# Telecare: Outcomes and Cost Effectiveness

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### Notes

a)  Parts of this report were previously used in an article published in Care Knowledge.

b)  The original model for evaluating telecare use was developed by the authors as part of the Care Services Efficiency Delivery (CSED) team of the Department of Health (DH)

c)  Further detail of the tools, methodology and model underpinning this report, plus contacts for further enquiries, are available from kim.conner@capp-ltd.co.uk or mike.beazley@capp-ltd.co.uk

# Telecare: Outcomes and Cost Effectiveness

## Summary

A method for evaluating telecare use was developed into a tool to help care and health commissioners realise more benefits for local people from telecare over time.

The results from evaluations in 41 English council areas were collated. The evaluations covered 3,303 people who were using telecare during the period 2010-2014. Local practitioners provided the key judgements about individual cases from which the data were derived.

The results suggest that telecare is effective to varying degrees in reducing avoidable admissions to hospitals, supporting safe hospital discharge, deferring or avoiding admissions to care homes, and prolonging independent living by reducing the escalation of support needs. The collated data showed that:

- 27% avoided or delayed new or additional NHS services

- 27% avoided or delayed new or additional home care

- 24% avoided or delayed admission to residential care

- 5% avoided or delayed nursing care

- 4% reduced need for respite care

- 3% reduced the need for supported living

The evaluations highlighted wide variability across the areas taking part. Where telecare was targeted to meet a need identified as part of an assessment and care plan, it was often effective: there were substantial efficiency gains in some cases. The average annual saving for the 3,303 people evaluated was £1,151 per person for adult social care. However, telecare provided through councils for 'prevention' or 'reassurance' purposes represented an additional cost, (average £256) for equipment and £26 per year for monitoring.  It is difficult to quantify the preventative value of this use of telecare.

- The highest social care savings were from costs avoided for people with learning disability and people with dementia.

- In many cases, telecare was very cost effective where it substituted for high cost care home placements, or where it reduced the need for night staffing in group home settings or independent accommodation.

- The more frequently found savings were from people with dementia: especially in deferring or avoiding care home admissions

- Significant efficiency gains were demonstrated for NHS services, mainly from avoided

hospital admissions

The overall conclusions from the collated evaluations were:

- Telecare is most effective in helping to prolong independent living and increasing safety when it is part of a balanced package of support.

- Telecare is effective in reducing avoidable use of health services, especially unplanned hospital admissions: it can facilitate safe discharge and so help to reduce delayed transfers.

- Telecare is effective in helping people back to independent living after illness or accident, or a stay in hospital, especially if it can be provided quickly by skilled advisors.

- Telecare can be good value for money for people who use services, and can help local commissioners achieve efficiency gains.

- The preventative use of telecare has a valuable role to play in reducing isolation and containing costs.

- Telecare is still not embedded in all mainstream care systems. Separate rules and processes for access, eligibility, charging, assessment, and review are probably counter-productive. In these cases, telecare is likely to be used for reassurance purposes only rather than meeting a need identified as part of an assessment.

Further detail of the tools, methodology and model underpinning this report, plus contacts for further enquiries, are available from kim.conner@capp-ltd.co.uk or mike.beazley@capp-ltd.co.uk

## Main Report

### Background

The potential of "Technology Enabled Services"[1] to benefit people who use services, patients and carers now forms a stronger and rapidly growing part of policy for health and social care, particularly in the drive towards integrated services.

Evidence shows that Telehealthcare (assistive technology to support health and social care) is unevenly developed across England[2].

An ADASS survey in 2014 suggests that local commissioners of adult social care need better evidence of the benefits of Telehealthcare, and a set of monitoring and evaluation measures to help build the local business case for further development. A range of suggested metrics has been subsequently published by ADASS with Tunstall Healthcare (UK) Ltd., but there are no established collections of relevant data in place at national level.

A toolkit to help commissioners to target Telecare and assess outcomes was initially developed and published in 2011 by a Department of Health (DH) team, including the authors of this report. The method has been used to assess baselines of telecare use, and to target growth and investment in around 50 councils, covering around 6000 people who use adult social care.  The method includes a strong element of local care manager judgement in the process, a feature of the method used that has helped to ground the results in the reality of local practices and resources.

The results of this work across 41 councils have been collated and are summarised below. They contribute evidence of the benefits of telecare, and help with the implementation of telecare to improve safety, sustain independent living, and improve cost-effectiveness.

### Evaluation Method

The method takes a representative sample of service users who have been using telecare for some time – usually about a year – so that the outcomes can be demonstrated.  Service histories are collated and costed. A series of case reviews builds a picture of key events and services over the evaluation period. With the assistance of an experienced local care manager, the review determines what would have been the most likely alternative service

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[1] NHS England now defines these technologies as those which "help people to manage and control chronic illness and sustain independence. They enable the remote exchange of information, primarily between a patient or citizen and a health or care professional, to assist in diagnosing or monitoring health status or promoting good health".

[2] See "Summary briefing of care and support at home: An audit of telecare services in England. Good Governance Institute (2012) http://www.tunstall.co.uk/Uploads/Documents/GGI%20Telecare%20Audit%20Summary%20Briefing.pdf

outcome if telecare had not been available. The model then calculates how much that alternative would have cost.

The evaluation report shows what telecare currently achieves, but also indicates the potential for increasing its use to improve levels of safety and independent living.  It is also used to model the costs and benefits of telecare expansion over several years.

## Key Results

The results of evaluations completed since 2010 are based on a sample of 3,303 people living within 41 local authority areas across England.  Evaluations in a further 21 councils were completed by the Department of Health's Community Services Efficiency Delivery team (CSED) but the results of these have not been included in this report.

The results suggest that telecare was effective in all areas, but to widely varying degrees:

a)  in helping to sustain independent living, mainly by reducing the escalation of needs for additional care or support.  This is most effective when telecare is carefully integrated as part of a wider support package.  Statistically, the greatest beneficiaries were older people, particularly those who had dementia or who were frail and at risk from falls.
b)  in reducing avoidable admissions to hospitals and supporting safe discharge home – especially where telecare can be made available quickly.
c)  in deferring or avoiding admissions to care homes, especially when carers' needs are also taken into account in planning the use of telecare

The table below shows how telecare helped to avoid the escalation of particular services. The key points of interest include the extent to which high cost services such as hospital admissions, care homes and home care services were avoided or delayed. This suggests positive outcomes for people who use services and carers.

**Table 1: Service Escalation Deferred or Avoided**

|  | Percentage |
|---|---|
| Continuing Health Care | 0.3 |
| Day Care | 0.7 |
| Direct Payment | 0.2 |
| Extra Care | 0.1 |
| Home Care | 13.1 |
| Meals | 0.1 |
| NHS Services | 13.1 |
| Nursing Care | 2.3 |
| Personal Assistant | 0.2 |
| Reablement | 0.8 |
| Residential | 11.7 |

| | Percentage |
|---|---|
| Respite | 1.8 |
| Sitting Service | 0.2 |
| Sleeping night | 0.4 |
| Supported Living | 1.5 |
| Waking Nights | 0.9 |
| Prevention | 12.0 |
| Reassurance | 38.6 |
| Inappropriate use | 1.8 |

The most frequently occurring instances of additional support needs being deferred or avoided were hospital episodes, usually due to:

- the prevention of, or faster response to falls amongst older people

- avoided or deferred admissions to residential care (especially for people with dementia), and reductions in home care services

- the reduced use of reablement services, as a result of the reduction in hospital admissions

## Benefits

The overall benefits of telecare use to emerge from the analysis are:

- **For individuals**: reassurance that support is quickly available when needed, so reducing anxiety and improving well-being, maintaining independent living and improving dignity.

- **For carers**: reassurance that risks are being managed and support will be available when needed.  This reassurance can reduce the pressure from carers to increase the level of support services, including pressure for care home admissions.

- **For Adult Social Care Commissioners and Clinical Commissioning Groups**: more effective and appropriate use of resources. For example an elderly person prone to falling and unable to get up unaided may be admitted to hospital or a care home if a fall happens during the night with no-one to assist. With the support of telecare, a faster response and reassurance is possible, and so can reduce the likelihood of an admission.

## Who uses telecare and why

The table below shows the 'primary client categories' of people using telecare. A significant proportion of people – 38% of the sample – were allocated telecare for 'reassurance'.  This may be desirable as an early step towards prevention, but is not necessarily an effective use

of overall resources where services for people who have complex, intensive or unstable health are under pressure. Less than half of the people in the sample were allocated telecare in response to specific 'eligible' needs, such as dementia or severe disability.

**Table 2: primary client group of telecare users**

|                       | Number | Percentage |
|-----------------------|--------|------------|
| All Telecare Users    | 3,303  |            |
|                       |        |            |
| Reassurance           | 1,074  | 32.5       |
| Prevention            | 331    | 10.0       |
| Other Telecare Users  | 1,530  | 46.3       |
| of which:             |        |            |
| Dementia              | 199    | 6.0        |
| Frailty               | 785    | 23.8       |
| Learning Disability   | 145    | 4.4        |
| Mental Health         | 54     | 1.6        |
| Physical Disability   | 322    | 9.7        |
| Sensory Impairment    | 24     | 0.7        |

## Outcomes

In reviewing the outcome for people who use telecare, the presenting needs of each individual included in the sample were reviewed and local practitioners' judgements were used on what alternative service(s), if any, would have been required if telecare had not been provided.

The overall analysis of results averages figures to show how people avoided or delayed the need for other services as follows:

- 27% avoided or delayed new or additional home care services
- 27% avoided or delayed new or additional NHS services
- 24% avoided or delayed admission to residential care
- 5% avoided or delayed nursing care in a care home
- 4% reduced need for respite care
- 3% reduced the need for supported living

Small numbers of people also avoided or delayed the need for continuing health care, day care, waking and sleeping night care, direct payments, or meals

# Telecare:  Outcomes and Cost Effectiveness

## Financial Benefits

The evaluations suggested variable gains in efficiency. Where telecare was used to meet a need identified as an integrated part of an assessment and care plan, it was shown to produce efficiency gains, and these were substantial in some cases. The average annual saving for the 3,303 people evaluated was £1,151 per person for adult social care.

Where telecare was provided for 'prevention' or 'reassurance' purposes, telecare represented an extra cost for equipment at an average of £256, plus £26 per year for monitoring.

The table below shows the values of service costs deferred or avoided (i.e. average per head, averaged across all council evaluations) over a single year. The efficiencies are given in a range, to allow for the fact that the method is designed to produce results for management use, not for research purposes.

**Note**: The higher rate estimate results directly from the calculated comparisons of expenditure saved where telecare was used as a substitute service and 'avoided' other services. The lower estimate is offered as a conservative figure that can be used safely for financial planning, to reflect the degree of judgement involved in the calculations.

**Table 3: Average Annual Efficiency Gains per person for Adult Social Care and the NHS**

|  | Sample Size | Social Care | | NHS | |
|---|---|---|---|---|---|
|  |  | Lower estimate | Higher estimate | Lower estimate | Higher estimate |
| **All Telecare Users** | 3,303 | £1,036 | £1,151 | £832 | £924 |
| Reassurance | 1,074 | -£227 | -£204 | £0 | £0 |
| **Prevention** | 331 | -£196 | -£177 | £173 | £192 |
| **Other Telecare Users** |  |  |  |  |  |
| -Dementia | 199 | £2,909 | £3,232 | £135 | £150 |
| -Elderly Frail | 785 | £1,949 | £2,166 | £126 | £140 |
| -Learning Disability | 145 | £4,972 | £5,524 | £204 | £226 |
| -Mental Health | 54 | £6,768 | £7,520 | £214 | £237 |
| -Physical Disability | 322 | £2,588 | £2,876 | £127 | £141 |
| -Sensory Impairment | 24 | £968 | £1,076 | £20 | £22 |

Some points to note:

- The highest social care efficiency gains were from costs avoided for people with learning disability and for mental health

## Telecare:  Outcomes and Cost Effectiveness

- In many cases, telecare was very cost effective where it substituted for high cost care home placements, and where it reduced the need for night staffing, safely, in group home settings or independent accommodation

- Frequently, the savings found for people with dementia were in deferring or avoiding care home admissions

- Significant efficiency gains for NHS services – typically not acknowledged  by the NHS – mainly came from avoided hospital admissions

- The costs associated with prevention and reassurance (but note that the long term preventative value of telecare use for this group of  people cannot be easily assessed)

# Discussion: other points from the analysis:

## Benefits for NHS Patients

Current NHS England guidance does not appear to exploit the potential benefits of simpler and more cost effective telecare devices and systems to benefit NHS patients and reduce pressures on health services, for example by reducing demand for hospital and other NHS services. This is of growing importance to the integration of health and social care in a tough financial environment.

A comparative cost/benefit analysis of telecare with telehealth and related technologies may suggest greater short / medium term value from the much lower investment costs for telecare, than from higher cost investment in more sophisticated technologies for telehealth.

## Benefits of Targeted Allocation

Where Telecare is used carefully to meet assessed specific needs, it can clearly bring considerable benefits to individuals, carers and commissioning organisations in sustaining or prolonging independent living. But the picture of actual current use was highly variable. In some areas, telecare has been used with careful and conscious targeting, but in others, allocation has been less selective (probably due in part to the terms of previous government grants). The best performing councils achieve more through systematic, targeted use of the technology especially where it is integrated with good quality assessment and care planning processes.

## Telehealth

A separate smaller-scale analysis of telehealth use by a specialist community nursing team was carried out using a similar evaluation methodology, including the use of nurse practitioners' judgements based on local practices, and NHS unit costs.

Although the level of investment required to set up telehealth services is typically higher than for telecare, this evaluation also demonstrated the potential of the technology to defer or avoid the escalation of care and treatment needs.

For the health professionals involved, daily access to health data helped them to assess risks more easily and to prioritise contact with, and treatment of their patients. In the sample reviewed:

- 2 people (4%) avoided 3 A&E admissions
- 6 people (11%) avoided the need for an Emergency Ambulance
- 1 person (2%) avoided the need for emergency visit by COPD team
- 41 people (75%) avoided 141 GP appointments or visits
- 8 people (15%) avoided non elective admissions (37 bed days)
- 2 people (4%) avoided outpatient appointments
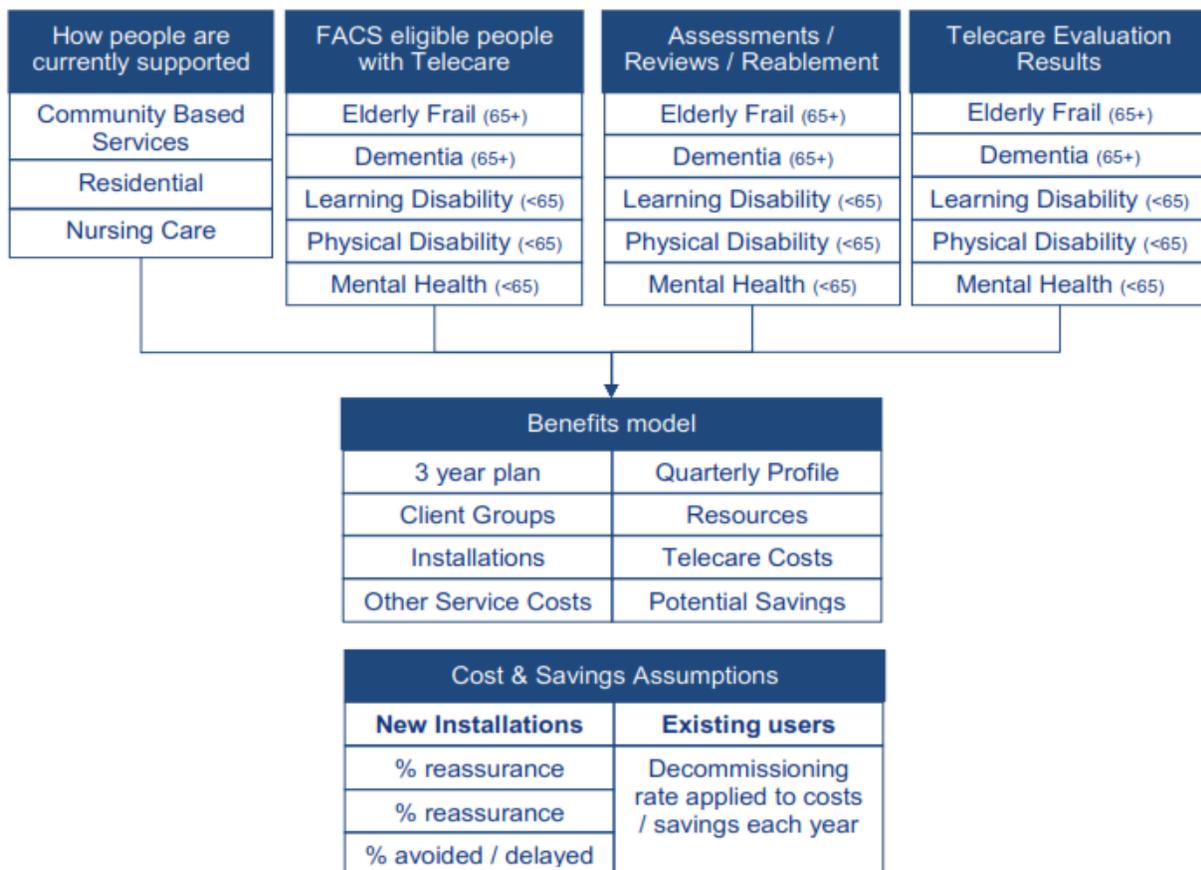
# Telecare:  Outcomes and Cost Effectiveness

## A Benefits Realisation model[3]

The method used in this work with local authorities has been developed into a benefits realisation model.  In the first stage, the evaluation report shows what is currently being achieved, which groups of people use the service, and the costs involved.

The second stage indicates the potential for further changes to service outcomes and the cost/benefits.  The results can be used by service commissioners to help model improved outcomes and the cost/benefits of telecare expansion over several years.

The costs of additional infrastructure resources can be included to get as full a picture as possible. The model is used to aid discussion and set targets, looking at Telecare specific data. In some areas Telecare will work alongside other enabling support e.g. reablement to support independence, and reduce the need for longer term support. In these areas, a local view must be taken on what is being achieved and the budgets affected by any associated costs and savings.

An overview of the Benefits Model is shown below.



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3 Further details about the model are available from kim.conner@capp-ltd.co.uk or mike.beazley@capp-ltd.co.uk

# Telecare:  Outcomes and Cost Effectiveness

The benefits model profiles the potential for expansion for each client category based on the information shown above. It estimates the installation numbers, costs and potential savings for each client group. This information can be used to inform local discussions about implementing change in Telecare Services and refined to take into account local decisions and strategies.

## Conclusions and Recommendations

The results of the overview study help support a number of conclusions. These are shown in the table below with practice recommendations informed by experience of local managers and practitioners. The authors believe that these can help to improve the quality of life for people who use services and carers, and also help them and funding organisations to achieve better value for money.

## Annex: Summary of Conclusions

| Conclusions | Considerations for Commissioning Organisations | Advice for people who use services and carers |
|---|---|---|
| 1.  Telecare is often effective in helping to prolong independent living and increase safety **as part of a carefully balanced package of support**. | Care managers and reviewers need to properly understand telecare potential and limitations, and be able to get expert advice<br><br>It may help to strengthen skills and knowledge through quality training at induction, ongoing and PQ levels<br><br>Business processes and guidance may need to be revised to include telecare, so that it is a consistent part of integrated support planning for independent living. | Take action early to get a skilled and independent assessment and insist that telecare and /or telehealth options are included.<br><br>Even if you don't qualify for financial support, independent advice will be helpful in making your own arrangements<br><br>Reminder: carers are often entitled to an assessment of their own needs – telecare may be very helpful |
| 2.  **Older people are the main telecare users** to benefit, followed by younger adults with physical or learning disabilities. There are few users from mental health services yet, and this is a potential area for cost effective growth. | Telecare seems to work well when it is allocated on a consciously targeted basis, according to local population needs and gaps in support: in particular consideration of people with dementia and learning disabilities should be considered. | Whatever your particular need, make sure that Assistive Technology is considered as a serious option in meeting some or all of your needs. It may be less intrusive and costly than the alternatives, and there may well be benefits for carers |
| 3.  **Telecare is effective in getting people back on their feet after illness or accident, or a stay in hospital** especially where it can be provided quickly, and by skilled | It is important that reablement/ intermediate care teams are aware and knowledgeable and that rapid installation is available – on the same | If you want to get home from hospital quickly but are unsure about being on your own, ask if telecare options are available to get help quickly or stay in |

| | | |
|---|---|---|
| advisors. For example, it may substitute effectively for one or more home care visits within a multi-visit daily care plan: | day if possible. | touch with carers if you need help. |
| 4. **Telecare can be good value for money for people who use services,** and help local commissioners achieve efficiency gains | Benchmarks of costs and efficiency for use on a periodic basis can help commissioners to build the evidence they need. | If you are eligible for financial support and using a direct payment, check the costs of telecare and ask a care manager about the value of this compared to the alternatives |
| 5. **The commissioning of telecare is often untargeted and even supplier-led in some areas**. Where Telecare has been used without clear purposes for "reassurance" (usually as an add-on), it cannot be demonstrated as an effective use of resources. | It will help if commissioning strategies ensure that telecare is included as a component, consciously targeted, and costed element. | N/A |
| 6. It is not easy to demonstrate evidence that telecare is effective in prevention: but this does not imply that its use should be discontinued. More often, prevention needs to improve, and **telecare has an important role to play in reducing isolation and containing costs.** | Where prevention strategies include marketing of telecare to self-funding individuals, this can support prevention | If you are worried about getting help in an emergency, ask for an assessment or advice from the council on telecare options – they might help bring peace of mind |
| 7. **Telecare is still not widely embedded in all mainstream care systems –** there are separate rules and processes for access, eligibility, charging, assessment, and review. | Business processes for assessment, support planning and review and associated guidance all need to include telecare | N/A |

| | | |
|---|---|---|
| This is probably wasteful and counter-productive. | | |
| 8. **Telecare is effective in reducing avoidable use of health services**, especially unplanned hospital admissions and (to a lesser extent) delayed discharges. | "Rapid response telecare" – i.e. same day installation is helpful in reablement and to enable prompt discharge from hospital. | |