement(s) (see appendix C for details). Where a recommendation was inferred from the evidence this was indicated by the reference 'IDE' (inference derived from the evidence).

The draft guidance, including the recommendations, was released for consultation in February 2008. At its meetings in April 2008 and June 2008 PHIAC considered comments from stakeholders and the results from fieldwork and amended the guidance. The guidance was signed off by the NICE Guidance Executive in September 2008.

Appendix C The evidence

This appendix sets out the evidence statements provided by the review and links them to the relevant recommendations (see appendix B for the key to study types and quality assessments). The evidence statements are presented here without references – these can be found in the full review (see appendix E for details). It also sets out a brief summary of findings from the economic appraisal.

Evidence statement 1 indicates that the linked statement is numbered 1 in the review ‘Public health interventions to promote mental well-being in people aged 65 and over: systematic review of effectiveness and cost-effectiveness’.

The review and economic appraisal are available on the NICE website www.nice.org.uk/PH16 Where a recommendation is not directly taken from the evidence statements, but is inferred from the evidence, this is indicated by IDE (inference derived from the evidence) below.

Where PHIAC has considered other evidence, it is linked to the appropriate recommendation below. It is also listed in the additional evidence section of this appendix.

Recommendation 1: evidence statements 8 and 17

Recommendation 2: evidence statements 1, 2, 3 and 17

Recommendation 3: evidence statements 4 and 18

Recommendation 4: IDE

Evidence statements

Evidence statement 1 (Mixed exercise)

Two meta-analyses (Arent et al. 2000, MA+; Netz et al. 2005, MA+), together comprising 68 controlled trials from many developed countries, since augmented by four other rigorous trials in the Netherlands (2), Norway and the USA, together provide strong evidence that mixed exercise programmes generally have small-to-moderate effects on mental wellbeing. As the reported

exercise programmes cover a range of types, settings and countries, firm conclusions about the duration of programmes and the frequency of sessions are difficult. It is clear, however, that exercise of moderate intensity (not well defined in the meta-analyses) has beneficial effects on physical symptoms and psychological wellbeing.

The programmes evaluated were generally community-based, well organised and run by trained instructors. The findings apply to similar populations (relatively healthy and independent, and motivated to take exercise) in similar community settings in the UK. The sole qualitative study (Hardcastle and Taylor 2001, Q+) highlights the importance of appropriate facilities and good supervision.

Evidence statement 2 (Strength and resistance exercises)

Meta-analysis of four US trials that included a total of 1733 independent frail older people aged 65+ living in the community. Four of the SF-36 scales were used to evaluate similar resistance exercise interventions. A significant small-to-moderate improvement in emotional health was reported (Schechtman and Ory 2001, MA+). The findings are likely to be broadly applicable to frail older people in a range of settings in the UK.

Of six smaller controlled studies evaluating the benefit of resistance exercise for older people in general, five reported significant positive effects, mostly on the Profile of Mood States (POMS) measure (a self-reported measure of general mood over the past week). As all six were of poor quality, this finding should not be considered robust.

Evidence statement 3 (Aerobic exercise)

A medium-sized RCT in the US showed that both interventions – supervised aerobic brisk walking and ‘toning and stretching’ – generated similar trajectories of Memorial University of Newfoundland Scale of Happiness (MUNSH) and Satisfaction with Life Scale (SWLS) scores over 12 months in sedentary adults aged 60 to 75. These trajectories showed significant growth in happiness and satisfaction over the six-month exercise period, followed by

a significant decrease at 12 months (McAuley et al. 2000, RCT+). The findings are likely to be broadly applicable to similar populations in the UK.

Evidence statement 4 (Walking interventions)

A walking programme delivered to older people in 28 heterogeneous neighbourhoods in Portland, Oregon by trained leaders three times a week over six months improved SF-12 mental health and SWLS scores relative to control neighbourhoods (Fisher and Li 2004, Cluster RCT+). This cluster randomised trial recruited 279 people to the intervention group (of whom 156 completed the intervention) and compared them with 303 controls who received education only. Though recruitment and retention of participants is important for such programmes, the results are likely to be broadly applicable to similar populations in the UK.

Evidence statement 8 (Group-based health promotion)

There is evidence from one well-designed longitudinal trial (Clark et al. 1997, RCT++; Clark et al. 2001, RCT++) that weekly educational sessions led by occupational therapists promoted and maintained positive changes in the SF-36 mental health score in participants recruited from two federally-subsidised apartment complexes for older adults in the US. Though the findings are likely to be broadly applicable to a similar population in the UK, the findings may not generalise to those in other circumstances (for example, owner-occupiers and nursing home residents). A small pilot study adapted the intervention for the UK context (Mountain et al. 2006, Q+). The findings indicate that the intervention 'Lifestyle Matters' is acceptable to older people with diverse health status living in private housing, and a range of positive benefits were reported.

Well elderly intervention model (Clarke et al. 1997)

The 'Well elderly' study (RCT, USA) evaluated the efficacy of preventative occupational therapy to reduce health-related decline among urban, multi-ethnic independent-living older adults.

The central theme of the programme was health through occupation, broadly defined as regularly performed activities such as grooming, exercising and

shopping. The programme was delivered in weekly (6–10 people, 2 hours) and monthly (one to one, 1 hour) sessions over a 9-month period.

The key intent of the treatment was to help participants better appreciate the importance of meaningful activity in their lives, as well as to impart specific knowledge (didactic teaching) about how to select or perform activities (direct experience) so as to achieve a healthy and satisfying lifestyle across a broad range of activities. One-to-one sessions involved asking people to analyse the role of each activity in affecting health and wellbeing in his or her personal life.

Sessions were delivered by occupational therapists trained in working with elderly populations. Modular programmatic units centred on topics listed in recommendation 1. Full details of the occupational therapy protocol are available from the authors:

Clark F, Azen SP, Zemke R, Jackson J, Carlson M, Mandel D et al. (1997) Occupational therapy for independent-living older adults: a randomized controlled trial. *JAMA* 278 (16): 1321–26.

Lifestyle matters intervention model (Mountain et al. 2006)

The ‘Lifestyle matters’ study (Q+, UK) was an adapted version of the ‘Well elderly’ intervention piloted in the UK to determine its feasibility in a UK setting.

The programme ran for 8 months, although the authors are confident that participants would be able to derive benefit from a shorter programme. A mix of qualified occupational therapy staff working with others is considered the best arrangement.

The programme is delivered through a combination of group sessions, individual sessions and visits or outings, giving participants the opportunity to put their ideas into practice. Twenty-nine sessions are included in the manual based around a number of themes that reflect the current body of literature on ageing and quality of life. All the activities are intended as starting points; they should be tailored to meet the needs of the participants, as opposed to the activities dictating the group. The organisation of themes within the manual is

arbitrary; there is no set pattern for delivery and it is not necessary to cover all themes.

Beginnings – a celebration of achievements

- activity and health
- the ageing process and activity
- personal time, energy and activity
- goals: realising hopes and wishes
- pulling ideas together: how is activity related to health?

Maintaining mental wellbeing

- sleep as an activity
- keeping mentally active
- memory

Maintaining physical wellbeing

- nutrition
- pain
- keeping physically active

Occupation in the home and community

- transportation
- opportunities for new learning
- experiencing new technologies

Safety in and around the home

- keeping safe in the community
- keeping safe in the home

Personal circumstances

- dealing with finance
- social relationships and maintaining friendships
- dining as an activity
- interests and pastimes
- caring for others, caring for self

Full details available from: Mountain G, Craig C, Mozley C, Ball L (2006) Lifestyle matters: an occupational approach towards health and wellbeing in later life. Final report. Sheffield: Sheffield Hallam University.

Cost-effectiveness evidence

In general, community-based exercise programmes delivered by exercise professionals and activity counselling interventions delivered by primary care practice nurses were found to be cost effective with respect to mental wellbeing outcomes.

Two published economic evaluations based on RCTs were identified for inclusion in the review. One UK study was a community-based mixed exercise programme for the over 65s (Munro et al. 2004). The second study was a US health education programme in the Well-Elderly Study (Hay et al. 2002). Both studies were found to be cost effective.

Five studies that described three interventions were considered for the health economic analysis; counselling programmes to promote physical activity (Halbert et al. 2000; Helbostad et al. 2004; Kerse et al. 2005), a community-based walking scheme (Fisher et al. 2004), and a proactive nursing health promotion intervention (Markle-Reid et al. 2006).

The provision of advice from exercise specialists and group-based and home-based exercise programmes led by physiotherapists were not considered cost effective. The provision of activity counselling or 'green prescription' by primary care practice nurses was considered moderately cost effective over 6 months. However, the provision of health promotion information by community nurses was not considered cost effective over 6 months. Compared with the control group, a community-based walking intervention seemed to be most cost effective.

Evidence statement 17 (Cost-effectiveness review)

Two studies provided good evidence about the cost-effectiveness of interventions to improve the mental wellbeing of older people. First, Hay and coworkers (2002, RCT+) showed that a 2-hour group session of preventive

advice from an occupational therapist per week is cost effective in the USA with an incremental cost per QALY of \$10,700 (95% CI, \$6700 to \$25,400). Second, Munro et al. (2004, RCT+) showed that twice-weekly exercise classes led by qualified instructors are probably cost effective in the UK with an incremental cost per QALY of £12,100 (95% CI, £5800 to £61,400). While both studies are sound, one cannot be confident that such sparse findings will apply to similar populations (relatively healthy, living independently, and motivated to take advice and exercise) in similar community-based settings in the UK.

Evidence statement 18 (Cost-effectiveness analyses)

There are only two published economic analyses of interventions to improve the mental wellbeing of older people (evidence statement 16). To complement these sparse data economic modelling based on the integration of existing studies of effectiveness and existing sources of data about patient utilities and resource costs was needed. The most cost-effective intervention was a thrice-weekly community-based walking programme, delivered to sedentary older people who are able to walk without assistance (Fisher and Li 2004, Cluster RCT+). Modelling yielded an incremental cost per QALY of £7400 after 6 months, which is comparable with the two published economic analyses. Modelling was also used to enhance three RCTs of advice about physical activity. Such advice had an estimated incremental cost per QALY of £26,200 when modelled from Kerse and coworkers (2005, NCT+), who estimated the effects of the primary care 'green prescription' counselling programme in New Zealand. The estimated incremental cost per QALY rose to £45,600 when modelled from Markle-Reid and coworkers (2006, RCT++), who evaluated proactive health promotion by nurses in Canada in addition to usual home care for people over 75, and to £106,232 based on the modelling of the Norwegian physiotherapist-led exercise programme described by Helbostad et al. (2004, RCT+). However, Halbert and coworkers (2000, RCT+) reported decreased mental wellbeing in response to 20 minutes of individual advice on physical activity by an exercise specialist in general practice in Australia. Thus the advice was dominated by the control group to whom no advice was given.

Fieldwork findings

Fieldwork aimed to test the relevance, usefulness and the feasibility of implementing the recommendations and the findings were considered by PHIAC in developing the final recommendations. For details, see the fieldwork section in appendix B.

- Fieldwork participants who work with older people were very positive about the recommendations and their potential to help promote older people's mental wellbeing. All participants welcomed the development of these recommendations and thought older people would benefit from their implementation.
- Many participants hoped that these recommendations would lead to sustained funding for health promotion and physical activity programmes for older people. Participants with existing health promotion and physical activity schemes for older people were more confident they could implement the recommendations than those without such schemes (or who were not aware of any local provision).
- Many participants also wanted to see greater coverage of increasing opportunities for social interaction and tackling poor mental wellbeing (for example, anxiety, depression and 'nerves'), which they thought was commonplace among older people, especially isolated older people.
- Older people themselves welcomed the recommendations, but thought many would not be sufficiently motivated to take part in the activities outlined.

Appendix D Gaps in the evidence

Few rigorous assessments of the effectiveness and cost effectiveness of interventions to promote mental wellbeing in people aged 65 and older have taken place in the UK. Future studies should be sufficiently powered to detect changes in mental wellbeing (for example, maintenance, improvement or worsening of mental wellbeing). In addition, the outcome measures used should be appropriate to detect change across different groups of older people and consistent across studies. PHIAC identified a number of gaps in the evidence relating to the interventions under examination, based on an assessment of the evidence. These gaps are set out below.

1. There was no UK evidence that evaluated the effectiveness of mental wellbeing interventions across different groups of older people, whether by age, cultural background or sexual orientation; nor were any identified that targeted alleviating poverty or living on a reduced income.
2. There were few evaluations that determined which interventions were most effective or whether interventions that focused directly on mental wellbeing (for example, maintaining quality of life or self-esteem) were more effective than those that focused on improving independence and ability to do day-to-day tasks.
3. No evaluations were found of the effect on mental wellbeing of environmental interventions (for example, adaptive equipment or assistive technologies).
4. No evaluations were found of the effect on mental wellbeing of community interventions to improve the physical and social environment (for example, street lighting) that were specifically aimed at older people. No evaluations were found of the impact of access to community facilities and services (such as benefits advice or educational and volunteering opportunities) on the mental wellbeing of older people.
5. No evaluations were found that compared the effectiveness of different practitioners working in different settings to deliver interventions (for

6. There was little evaluation of the specific component of an intervention that would ensure continued effectiveness (for example, disaggregating the effect of social interactions from physical exercise).
7. Generally, evaluations did not report on factors which make particular at-risk groups vulnerable (for example, black and minority ethnic groups, older people in communal or private residential settings, those who live alone, who are homeless, who live in rural settings or who have language or learning difficulties).
8. There was little or no evidence on the characteristics of the provider of an effective intervention (for example, whether effectiveness of interventions depends on the status or characteristics of those delivering the intervention), on the involvement of older people in their design and delivery, or on the involvement of family members and/or carers.
9. There was a lack of long-term evidence for effectiveness and cost effectiveness.
10. In many cases better quality research is required before the wider applicability of the interventions can be determined.
11. There was a lack of evidence of the association between standardised measures of quality of life or emotional and social wellbeing and those used to measure QALYs.
12. There was limited evidence of the cost effectiveness of interventions. As a result, it was not possible to extrapolate the outcomes from many of the studies identified in the effectiveness review to allow a cost–utility analysis.

The Committee made five recommendations for research. These are listed in section 5.

Appendix E Supporting documents

Supporting documents are available from the NICE website

www.nice.org.uk/PH16:

- Review of effectiveness and cost effectiveness: ‘Public health interventions to promote mental wellbeing in people aged 65 and over: systematic review of effectiveness and cost-effectiveness’
- Fieldwork report: ‘Occupational therapy and physical activity interventions to promote the mental wellbeing of older people in primary care and residential care’
- A quick reference guide for professionals whose remit includes public health and for interested members of the public. This is also available from NICE publications (0845 003 7783 or email publications@nice.org.uk – quote reference number N1703).

For information on how NICE public health guidance is developed, see:

- ‘Methods for development of NICE public health guidance’ available from: www.nice.org.uk/phmethods
- ‘The public health guidance development process: an overview for stakeholders including public health practitioners, policy makers and the public’ available from: www.nice.org.uk/phprocess