



Remodelling sheltered housing and residential care homes to extra care housing: Advice to housing and care providers

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INTRODUCTION

Extra care is a significant policy development in both the support and housing available to older people. In essence, schemes allow people to live in their own flats or bungalows with a range of facilities and support designed to meet their needs. One of the difficulties in discussing extra care is the lack of a universally agreed definition. Housing associations and local authorities have their own definitions of eligibility and what kinds of support should be provided. Extra care is commonly seen as an alternative to institutional care. A Department of Health annual report (2005), for example, described extra care housing as giving choice to very frail or disabled people whose care needs might traditionally have been met by residential care.

WHY HOUSING SCHEMES ARE BEING REMODELLED

Several major housing associations have been developing remodelling programmes partly to address the unpopular outdated sheltered housing designs of yesteryear and partly in response to government policies to develop housing with care schemes. In many areas, extra care schemes are undoubtedly being seen as a preferable alternative to care homes for frail older people who have difficulty in coping in ordinary housing. One consideration is a considerable body of literature indicating the damaging impact of institutional care and its unpopularity amongst older people. The high cost of care in an institutional setting is a significant policy driver for government policies.

THE RESEARCH PROJECT

The research upon which this advice document is based was carried out by a multi-disciplinary team of: two social gerontologists, two architects, a rehabilitation engineer, an occupational therapist and an economist. Funded by the Engineering and Physical Sciences Research Council, (EPSRC grant number EP/C532945/1) the objectives were to:

- Examine how a sample of 10 local authority and housing association sheltered housing and residential care homes had been remodelled to become extra care housing
- Audit buildings to see how the remodelled schemes have been adapted
- Identify social and architectural problems resulting from the remodelling
- Explore tenants' experiences of living in a remodelled extra care scheme
- Elicit care and support staff views of how well a remodelled extra care scheme works in practice

A sample of ten schemes remodelled since 2000 had to be identified from diverse sources. Eight schemes were housing association and two, local authority. Three of the housing association schemes had originally been local authority but like so much public sector housing had been transferred to housing associations in recent years. Eight schemes were remodelled from sheltered housing and two had originally been residential care units integral to a sheltered housing scheme.

In depth tape recorded interviews were carried out with the following key people: 31 building professionals (architects, surveyors and contractors), 23 senior housing and social care managers, ten scheme care managers, nine scheme housing managers, fourteen care assistants and a sample of 96 tenants (76 women and 20 men). Interviews were transcribed and analysed thematically. Architectural drawings of the

existing and remodelled buildings were analysed. Each remodelled scheme had a range of different flat types and each type of flat was visited and evaluated by an architect, an occupational therapist and a rehabilitation engineer in terms of accessibility and assistive technology. All communal areas were also evaluated.

DOCUMENT OUTLINE

This advice is based on the findings of the project “Remodelling Sheltered Housing and Residential Care Homes to Extra Care Housing”. The team were greatly assisted by the input of Els van Boxstael, an occupational therapist, who undertook the visits to the housing schemes and commented on the contents of this document.

We have used the term ‘resident’ throughout, meaning the person who lives in the accommodation and not a person who lives in residential care. Some recommendations regarding assistive technology are made, if not for the 30 year considered in relation to the fabric of the building, at least for a five to 10 year span. The future-proofing recommendations have been made looking at the technologies for which more published evidence of efficacy exists, in the awareness that more evidence is needed, especially in respect of the newest technologies.

The advice is organised as particularly pertinent to the stakeholders and the aspects of the process of remodelling in the section titles. It has been written so each section can be used independently of the others, though together they provide the entire, multidisciplinary, picture. Some of the advice will apply to extra care housing per se, but the intention has been primarily to address the issues around remodelling.

ADVICE TO POLICY MAKERS

All policy makers

- An understanding of the complexity of extra care is essential, and also of the models that underpin the concept, which are still evolving. Key players should take steps to refresh or update their knowledge of the extra care sector in order to obtain best value from a remodelled building.
- More attention needs to be paid to remodelling people's own homes. This may reduce inappropriate entry to a remodelled extra care housing scheme in order that people may have a choice between continuing to live in their own home or moving to a remodelled scheme.

Central Government

- The Department for Communities and Local Government (CLG) should work closely with the Department of Health Housing Learning and Improvement Network (LIN) and the Elderly Accommodation Council (EAC) and other relevant governmental bodies, agencies and stakeholders to reach an agreed definition of the recommended minimum standards for remodelled extra care housing schemes.

Local Government

- Careful research is needed at a local level to make sure that there is a need for an extra care scheme. This should include considering the needs of people in alternative accommodation including residential care.

ADVICE TO HOUSING AND SERVICE PROVIDERS

General

- Residents (and their families) in schemes where it is proposed to remodel must be consulted.

Who remodelled extra care schemes are suitable for

- Advising older people and their relatives that extra care schemes provide a ‘home for life’ may be quite misleading as people’s needs may change after admission and extra care schemes may become inappropriate if the level of disability increases or severe dementia develops. Research shows that some people do move on to a care home when their needs change.
- Providers need to bear in mind that there is a need for different kinds of schemes to meet different needs and that one model for housing and care does not necessarily fit all (e.g. local circumstances may mean that a mixed dependency scheme is needed or one solely for people with dementia).
- Introducing very dependent residents into a remodelled scheme where the existing residents are relatively independent is likely to cause friction.
- Remodelled extra care housing is not the most appropriate solution for younger disabled adults and it is recommended that they be given appropriate housing to suit their lifestyle.

Encouraging independent living

- Shopping is part of normal everyday life enabling people to make choices about what to eat and what to wear. When residents find it difficult to reach the shops and relatives are unavailable to give assistance, ways need to be found of enabling residents to shop for themselves. There are various ways to do this such as; developing a small shop staffed by residents with goods ordered in bulk by staff, providing a minibus to take residents to the shops and care and support staff escorting people to the shops.

Recruiting and retaining staff

- The centrality of the role of care workers (often low paid and low skilled) should be recognised in a number of ways. This includes proper training about the role of extra care and the importance of residents being in control. This is especially important for staff who have previously worked in residential care where the ethos may be different.
- Keeping accommodation clean and tidy is important to many older people but they may find it difficult to do this because of sight or physical problems. Care staff should encourage residents to undertake their own housework but when this is problematic they should be willing to do this as well as providing personal care.
- The key role of care workers should also be recognised by the provision of a well-equipped care workers’ office and sleep-over room, strategically located in the scheme so that journeys to residents’ flats are minimised.

- Whilst this may be difficult to achieve in a remodelled building, staff accommodation should be carefully designed to afford them a measure of privacy when off duty, whilst at the same time allowing natural and unforced surveillance of the whereabouts of the residents.
- No matter how good the remodelled scheme is, providers should bear in mind that staff may have to compensate for shortcomings in the remodelled building.

Communal facilities

- Remodelled schemes should provide a range of activities and amenities that are appropriate to the type and size of the residential group and that bolster the residents' independence and sociability. This should include opportunities for informality and the organisation of activities such as coffee mornings by residents themselves.
- Many of today's older people are health conscious and a small gym with appropriate equipment would be a welcome addition to what schemes offer.
- A communal room should be available for use by relatives and residents for special occasions such as birthdays.
- Whatever their age group, men are likely to have different leisure interests from women. They are more likely to be interested in playing or watching sport. Facilities such as pool/ billiard/ bar billiards or a dart board would be likely to be interesting to many male residents. Watching football, rugby and other sports are common male pursuits and a communal TV room could be popular. If the TV had DVD/video facilities the room could also be used for regular film shows organised by the residents.

Meals

- At least one hot meal per day should be provided in one way or another, preferably in a communal dining room where there are opportunities for residents to socialise. Time should be allowed for residents to eat their meal in a relaxed way without staff pressurising them to finish a meal and return to their flats as quickly as possible.

Care

- Twenty four hour cover (including night cover) should be provided. This must be properly planned and resourced. In remodelled schemes of a small size this may be particularly challenging.
- Relatives should be encouraged to continue to provide support and care.

The remodelling process

- Where practicable, tenants should not remain living on the site during the remodelling process. Keeping them in situ not only has health and safety implications for the residents, but it adversely affects the time taken to carry out the construction work. Also, it is normally more costly to remodel a building (in a phased development) with the residents in place than it is to remodel the empty building.

- Where no alternative can be found to the residents' remaining in situ, if space and resources permit, a self-contained new extension should be built and the existing residents relocated there, before the existing building is remodelled. If this preferred option is not possible some way should be found to phase the development in such a way that the building work can be completely isolated from the occupied part of the building.

ADVICE TO BUILT ENVIRONMENT PROFESSIONALS

General

- Remodelled schemes should aspire to the same space standards and design quality as new build schemes. Many remodelled schemes fall well short of this objective.

Location

- Some existing sheltered schemes and residential care homes are sited in segregated, out of the way locations. When looking at the option to remodel, consideration should be given to whether the scheme is located in a safe, well-established area that offers a range of facilities to cater for the everyday needs of older people, especially as they become increasingly frail. Where there is more than one option to remodel to extra care locally, a scheme should be selected that has a pleasing outlook and good access to local shops.

Approach and external circulation

- Careful consideration needs to be given to the detailed design of the grounds and the location of parking areas for visitors and staff in relation to pedestrian access, so that the potential for conflict between vehicles and pedestrians is minimised and a clear pedestrian route is provided that directs residents and visitors to the main entrance to the building. A small amount of dedicated parking should be provided for residents.
- The grounds should be carefully landscaped so that residents are able to enjoy being out of doors in a safe, sheltered and visually pleasing environment that affords opportunities for sitting, relaxation and gentle exercise.
- Access and gradients should be suitable for access by ride-on-buggies and wheelchairs.
- The main entrance doors to the building should be fitted with an easy to use controlled entry system. The door opening / closing mechanism should be light and easily operated by older people and remain open long enough for people with mobility difficulties to get through safely.

Internal circulation, common parts of the building

- Wherever possible, every effort should be made to ensure that the common parts of a remodelled building are wheelchair accessible.
- Schemes with more than two floors and 16 dwellings should have at least two lifts.
- Lifts should be fully accessible according to the recommendations in Part M of the Building Regulations i.e. large enough to accommodate a stretcher.
- In schemes with long corridors, the lift/s should be strategically located in order to maximise their visibility and minimise the travel distances from residents' flats to the lift/s.

- To support way finding and relieve monotony, long internal corridors should be relieved by small seating areas and / or windows offering views to the surrounding grounds.
- Internal fire doors should be fitted with an easy to use controlled opening system. The door opening / closing mechanism should be light and easily operated by older people and remain open long enough for people with mobility difficulties to get through safely.

Facilities and services

- Where the amenities in a remodelled building also serve the surrounding community, care should be taken to locate the shared facilities in relation to the main entrance and the dwellings so as to protect the residents' privacy.
- Consideration should be given to incorporating a special design feature into a remodelled building as this makes each scheme feel unique and can afford a sense of pride to the residents.
- Where a commercial kitchen and dining facilities are provided, these should be of a 'café' style that does not give an institutional appearance. Where residents from the surrounding community also use the facility, care should be taken to preserve the privacy of those who reside in the scheme.

Staff accommodation

- As the role of warden has evolved into one of scheme manager in today's models of extra care, there is a reduced need for a warden's house or flat on the site and an increased need for a scheme manager's office, strategically located in close proximity to, but not overtly 'policing', the main entrance to the scheme. Where an existing scheme has a warden's house / flat, it need not be retained, but alternative modern office facilities should be provided for the scheme manager.
- If space permits, consideration should be given to providing sufficient space in the residents' flats for a washing machine/ drier. However, as space may be at a premium in flats in a remodelled scheme, an alternative solution may be to provide a dedicated staff laundry to deal with the soiled linen and laundry of high-dependency residents. If a communal laundry is provided for the use of residents, it should be suitably designed for older people (raised plinths, easy to see and use controls on the front of the machines, etc.)

Individual flats

- The spatial standards of the remodelled flats should be broadly comparable to those of new build flats. This is likely to require extensions to the scheme.
- Where existing accommodation contains bed sitting rooms, these should not be retained when the scheme is remodelled into extra care accommodation.
- Remodelling that involves merely rearranging the internal partitions of a small 'flatlet' and reducing its overall storage capacity is not recommended, and should not normally be undertaken.

- Older sheltered housing schemes and residential care homes tend to have relatively small numbers of dwellings (36-48). Remodelling that involves amalgamating two adjacent flats may lead to more spacious accommodation but, as it will reduce the total number of residents housed, this strategy should be considered carefully as it may adversely affect the financial viability of the scheme. Doing this for just a small number of the flats should be avoided if at all possible, as it creates disparities in the amount of space enjoyed by residents living in the same scheme.
- Although it is desirable that schemes should provide a variety of shapes and sizes to the residents, the overall sizes of the flats with the same number of bedrooms should remain broadly consistent.
- All flats should be wheelchair accessible. Whilst only a small number of residents will actually require use of a wheelchair, all will benefit from the more generous space standards that wheelchair design standards afford.
- All of the dwelling units within an extra care scheme should be easily adaptable to accommodate extra care residents with varying degrees of dependency.
- Careful detailing and decoration are recommended to improve the ambiance and functionality of a remodelled scheme. This may include lighter, brighter decoration, colour / tonal contrast that will assist visually impaired people, floor finishes that are warm and comfortable underfoot, windows that are easy to open and close from a seated position, more accessible plugs, switches and sockets, easy to use taps and handles, and well located and accessible stop taps and electric / gas meters and fuse boxes.
- The windowsills of the existing building may need to be lowered to afford residents a view when seated. Consideration should be given to providing a bay window that links the interior more effectively with the surroundings and to make the living room appear larger.
- Ideally, it should be possible to adopt more than one position for the bed in a bedroom layout, and to have a 'peninsular' arrangement where access is possible on either side of the bed where a resident may need to be lifted.

The remodelling process

- Care should be taken at an early stage in the remodelling process to identify suitable access to the site for the contractor's vehicles and plant, and areas for the safe storage of building materials on site.
- Care should be taken to preserve the structural and constructional integrity of the fabric of the existing building. This may place spatial and structural constraints on what can be achieved.
- Careful consideration should be given to the form of contract adopted for a remodelling project. Some form of partnering arrangement may be preferable. Design and build contracts should be carefully entered into and the terms and conditions specified in such a way as to secure the quality of the finished product.

- Remodelling should proceed on the basis of a detailed and explicit brief that sets out the design expectations for the project.
- It is especially important when remodelling an existing building, that a good building survey be undertaken at an early stage to determine (insofar as this is possible) the condition of the existing fabric and services and to identify potential problems so that remedial action can be planned into the project's timeline.

Future proofing

- A remodelled building should be future proofed for at least a 30 year design life. This should include a high specification for finishes, fixtures and fittings so as to avoid premature renewal as a consequence of having skimmed on the initial cost of construction. There is also a need to take account of older people's changing aspirations in this respect.
- One bedroom flats should be no smaller than 50 sq. m, while two bedroom flats should be 60 sq.m or larger. Any flats that are significantly smaller may not stand the test of time.
- In accordance with the Housing Corporation's recommendations that new build schemes should provide three habitable rooms, there should be a reasonable ratio between the number of one and two bedroom flats within a scheme, with a greater emphasis on two bedroom flats. Where possible a ratio of 50:50 between one and two bedroom flats should be provided as this increases both the flexibility of room use in individual flats and the long term viability of the overall scheme.

ADVICE ON ACCESSIBILITY¹ ISSUES

Entrances to buildings and flats

- For the sake of maintaining the residents' privacy and security, it is worth considering installing remote-controlled, self-opening doors for the front door of each flat and the main door to the scheme.
- The panel that contains the door releases and alarm cancel button should be placed somewhere accessible from the bed and the chair where the tenant spends most of their time. It should have buttons that are easy to see and icons that are easy to interpret.
- Most commercial door intercommunication systems that have a video link tend to have a very small screen, which is unsuitable for people with vision difficulties. Instead a facility for residents to be able to see who is at either the main door of the building or their own door via their own television sets should be contemplated. It is important to consider a system that is compatible with Sky TV and other such television providers.
- Lever handles are generally accepted as accessible to most people, regardless of type of impairment and therefore these should be used for all doors.

Bathrooms

- Use bathroom designs that can be easily converted from a step-in bath to a level access shower tray and enclosure, or vice versa, as residents move in or their needs change. Walk-in baths are not recommended, as these take a long time to fill and empty, during which time the occupant feels chilled.
- Level access showers with fixed seats, which may be hinged, and grab rails provide additional safety for independent or assisted showering.
- There should be sufficient space in the bathroom area and especially in the shower area to allow residents to be wheeled-in on a shower chair safely.
- Consideration should be given to installing appropriate height or inclined bathroom mirrors, to allow use while sitting, in compliance with part M.
- Grab bars allow safe transfers and safe activities, such as hair washing that is done with eyes shut. Installation of appropriate (colour contrast, diameter, well-fixed, good grip material) grab bars for toilet (both sides), shower (both walls) and basin (both sides) are recommended.
- Shallow basins at an appropriate height to clear a wheelchair arm rest, with pipes and drain well back are recommended, in compliance with part M.

¹ For the purposes of this project the following definition was used: "Accessibility is inextricably linked with egress, and has been clarified as the opportunity for everyone to get to the entrance of a building, enter and move freely through it, using all the facilities as and when necessary, and to exit a building safely, especially in an emergency situation". Disability Access. *Health Facilities Note 14*, 1996.

- Thermostatically-controlled mixer taps are recommended for bathroom and kitchen to prevent scalding, which can be fatal.
- Toilet seat heights of no less than 450 mm should be installed to comply with part M and to make transfers to and from the toilet easier.

Kitchens

- As a new resident moves into a property, the high of the worktops can be lowered or raised according to their needs, if height adjustable kitchen worktops are present.
- Cookers and sinks require free space for knee clearance under them. To prevent this space from being used for storage, sufficient storage at a height reachable from a seated position needs to be provided in the kitchen.
- Ample countertop space is needed to provide adequate workspace in addition to be able to accommodate a microwave oven, a toaster and kettle.

General

- Though not every resident is a wheelchair user, they all can potentially be temporary users during periods of illness. Other residents will require walkers, crutches and walking sticks. Therefore hallways and thresholds should be suitable for mobility aid users and sufficient turning space for a wheelchair should be provided in every room in each flat as well as every communal room.
- Since most of the residents in extra care schemes will have at least some visual or hearing impairment, auditory, visual and tactile smoke and fire alarms should be used for the residents to be able to recognise the call for evacuation. Similarly the residents can benefit from flashing and auditory wireless doorbells that can be placed in the most convenient place within each dwelling.
- The alarm pull placement should be reviewed, and if necessary moved, after new residents place their furniture, to ensure accessibility, with pulls in every room in an accessible place and pendant, wrist, telephone or other remote triggers also provided.
- For corded phones, telephone sockets should be installed close to wherever the resident spends most time by day and by night, usually bed and recliner chair.
- An indoor scooter (buggy) and powered wheelchair parking room with battery charging facilities and exterior access should be provided.
- Helping residents to transfer between bed, wheelchair and toilet can be very demanding on care staff, especially when a hoist is necessary. Mobile hoists require a large amount of space to manoeuvre while ceiling hoists require strong ceilings. Not all residents will need regular hoisting, but allowing for the use of hoists should be a consideration for any remodelling project.

ADVICE TO OCCUPATIONAL THERAPISTS AND REHABILITATION ENGINEERS

Universal Design Aspects

- Traditional keys and locks are difficult for people with dexterity, mobility, visual and cognitive difficulties. Electronic or fob keys are easier to use and can easily be re-programmed in case a key is lost, for increased security of all residents. Use of fobs for scheme door, buggy stores, flat front-doors and all other tenant-usable lockable doors is recommended.
- Cookers with knobs on the back panel and raised hobs, increase the risk of residents burning themselves either by reaching over cooking food to adjust the temperature or by the instability of lifting and removing full, hot, cooking pans from the hobs. Flat surface cookers with knobs on the front or side would be much more appropriate.
- When ovens are top opening, and even when placed at worktop level, these require a lot more effort to lift and place food in and out of the (hot) oven. Side-opening raised ovens with countertop space next to them or with pull-out shelves just beneath them are recommended as they are much safer and easier to use.
- Refrigerators at floor level were often only accessible to the care staff. Therefore it is worth considering raising the refrigerators to counter top level.
- To allow use by people with dexterity, visual and hearing impairments, big button cordless telephones with volume control and large display should be used.
- Intruder alarms should be considered especially for schemes where dwellings are scattered over a large site.

Assistive Technology²

- A free internal communication system to carers and other residents, should be provided located next to where the resident spends most time, day and night, (eg by recliner and bed) with a clear and easy to use interface. Using the community alarm for internal communication does not distinguish between real emergencies and routine calls (eg to ask whether a prescription has arrived), it leaves residents where the alarm call goes outside the scheme with no means to contact the staff and leaves all residents without the means to

² The definition of assistive technology that informed this project was: “Assistive technology is an umbrella term for any device or system that allows an individual to perform a task they would otherwise be unable to do or increases the ease and safety with which the task can be performed” Cowan D and Turner-Smith A, for *Royal Commission on Long Term Care*, 1999. This definition covers assistive technology from the low-technology end of the scale, such as crutches and magnifying glasses, to high-technology such as voice output computers and telehealth monitoring systems.

contact each other. Incorporating a hotel-like telephone system could be one of the technological solutions to this problem.

- The installation of automatic light switches to illuminate the path between bed and toilet at night, for example triggered by a motion detector, could help prevent falls. As an alternative, a nightlight at floor level can also be used but if there is a visual impairment, a higher level of illumination may be needed than provided by a nightlight.
- The provision of several alternative ways to activate the community or social alarm is recommended (wrist, pendant, pull cord, wall-mounted intercom, telephone, etc).
- Additionally, the following assistive technology needs to be available in the scheme to allow flexibility of care when care needs change temporarily or while waiting for devices to be delivered when residents' needs change:
 - Shower chair
 - Mobile hoist
 - Furniture raising blocks
 - Tea trolleys
 - Over bed tables
 - Adjustable bed (profiling bed)
 - Attendant propelled wheelchairs
 - Raised toilet seats of different heights

Technology for Future-proofing

- Since internet access provides a means for shopping, handling finances, entertainment and staying in touch with a social network for house-bound people, provision of broadband internet access in all schemes and at least one internet-ready computer in a communal area is recommended.
- Consideration should be given to specifying a shower toilet, also known as automatic WC or smart loo, which combines the functions of a toilet and a bidet with warm air for drying. It allows users to maintain their independence, privacy and dignity while freeing carers of having to wipe residents with paper.
- Previously in this document, window openers were addressed. Looking into the future, remote controlled window and curtain openers, as an alternative to manual openers, should be considered, offering not only better accessibility but better safety, comfort and security.
- Risk of flooding from forgotten taps can be countered with intelligent taps in bathrooms and kitchens that turn themselves off when the bath, basin or sink are full. Alternatively flood detectors can be used, alerting a member of staff to intervene.
- By the same token, gas and heat detectors can be used to alert staff when gas is escaping or a pot has been left to boil dry. Intelligent cookers, that turn themselves off would be a more forward-looking solution.

- The switch to digital television is imminent. Therefore provision for digital interactive television should be made in flats and communal lounges.
- Extra care residents could benefit from systems to allow remote monitoring by their GP's of their physiological data and vital signs. Therefore provision should be made for telehealth installation and use.
- A lot of hope has been put into telecare systems, incorporating sensors to record everything from bed occupancy to levels of activity. In general the efficacy of present systems depends on staff reaction to the alarms that are produced by the sensors. Some of the present sensors suffer from poor reliability or generate a large number of false positives, demoralising staff. When remodelling, it might be worth waiting for next generation telecare systems that will be wireless and to consider that these systems are chiefly intended for people living in their own homes.

ADVICE TO FUNDERS AND COMMISSIONERS OF REMODELLED EXTRA CARE HOUSING

General

- It is advisable that a cost-benefit analysis of a variety of options for the site and the existing buildings be undertaken at an early stage.
- Given a decision that accommodation for extra care is needed, there are in principle three ways of proceeding: (a) remodel an existing building that the organisation (housing association or local authority) already owns; (b) demolish an existing building that is already owned, and put a new building on the cleared site; and (c) put up a new building on a different site. Each should be considered thoroughly. Aspects to be considered include:
 - (i) How many units of Extra-Care accommodation are needed? Newly built schemes have up to 50 units; but the remodelled schemes may have fewer than this, even including new units provided by extensions to existing schemes.
 - (ii) The location of the present building. Is it in a pleasant area, with local services, and not difficult for relatives of residents to reach?
 - (iii) How accessible is the site of the present building for building work?
 - (iv) Is the present building structurally sound, or are works required to give the building a physical life of 30 years or more?
 - (v) Is disturbance to present residents acceptable, either by all being moved out – inevitable with demolishing the existing building – or some at a time with phased remodelling. Building new on a different site avoids the need to move people out, until they transfer to the new building.
- The composition of the project team is critical to the smooth running of a project that involves remodelling to extra care, as the team is likely to be tested by the unknown factors that arise during the remodelling process. Project teams should therefore work hard to establish trust, overcome professional and institutional barriers and develop a flexible and mutually-supportive working relationship.

Costs

- The costs of the three ways of proceeding should be compared, with account taken not only of first costs but also of how far into the future major repairs and renewals are likely to become necessary. A “cost-in-use” assessment is needed so as to reduce the risk of a course being chosen which will keep down the initial capital cost but will give rise to expensive renewals, repairs, and elimination of defects later. Particular aspects of assessments of costs include:
 - (a) If the organisation owns the site, as it will when a present building is remodelled or demolished and replaced, there will be no expenditure for purchase of a site. That may make remodelling or demolish and rebuild look cheaper than new building. But

the site will normally have a value after the present building is demolished. This value should be compared with the cost of a suitable site for new building. Probably more rarely the present building might have a re-sale value for a different use. The realisable value of the present site or building should be included with the cost of remodelling or demolishing and rebuilding, in any comparison with new building.

(b) Costs of remodelling have been shown to be very hard to assess accurately before the work is well under way. A larger provision for cost over-runs ought to be included than would normally be appropriate for new building.

(c) The information about costs may not support a presumption that remodelling is likely to have lower costs than new building, particularly when quality of the finished product is taken into account. Also unknown is whether any of the remodelled schemes are more likely to require major expenditure on renewals sooner than new build schemes.

(d) Whether remodelled schemes would be likely to hold their value in future years as well as new schemes also has to be considered. A particular point here is the smaller (in some instances much smaller) size of the remodelled housing.

- A robust cost plan and transparency of financial accounting are crucial.
- Consideration should be given to setting aside an additional contingency sum to cover the unforeseen costs and delays that are frequently associated with remodelling an existing building.
- Value Added Tax is a major factor to be considered when remodelling. Options should be explored to reduce or avoid VAT on remodelled buildings.