Interreg North Sea

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ACE

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Homecare technology across the North Sea Region

Insights from the ACE Knowledge Sharing questionnaire

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1. Introduction

The ACE project brings together partners across the North Sea region to accelerate the adoption of innovative, people-centred homecare solutions. ACE connects solution providers with care services and stakeholders, pilots technologies, and supports the adoption and scaling of solutions that enable safer, more independent living for older adults.

Within Activity 3.2 of the ACE project, the focus was on knowledge gathering and sharing across five partner countries: Sweden, Denmark, the Netherlands, Belgium, and France.

Early in the activity, it was concluded that direct transnational knowledge sharing would not be feasible due to language barriers and the demanding schedules of homecare staff. Organising several international knowledge exchange events was therefore not practical.

Instead, the team developed an **online questionnaire** containing both qualitative and quantitative questions. The aim was to gather insights on:

- The types of technologies used by care provider organisations
- The perceived effects of these technologies on workflows and care provision

The questionnaire was made available in national languages (French, Dutch, Swedish, and Danish), and all responses were subsequently translated into English.

This report presents the results of the questionnaire, highlighting practical insights, challenges, and lessons learned from implementing homecare technologies across the five partner countries.

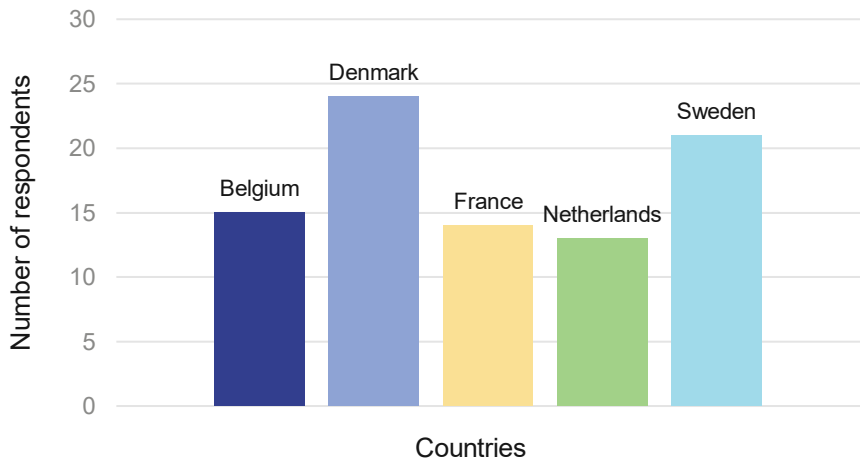
2. Respondent profile

A total of 87 responses were received across the five partner countries.

In Sweden and Denmark, obtaining responses was relatively easy because three project partners in these countries are municipalities that directly employ care providers, giving them easier access to staff. In other countries, it was more challenging, as partners first had to identify and reach out to potential respondents, leading to longer response times.

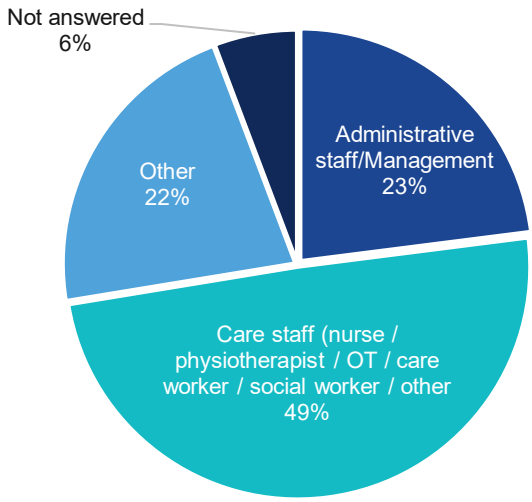
These differences also reflect broader variations in how care provision systems are structured across the North Sea Region (see Section 3).

2.1 Countries



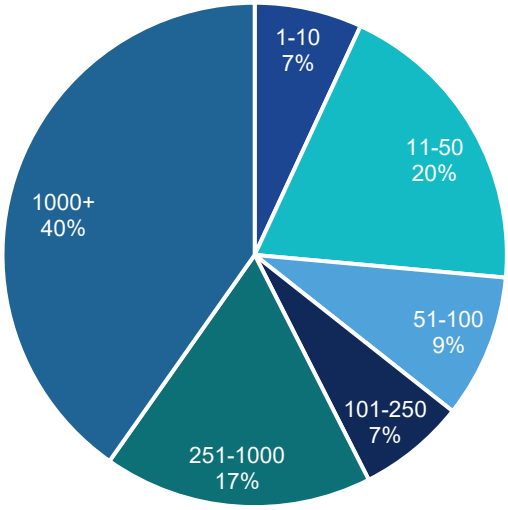
2.2 Professional roles in care provision

Around half of the respondents were frontline care staff. The remainder worked in management or administration, or roles related to digitalisation or technology consultancy.



2.3 Care provider organisations

Over half of respondents were employed by large or very large organisations (250 employees or more), while around a quarter came from small or very small organisations (fewer than 50 employees). This likely reflects that larger organisations — such as municipalities, private health companies, or hospitals — had more capacity to participate.



2.4 Types of organisations

60% Municipalities

16% Private care provider companies

7% Non-profit organisations

5% Public hospitals

5% Foundations or healthcare organisations.

3. Care provision similarities and differences across partner countries

There are clear national differences in how homecare is organised across the North Sea Region.

Denmark and Sweden: Homecare is mainly provided by municipalities and funded through taxation. While citizens can choose private providers, few do (except for cleaning services). Consequently, municipalities typically lead on implementing and funding new solutions and technologies.

The Netherlands and Belgium: Care provision is more diverse, involving municipalities, large private or non-profit organisations, and smaller companies. Funding may come from taxation or reimbursement via compulsory private health insurance.

France: Homecare services are often hospital-based and publicly funded through national and regional taxes.

3.1 Barriers to innovation

Convincing municipalities, small care companies, or hospitals of the business case for new technologies remains challenging. For smaller organisations, high initial costs and delayed return on investment can be prohibitive, even when long-term outcomes include improved independence and better health services.

In systems where older adults must purchase a technology and seek reimbursement, cost is often a significant barrier to adoption.

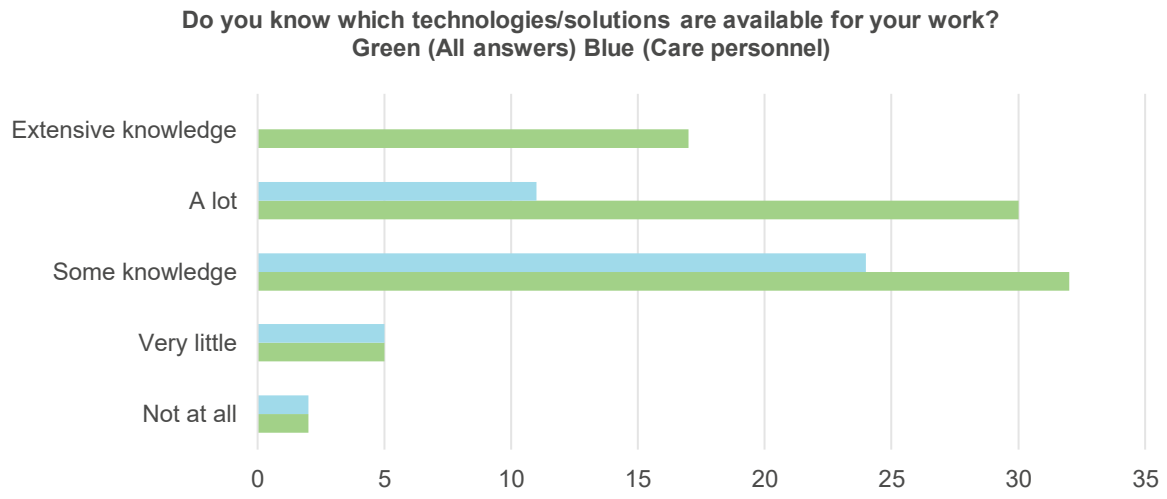
4. Knowledge and awareness of new technologies

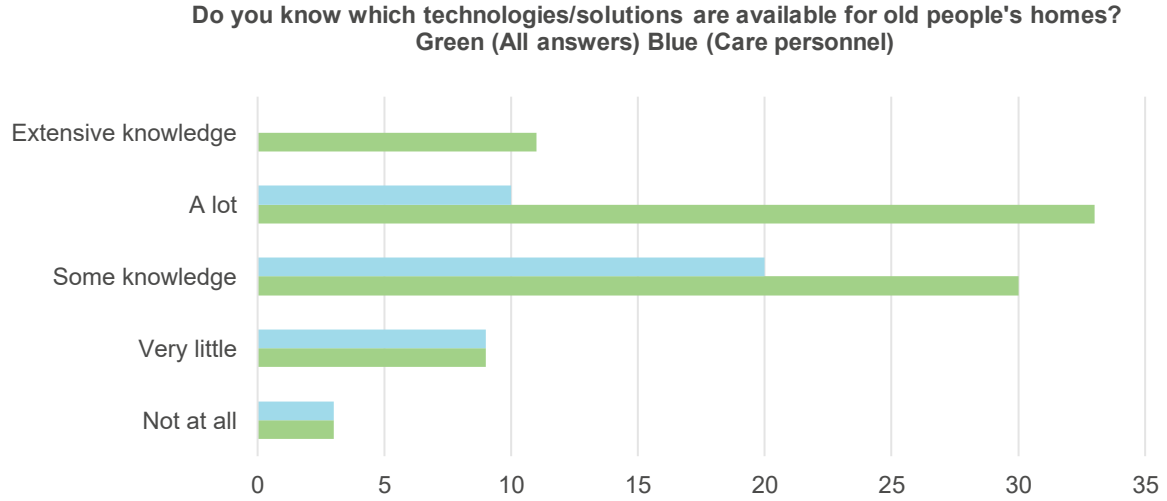
Respondents were asked to assess how much they knew about technologies available to support their work and older adults' homes.

Results show that care staff generally knew less about available technologies than respondents in administrative or consultancy roles. This may be because frontline workers are busy with direct care and often become involved only during the implementation stage.

Those in managerial or specialist roles were more likely to keep up to date with innovations as part of their professional responsibilities.

The findings highlight a need to better inform and involve care staff in the development and deployment of new technologies





5. Information sources on technology

The respondents were asked where they get their information about new technologies. They identified a wide range of information sources. The most common, mentioned by about 80% of respondents, was colleagues, including informal exchanges, internal communication channels, and advice from technology consultants.

Other key sources included:

- Events and conferences on technology and homecare
- Presentations from technology vendors or developers
- Professional journals and newsletters
- Networking and trade fairs
- Internet searches and social media platforms (e.g. LinkedIn, WhatsApp groups)

In some countries, national knowledge centres or associations play an important role in disseminating information on care technologies.

6. Technology use in homecare across the North Sea Region

Across the partner countries, several technologies were identified that all care provider organisations could potentially benefit from using.

Participants were asked to describe the technologies they knew about and currently used, the added value of these technologies, how they affected their workflow, and which aspects they considered most important.

The following sections present the most favoured technologies, as highlighted by care staff from more than one North Sea Region (NSR) country.

6.1 Virtual or digital visits

Used in Denmark, Sweden and the Netherlands - though with different platforms and areas of focus. In some cases, a tablet is installed in the person's home, allowing them to receive a video call from a nurse or care provider at a convenient time. In others, a camera enables care staff to look in remotely and check that everything is in order.

Added value

- Promotes citizen independence, safety, and efficiency in care delivery.
- Enables more personalised, responsive, and sustainable homecare.
- Allows care staff to continue working despite age or physical limitations.

Impact on workflow

- Reduces physical home visits, saving time and costs.
- Improves flexibility, continuity, and resource efficiency.
- Supports patient empowerment and strengthens infection control.

Most important aspects

- Must be user-friendly, support independence, and maintain high care quality.

6.2 Digital lock systems

Used extensively in Denmark and Sweden and praised by care staff, these allow workers to access homes via a smartphone app.

Added value

- Eliminates the need for physical key handling, saving time and reducing administrative work.
- Enhances access — especially for bedridden or mobility-impaired citizens.
- Improves coordination by tracking staff access and providing documentation that supports accountability, collaboration, and complaint resolution.
- Helps avoid insurance issues related to lost keys.

Impact on workflow

- Saves significant time by removing the need to manage physical keys.
- Ensures faster and more efficient access to care recipients.
- Reduces administrative tasks and minimises delays or issues caused by lost or misplaced keys.

Most important aspects

- Easy to use and enhances both efficiency and safety.
- Enables faster, keyless entry — particularly in emergencies or when citizens cannot open the door themselves.
- Tracks staff visits for improved oversight and accountability.

6.3 Medicine dispensers

There are many different medicine robots and dispensers in use in Denmark, Sweden, and the Netherlands. While the models vary and dispense medicine in different ways, they share key features: they ensure users receive the appropriate medicine at the right time, and they alert care staff if a user fails to comply.

Added value

- Promotes citizen independence.
- Improves care quality.
- Relieves pressure on care staff.

Impact on workflow

- Can reduce daily visits to just once every 14 days, saving significant time on travel and medication handling.
- Allows staff to focus on other citizens.
- Supports independent living.
- Reduces unnecessary visits.
- Enables more targeted, resource-efficient care.

Most important aspects

- Must be user-friendly, reliable, and offer time savings to be effective.

- Can make care more flexible and efficient.
- Reduces unnecessary visits.
- Leads to fewer errors and less stress.
- Offers environmental benefits.

6.4 Personal alarm systems

Various types of technology fall under this category. In Belgium and France, some respondents focus on alarm systems in older people's homes to alert help if someone has fallen. In Sweden, the focus is on portable personal alarm systems that can be used outside the home, helping people who are afraid of falling feel safer and more confident to go out and be active.

Added value

- Provides timely emergency response, improving safety and reducing reaction time.
- Offers peace of mind and promotes independence.
- Enables users to live more active lives.
- Reduces staff visits, saving time and lowering environmental impact.

Impact on workflow

- Enhances efficiency, independence, and care coordination.
- Introduces new demands on support systems and staff flexibility.

Most important aspects

- Must be inclusive, trusted, and flexible to benefit both users and care providers.

7. Impact of technology on care work

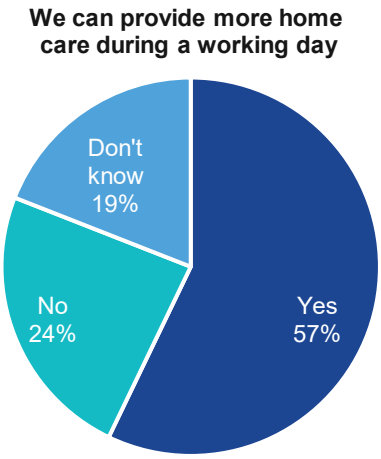
Respondents were asked to assess a series of statements about the impact of technology on their work situation. They could indicate whether a statement was true, false, or if they did not know.

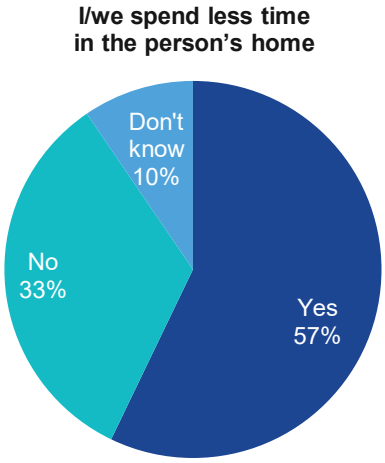
The statements were:

- *I/we can provide more homecare during a working day.*
- *I/we provide less personal care than before.*
- *I/we spend less time in the person's home.*
- *I/we have less professional responsibility than before.*
- *The technologies/solutions help me with decision-making.*
- *The technologies/solutions help me plan my working day.*

Technology means more work efficiency

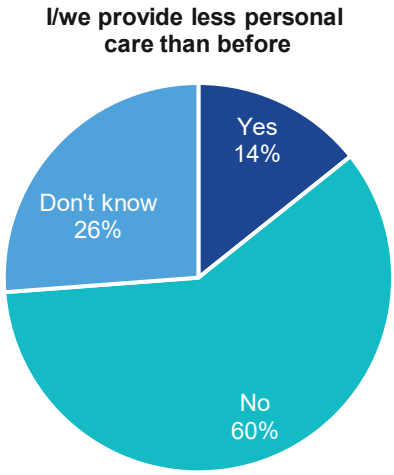
When we look at the answers, the most significant findings are that almost 60% of respondents state that they can provide more homecare during a working day and spend less time in the person's home. This is a result of some of the digital solutions and innovations mentioned above, such as digital visits and video calls.





Personal does not necessarily mean physical

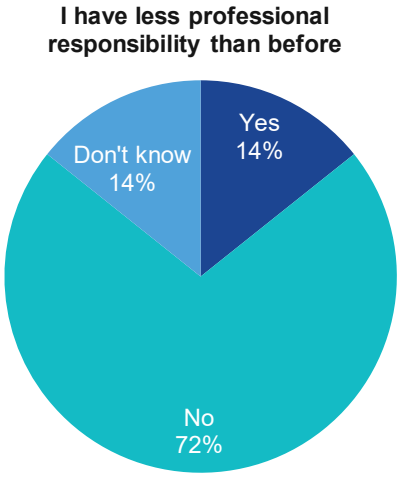
One surprising finding is that 60% of care staff do not think they provide less personal care than before.



This suggests an important insight: personal care is not necessarily always face-to-face or physical. From the carer's professional point of view, screen visits and other digital solutions can provide the same level of personalised care.

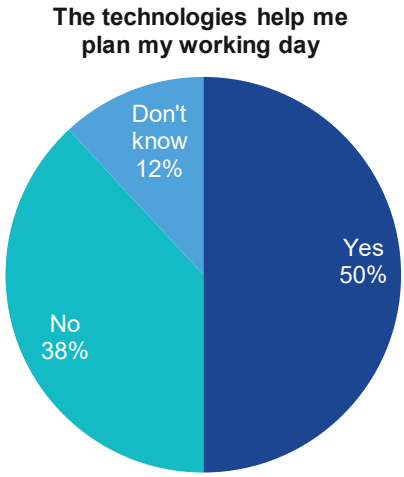
Use of technology does not mean loss of professional responsibility

It is also worth noting that care staff do not feel that technology reduces their professional responsibility. More than 70% say they do not believe the solutions have taken away any of their professional responsibilities.



Better planning

About 50% of respondents state that technology helps them plan their working day. This aligns with the use of virtual/digital visits, digital lock systems, and medicine dispensers. These technologies all result in less travel and easier planning, while some care provider organisations also use modern technology and apps for roster planning and other administrative tasks.


The technologies help me plan my working day
Don't know 12%
Yes 50%
No 38%

8. Implementation and adaptation: lessons from partner countries

Across partner countries, lessons in adopting care technologies highlight the impact of cost, training, support, and user involvement.

8.1 Belgium

1. **High costs and inaccessible funding models,** especially where clients must purchase devices themselves, make adoption difficult and create inequities in access.
2. **Limited support for innovation** in current financing structures slows progress in projects such as hybrid diabetes care.
3. **Reliance on coordinated processes and key users** among managers and frontline staff, combined with refresher training, is crucial for successful implementation. Logistical issues, such as delayed mobile phone delivery or poor internet access, can hinder use.
4. **Need for legislative and financial adjustments** to make care technology more scalable and inclusive.

8.2 Denmark

1. **Investment of time, relationships, and planning** is required for implementing new welfare technologies.
2. **Organisation of teams and committed ambassadors** is critical for positive implementation. Administrative tasks, such as procurement, risk assessments, and data agreements, are time-consuming and can delay rollouts.
3. **Importance of timely implementation** highlighted by real-life incidents, such as delayed assistance to a fallen citizen without remote access technology.
4. **Management of technology failures** is essential, as malfunctions create extra work and frustration.
5. **Clear roles, follow-up, and ownership** are required to drive successful adoption.
6. **Careful handling of data security, funding approvals, and long-term planning** is necessary from the start. Implementation often takes longer than expected, particularly without centralised purchasing processes.

8.3 France

1. **Mixed results in technology trials**—positively received when reliable and relevant, but often abandoned if not user-centred or effective.

2. **User involvement in development** is essential.
3. **Cost barriers,** especially for older populations, limit adoption, while younger users are generally more accepting.
4. **Concerns about reliability** persist despite growing availability of solutions.

8.4 The Netherlands

1. **Positive perceptions among staff and clients**, though initial reluctance is common, especially among informal caregivers fearing reduced quality of care.
2. **Tailored support and increased independence** are key benefits, alongside fewer physical visits.
3. **Administrative burdens and funding rules** can complicate adoption.
4. **Coordination of technical issues** is necessary to avoid delays.
5. **Training for older clients** is often needed to help them use digital tools effectively.
6. **Time investment in implementation** may reduce direct care, sometimes causing stress.
7. **Organisational support and alignment with client and family needs** strongly influence success.

8.5 Sweden

1. **Initial investment of time and money** is required before long-term time savings are realised.
2. **Staff involvement and training** are essential for acceptance and effective use.
3. **Change management** is critical, as resistance often stems from workflow changes rather than the technology itself.
4. **Adaptation to digital maturity** ensures implementation suits staff skills and needs.
5. **Early user and stakeholder involvement** improves outcomes.
6. **Technical reliability** is vital; backup, troubleshooting, and deviation handling plans must be in place.
7. **Transparent communication about monitoring** builds trust and prevents misunderstandings (e.g., camera use).
8. **Addressing practical concerns**—such as signal coverage, SIM card storage, and camera flexibility—is important.
9. **Alignment of tools with actual needs and capabilities** ensures meaningful impact.

9. Conclusion

The findings of the ACE questionnaire show that homecare technologies can improve efficiency, support independence, and maintain high-quality, personalised care. Success, however, depends on engaging staff early, providing training, and ensuring clear roles and responsibilities. Adoption is influenced by local contexts, including funding structures, organisational size, and digital maturity, while practical considerations such as reliability, user-friendliness, and workflow integration remain crucial. By addressing these factors, care organisations can implement solutions that better meet the needs of both staff and older adults. Future efforts should focus on knowledge sharing between care organisations and tailoring technologies to local needs.