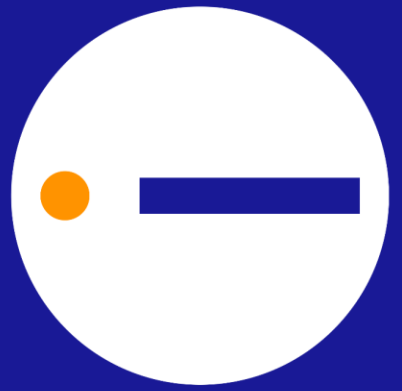
artesia

Water Efficiency Home Visit Enhancement Framework

A Water Efficiency Collaborative Fund Project

05/04/2024



Executive Summary

Water resources across the UK are facing a multitude of challenges that have led to an industry wide PCC reduction target of 110 litres per person per day (l/p/d) by 2050. To achieve this, water efficiency home visits (visits) are a method used to deliver demand reduction and water efficiency interventions to customers. To maximise savings made via this intervention, stakeholders need to proactively review existing guidance and methods for how visits are planned for, delivered, measured and evaluated, and identify potential opportunities for further enhancement. In doing this, stakeholders will advance industry collaboration and knowledge exchange, and continue to proactively develop visit programmes.

Considering the above, this project delivered two core outputs:

1. An independent review of how visit programmes are currently delivered in the UK, with key insights summarised in this report.
2. A framework to support the enhancement of visit programme planning, delivery, and measurement.

This report summarises stakeholder insights relating to:

- Planning and Recruitment: targeting strategy, recruitment methodologies, inclusion and exclusion criteria, and customer sign-up rates.
- Delivery: delivery approaches, tailoring techniques, behaviour change techniques, successful outcomes, interventions delivered, post-visit activities, and added value initiatives.
- Measurement and Evaluation: data and measurement approaches, water saving and visit outcomes achieved, evaluation approaches deployed.

While this project explored a variety of different areas relating to visit programmes. We observed similarities in how stakeholders operate visit programmes, most notably in the offer and installation of water efficiency devices and products.

Differences also emerged in various elements of programme delivery, notably, different approaches to measurement and evaluation meaning comparison of water savings achieved and visit outcomes was challenging.

Building on these stakeholder insights, an enhancement framework was developed that focussed on the following areas:

- Planning phase: big picture thinking and collaboration, pre-planning delivery and training, targeting and recruitment strategy.
- Delivery phase: behaviour change techniques and training, intervention tailoring, post-visit engagement and activities.
- Measurement phase: customer insights and feedback, behaviour change measurement, long term vision and objectives.

With specific reflection on evaluation throughout.

The findings from this report and the visit enhancement framework should be taken forward by visit stakeholders. Specifically, the framework should be used by visit programme managers to explore opportunities to enhance their visit programme.

We conclude with a series of recommendations for how this work should be revisited, revised, and built upon as time progresses.

1. Introduction

Water resources across the UK are facing a multitude of challenges that have led to an industry wide PCC reduction target of 110 litres per person per day (l/p/d) by 2050. Water Efficiency Home Visits (referred to as visits throughout this report) are a method used to deliver 1-2-1 engagement with customers to help reduce water demand.

Visit programmes vary widely across water companies, with various levels of delivery experience, outcomes, approaches, and evaluation. There is a need to update existing guidance and evidence sharing of how stakeholders plan for, deliver, and evaluate visits. In doing this, stakeholders will continue to enhance and improve visit programmes, building on existing effectiveness and efficiency to maximise water savings from this intervention.

In addition, stakeholders need to ensure visits maximise their potential for demand reduction, with current leak repair and product fitting approaches potentially being exhausted and missing the opportunity for enhanced behaviour change interventions that deliver increased water savings.

With consideration given to the above, this project is a three-staged initiative that seeks to facilitate knowledge exchange, maximise cross company collaboration, and apply social science insights to produce a water efficiency home visit enhancement framework. This is a positive, collaborative, and reflective step forward that allows stakeholders an independent review of a key part of activity to support deliver of every water companies shared aim to reduce per capita consumption (PCC). It recognises the experiences and needs of all stakeholders, from those who are yet to embark on a visit programme, to those with extensive delivery histories.

Artesia were commissioned by the Water Efficiency Collaborative Fund to deliver this project due to our extensive experience supporting the water industry in developing and evaluating water efficiency options.

To summarise, this project aims to achieve the following outcomes:

1) Increased industry collaboration and knowledge exchange.
2) An enhanced Water Efficiency Home Visit Planning and Delivery Framework.
3) Increased effectiveness of interventions, specifically to deliver behaviour change.
4) Support to delivery individualised interventions to households.
5) Increased engagement with customer needs and vulnerabilities.

This report follows the following structure:

1. Introduction
2. Stakeholder insights (state of play report)
3. Water Efficiency Home Visit Enhancement Framework
4. Project conclusions and recommendations

2. Stakeholder insights

2.1. Introduction and methodology

Introduction

Section 2 of this report is a summary of the findings from Stage 1 of this project and provides commentary on the insights gathered from a comprehensive stakeholder survey focussed on home visits.

It aims to develop a current state of play of visit programmes in the water industry. This report follows a linear structure summarising the key insights relating to each stage of the visit journey (recruitment, delivery, measurement), with specific sub sections (e.g., added value initiatives) that culminates with a final section to explore stakeholders' wider thoughts and opinions.

This evidence was critically assessed and combined with wider literature and social science insights to create an enhanced home visit framework.

Methodology

As part of stakeholder engagement, 18 different water company representatives were contacted, out of which 14 voluntarily completed and returned the questionnaire, representing a 78% response rate.

Responses were received from a wide range of water companies, of different sizes, geographical locations, metering arrangements, and different stages of the visit journey. Responses were also received from 3 visit contractors. The methodological and analytical process followed in Stage 1 is set out in Figure 1 (overleaf).

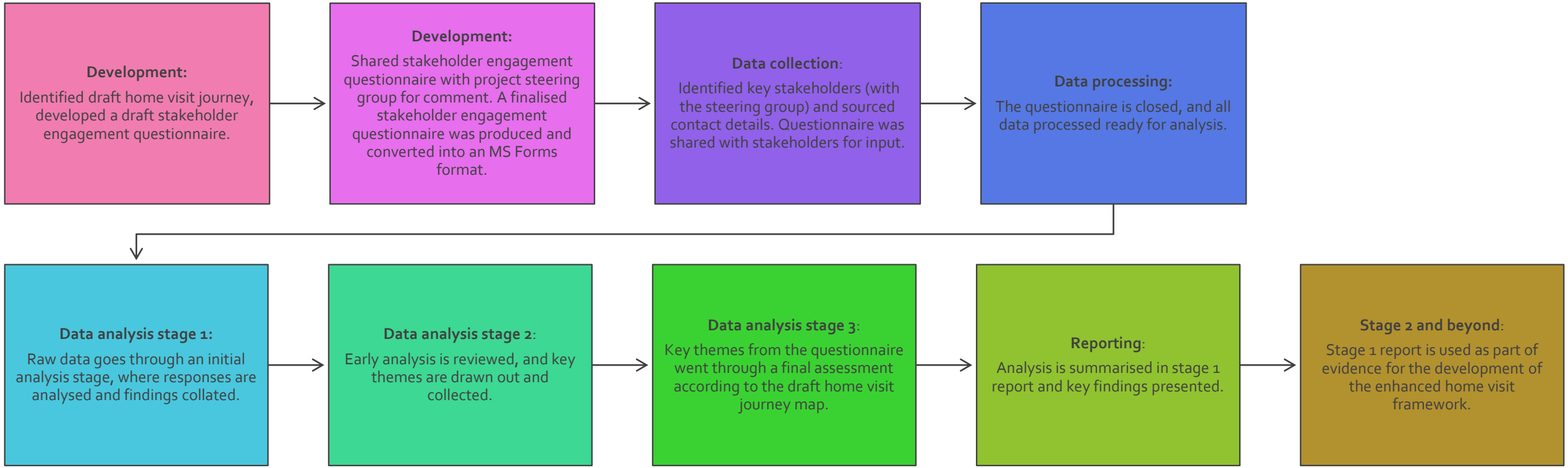
In terms of data quality, views were collected using a standardised structured questionnaire that included choice-based open-ended questions. This facilitated the effective comparison of responses, identification of key themes, and understanding of unique experiences.

However, the data does have some limitations, particularly the influence of conformity and prestige bias in the responses wherein stakeholders may have felt compelled to follow industry trends and did not want to present their organisation in a negative light. To minimise this, responses were anonymised, and this was communicated with stakeholders. Respondents were frequently encouraged to be open and honest throughout, and our analysis suggest that the impact of these biases are minimal.

Questionnaire design may also inadvertently create limitations, for example, the framing and ordering of questions may affect the responses provided. Similarly, unclear frames may result in respondents misinterpreting questions and answering them inaccurately. To minimise these limitations, the questionnaire went through various stages of review to ensure that the questions were clear and logically arranged. Detailed guidance was provided to support respondents' interpretation of questions, thus minimising potential limitations.

2.1. Introduction and methodology

Figure 1: Methodological and analytical framework



2.2. Discussion

We now move on to discuss the stakeholder insights shared and identify key themes and areas for enhancement.

Background

Responses to the 'organisation background' section indicate that the sample of stakeholders is **diverse and representative** of the views and experiences of visit practitioners. Stakeholders had a variety of experiences, spread across different organisations, geographies, and varying roles in visit programme management, delivery, and evaluation.

82% of respondents had **experience delivering home visits**, out of which 71% currently delivered visits at the time of the study and 11% had delivered them in the past. And the remaining 18% of respondents did not deliver home visits at the time of the study and had not delivered them in the past.

While the main aim of the questionnaire was to gather insight on visit programmes, it was deemed necessary to collect the views of other relevant stakeholders such as water efficiency stakeholders who do not deliver visits but have strategic responsibilities to water efficiency programmes. When all respondents were asked about contributions to visit programmes, most signified that they **'oversee, manage, or evaluate' initiatives**. It can thus be concluded that respondents are representative of the overall home visit design, management, and evaluation process. It must however be noted that none of the respondents signified involvement in 'on the ground home visit delivery'. The insights shared by home visit contractors do provide a degree of insight into this, but these stakeholders signified that they also 'oversee, manage, or evaluate' visit programmes. Therefore, this presents a limitation of the study and recruitment strategy. To minimise this, we draw on existing studies and literature that engaged with 'on the ground home visit delivery' practitioners were appropriate.

2.3. Recruitment

Targeting strategy

Participants were asked a series of questions relating to visit recruitment. As part of this, they were questioned about targeting strategies, with **92% of stakeholders** stating that they specifically **target their visit programme** at certain properties.

The vast majority targeted their programmes at **high users**, largely due to the realisation that a minority with high levels of water use skew the overall per capita consumption, so targeting helps to **maximise water savings and ensure value for money**. Defining high users had various definitions, mainly the top 5% of water users (who likely have continuous flow and wastage from leaks), or households that use 400-500 l/prop/d (a fixed consumption value). Similarly, visits were often targeted at metered, or smart metered households specifically, due to the ability to measure impact and so that metering investment and demand reduction savings could be maximised and evidenced in line with financial and regulatory expectations .

Other strategies included certain geographies, or regions such as **water stressed areas** or **specific customer groups** like PSR (priority service register) customers, new builds, or social housing tenants.

Others tied their visit programme to **other company initiatives** and targeted households for visits as such, for example, via wider initiatives to increase meter penetration and monitor and repair leakage.

Recruitment inclusion and exclusion criteria

As expected, customers who are high users, and/or who are metered are often offered a visit by a range of stakeholders. And the exclusion criteria therefore concerned practicalities such as resources and geographical limitations, for example, if a household is not within a certain target area or does not belong to certain categories of target customers such as high users or has had a prior visit within 2-3 years.

Despite the above, a range of respondents stated that the **inclusion criteria is not fixed** and could be overridden in certain circumstances, on a case-by-case basis. Overall, most respondents indicated that customers could access a visit if requested, with only 25% of stakeholders stating that not all households are given access to a visit.

Home visit recruitment methodologies

Stakeholders were asked to discuss their visit recruitment methodologies and given a range of common approaches as well as opportunity to share any other methods they use and provide their thoughts and insight.

All stakeholders made use of **multiple recruitment methodologies**. Figure 2 (next slide) summarises the main recruitment methodologies and the percentage of stakeholders who have used or currently use these as part of their recruitment approach.

Phone calling emerged as the **top method for recruiting customers** for visits, closely followed by email. Half of the respondents also reported using postal invites, with a small percentage making use of website and social media. In addition to these core channels, respondents reported using or having previously used third party recommendations to the visit programme (e.g., from a housing association), door knocking, public event sign-up, and recruitment via other water company operational activity (e.g., meter fitting).

Phone calling was identified as the optimal recruitment channel due to its high cost-effectiveness, conversion rate, and how it enables the discussion about and 'selling' of the visit and its benefits. On the other hand, although **website and social media were identified as the cheapest recruitment channels, they were considered the least effective recruitment channels,** due to limitations in personalisation and targeting of relevant customer groups (e.g., high users) and by extension, low sign-up rate.

Often stakeholders noted that an **effective recruitment strategy used a combination of methodologies**, for example emails and letters to invite and inform the customer about the visit, followed by a phone call to answer any questions and book the visit. Similarly, **indirect recruitment** methods such as **word of mouth** from friends, family, and neighbours and **referral from other services** or working with groups such as housing associations were seen as vital to the **uptake and trust** in the intervention.

2.3. Recruitment

In terms of conversion rate, stakeholders identified a range of factors, some of which are typically out of water companies' control, which influenced whether a visit was ultimately delivered or not. This included incorrect contact details, lack of interest, customer refusal, missed appointments, cancellation etc.

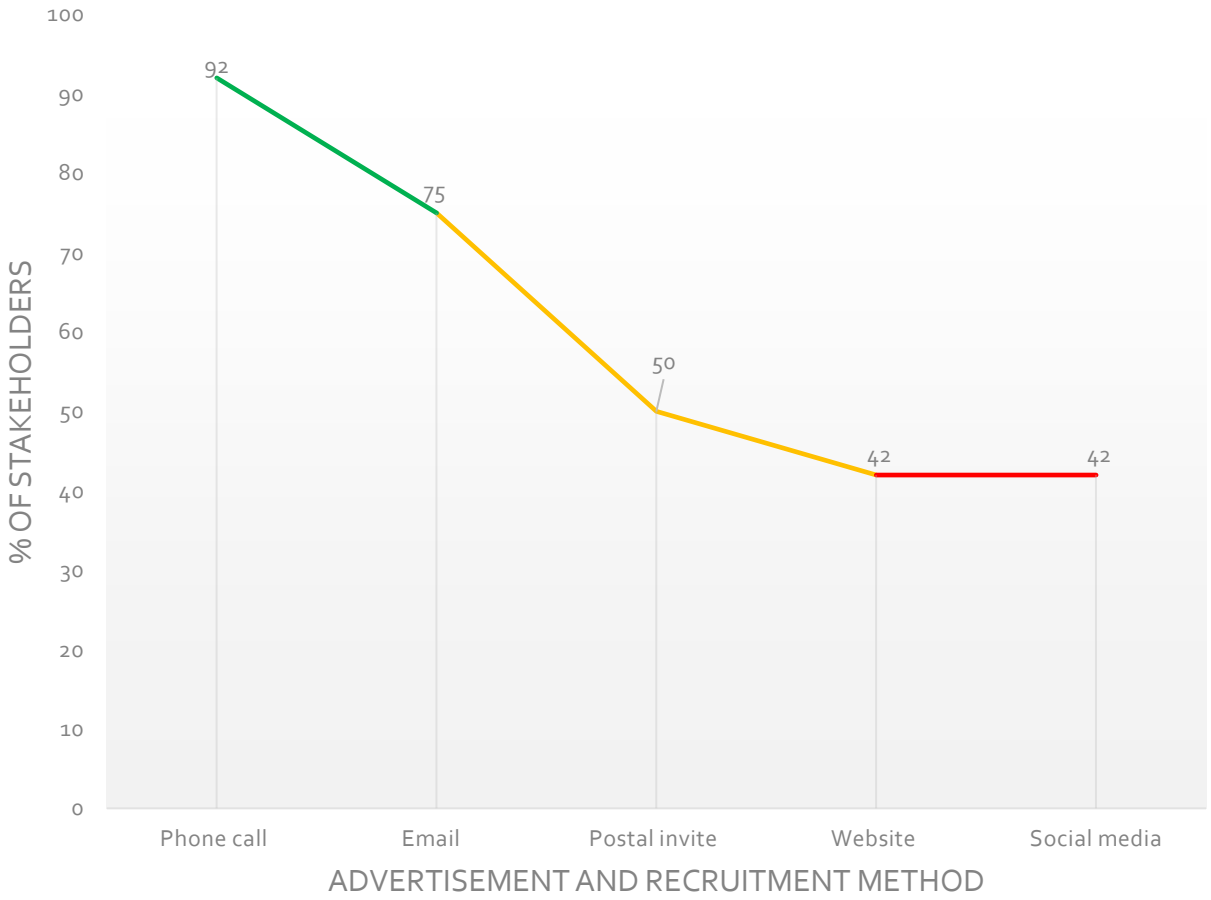
Our examination of a water company case study revealed that phone contact details of 78 out of **100 customers** were known, out of which 62 were correct and 16 were reachable, and **6 booked a visit.** Overall, approximately 8-10% of customers with the correct phone number go on to book a visit.

This aligned with wider stakeholders reports that approximately **10% of customers** approached **successfully take part in a visit**. It was recognised by stakeholders that this is a realistic conversion rate given the realities of customer engagement and represents a good outcome.

Stakeholders discussed **different recruitment approaches** for **different customer groups** or demographics. Anecdotal evidence shared revealed letters can be more effective at recruiting older people who may be suspicious of online methods due to scam fears or lack of access to digital channels. Similarly, specific communications relating to different demographics were seen as useful, for example general financial messaging was effective at leading to sign-ups but tailored financial messaging (to the customers usage as well as their apparent socio-economic status) was found to be more effective.

Finally, stakeholders noted **several challenges** with customer recruitment including **the fear of scamming** (with multiple, reputable recruitment communications seen as effective for overcoming this) as well as **limited organic customer sign-ups** and the **reliance on personal communications** to increase sign-up and strengthen confidence in it being an authentic and free initiative.

Figure 2: Visit advertisement and recruitment methods



2.4. Delivery

We now move on to exploring the visit delivery phase, this section presents findings relating to the deployment of visits, including the practitioners, tools, devices, and methods used to deliver visits to customers, as well as any activity to tailor visits. The findings presented relate to stakeholders who 'oversee, manage, and evaluate' initiatives and has limited input from 'on the ground' practitioners (plumbers, technicians etc.), to minimise the impact of this, we draw on wider evidence and literature that engages with 'on the ground' practitioners. Overall, stakeholders reported visits taking between **30-60 minutes**, trying to **balance to aims of the visit** and delivering effective water efficiency interventions while **not taking up too much customer time**. One stakeholder reported visits taking between 10-15 minutes, principally due to the 'add on' design of their programme (an extra task for wider operational activity).

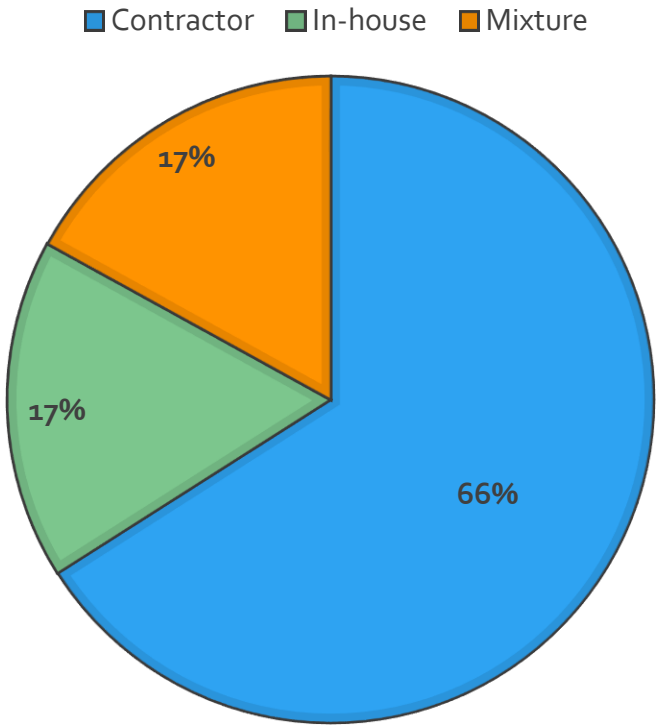
Who delivers home visits

Most stakeholders reported that **delivery is outsourced to a contractor** (66%). Highlighting the complexity of visit programmes and the **range of actors** involved in the visit journey.

Home visits practitioners were largely split into two groups: (1) Plumbers and Technicians; and (2) Advisors, each with different roles and skills sets. Plumbers and technicians were fully qualified to **repair leaks, wastage, and fit complex devices.** This ensured suitability of the product for the system and could provide complete confidence to the household (and water company) on risks from installation e.g. if there is an issue this can be identified and fixed. In some cases, they had a level of **behavioural change training** to engage with customers. Advisors' expertise was largely made up of **communication skills, customer engagement**, and **persuasion capabilities**. They often had basic training to **install and fit** certain (not complex) **water efficiency devices** and could **identify issues like leaks** and **refer or signpost to relevant services** . It is however important to caveat claims of significant behavioural change education on the ground with findings from a recent study conducted by Ajia et al. (2023) wherein 87% of 70 UK residents surveyed reported that their home visits did not include simple conversations about behaviour change.[1]

Training and skills in tailoring visits were seen as vital for practitioners. Often, practitioners received some level of training or guidance for **identifying certain customer groups** and **effectively adapting to the needs of different households**, for example, identifying customers in a socially or financially vulnerable situation, and supporting their needs like direct referrals to the PSR, and tailoring or altering engagement to address **different behaviours in households** including dispositions typical of children of school age.

Figure 3: Delivery breakdown



[1] Ajia et al. (2023) What's next for water efficiency engagement? Listening to UK public and water managers. Link: 0223 IOW Journal.indd (waterwise.org.uk)

2.4. Delivery

Visit tailoring and specifics

Stakeholders reported, that visits included a **fact finding and discovery conversation**, this discussion between the practitioner and customer (or household) would:

- **Identify the water use needs and behaviours** of the household, e.g. Are they a gardener; How do they practice personal hygiene; how do they wash the dishes etc?
- **Identify the household demographics** e.g., any health or medical needs for water use, if the customer is in a situation of social and/or financial vulnerability household occupancy etc.
- **Identify property details** inc. a list of water usage appliances e.g., how many toilets, showers the property has etc.

Stakeholders reported the collection of **varying levels of detail** for this data, but it can approximately be grouped into these three categories. This fact finding may be done through a tour of the home and a discussion, or through a pre-visit call or survey, or as part of the recruitment strategy, or a combination. Overall, these **three different groups of data** were seen as important for delivering an effective visit and to **tailor it to the needs of the household**, maximising the potential water saving.

Behavioural change techniques

Stakeholders were asked if and how practitioners apply behaviour change techniques during visits. This question was open-ended to provide space for individual interpretation and discussion. Largely, the visit tailoring data discussed was the key method behaviour change opportunities were identified and delivered. **Ofwat's principles of customer engagement**[2] was referred to frequently as a source for structuring home visits and delivering water efficiency advice. Respondents referenced using the Ofwat Guidance as a 'behavioural tool' to facilitate **effective reporting** to the regulator and following a **set industry standard.** Although it must be noted that previous studies have critiqued this guidance for being a public engagement framework that was not specifically tailored to shape the delivery and evaluation of water efficiency engagement and have made calls for the development of more prescriptive dedicated frameworks for behavioural change.[3, 4]

Scripts, staff, training, and the engagement tools were identified as methods for facilitating effective delivery of behaviour change education. Some delivered staff training in key behavioural changes and being able to recognise behavioural change opportunities.

Similarly, visits were discussed as being part of a **wider water efficiency and metering agendas**. In some circumstances, a visit which may include behavioural techniques such as **social norm messaging** would motivate a household to enter explore the smart metering offer.

However, stakeholders largely **did not name or explore specific behavioural change methodologies or techniques** used in the planning, designing, and/or delivering of visits. This may be due to limitations in the sample size, questionnaire design, or mere fact that none of the participants in the study were plumbers, technicians or advisors delivering home visits on the ground.

Nevertheless, in line with recent studies (which found that the application of behavioural influencing tactics was particularly lacking during water efficiency home visits mainly due to frontliners not having the socio-scientific knowledge and skills),[4] our findings identified home visit programmes' heavy reliance on products and devices alongside strong indications that the extensive and formal **application of behaviour change techniques** to deliver water efficiency engagement **is limited**. This had wider implications outside of delivery, including difficulties with measurement and evaluation of behaviour change interventions delivered via visits.

[2] Ofwat (2011) Involving customers in price setting – Ofwat's customer engagement policy statement. Link: www.ofwat.gov.uk/future/monopolies/fpl/customer/pap_pos20110811custengage.pdf.
[3] Ajia. (2017) Examining Adaptation Using the Message Actor Channel (MAC) Model of Communicative Water Practices. Link: https://doi.org/10.2166/ws.2017.200
[4] Ajia. (2020) Water efficiency engagement in the UK: barriers and opportunities. Link: https://etheses.whiterose.ac.uk/28778/

2.4. Delivery

A successful home visit outcome

While the desired outcome of a visit may already be clear (to achieve water efficiency), it is imperative to understand the details that underpin this and capture any differences in responses. As expected, most stakeholders listed achieving **water saving and demand reduction** as the top outcome of a successful visit. However, stakeholders noted that the water savings need to be **significant** and **measurable** for the visit to be successful e.g., a lower meter reading post visit or reduced continuous flows/leaks. This is an interesting outcome, with various stakeholders stating that if the **saving is not measurable or significant** then the outcome of the visit is **less valuable** due to measurement and reduction pressures.

Secondary to water savings, stakeholders noted that a successful outcome is linked to **devices fitted** (the number of fittings and related estimated savings) as well as the **suspected behaviour change,** and **customer awareness** achieved. These outcomes related to the water saving outcomes and were often the evidence or activities that drove successful water savings e.g., the more devices installed, the increased likelihood of higher water savings.

A successful outcome also related to **customer satisfaction and engagement**, with stakeholders recognising that a visit was a rare 1-2-1 opportunity to engage with customers to communicate water efficiency, but to also address wider issues such as billing, metering, and PSR sign-up.

Some respondents stated that considering the current **trust issues** water companies are managing, a **good customer experience** via a visit could also be a successful outcome for the wider business and industry.

Finally, a successful outcome was a **water efficiency legacy**, primarily a notable and long-term change in water use. Stakeholders stated that **sustained and measured demand reduction**, in the medium-long term (ideally 1+ years) was the **most successful outcome** of a visit. However, achieving this had several **challenges**, principally **behavioural decay**, and a **rebound effect** where demand would rise following initial reductions (a useful case study is the Heybridge project where fit-and-forget home visits led to a resurgence of usage levels over time[5]). Stakeholders revealed that combating these challenges via follow-up activities (e.g., targeted messaging) is crucial to ensuring a sustained successful visit outcome as long-term water efficiency cannot be sustained on retrofitting alone, this message was in line with wider literature. [1, 5, 6].

Water efficiency devices and products

All stakeholders offered water efficiency devices to households who took part in a visit. We presented a list of water efficiency devices to stakeholders and asked them to report which they provided to visit participants.

All stakeholders provided **water saving tips and literature** and **cistern displacement devices**, with the vast majority also providing **aerated showerheads, tap aerators, shower timers, shower regulators**, and a smaller majority garden hose trigger guns (a full list of responses can be found in Table 1 on the next slide). This result was expected, given that these devices are popular and could be referred to as the 'standard' water efficiency devices offered.

To a lesser extent, there were a series of other devices and products offered, some more experimental, for example **lagging kits, eco-beta, and the bubble stream**. Others included **water butts** (both provided for free and discounted vouchers) and **leaky loo strips**. It's important to note that the listed devices are not provided to all households who take part and are not provided all the time, with variation in the 'on the ground' reality. Stakeholders reported that **devices are provided to those households identified as having a need** (pre or during the visit) and are also affected by availability of these devices and the associated cost of device versus saving benefit of installation (for example, some stakeholders did not offer garden products as the cost against the potential saving was not favourable). Some devices are more willingly given where they can have a water efficiency impact on most customers, for example the cistern displacement device.

[5] Knamiller et al. (2006) Heybridge 2006: Water Efficiency Technology in Everyday Life and People's Perception of Personal Use.
[6] Smith, S. and Shoulder, M. (2001) Sustainable New Homes, Heybridge, Essex. Link: https://doi.org/10.2166/9781780402550

2.4. Delivery

Table 1: Water efficiency devices

Percentage of stakeholders who offer(ed) intervention	List of relevant interventions
100%	Water Saving tips and literature; Cistern displacement device.
92%	Aerated showerhead; Shower timer; Tap aerator kit.
75%	Shower regulator.
58%	Garden hose trigger gun.
25%	Water butts (discounted or free).
17%	Eco-beta; Leaky loo strips.
8%	Tap jackets and pipe lagging; Wall mounted shower head; Lagging kits; Bubblestream; Water butt connector; Universal plug; Kitchen tap dual flow aerator; Plate scraper; Leaky loo fix; Aerated swivel tap; Washing up bowl; Bath buoys; Swell gel; Watermat.

Most devices are fitted by the visiting practitioner, and some easier devices are given to customers to fit themselves. For example, some stakeholders gave cistern displacement devices, aerated shower heads, and garden hose triggers to customers to fit, whereas, others preferred the practitioner to fit all products to ensure it is completed, they are installed correctly, and to give the practitioner an opportunity to discuss the benefits and answer questions. This practitioner driven fitting approach was also completed to ensure hard savings from products installed could be maximised, as it can increase the confidence in these fittings being installed, and therefore enhancing confidence in reported figures.

A review of the list of water efficiency devices installed showed that the vast **majority** may fall under the **'fit-and-forget'** category. In other words, the devices are fitted to achieve water efficiency (reduce demand and/or reduce wastage/leaks) and do not require any active behaviour or routine change from the customer and has minimal impact on the customer (in terms of maintenance, changes to demand or consumption routine) and are therefore forgotten. Stakeholders had well developed programmes of installation, with trialled and refined approaches for these fit and forget devices, and proven histories of demand reduction. These represent a significant success of current visit programmes.

The significance of 'fit-and-forget' devices is logical, as they require little change from customers, are easy to install, and therefore more likely to succeed. However, **opportunities** for devices or products that encourage more direct **behaviour change** are currently **limited**. In the evidence, a **small percentage of devices** required a level of **behaviour change** e.g. a water butt may require a small change in garden watering behaviours. While this may be due to the current product range and market available (with limited 'behaviour change' focussed devices), as new innovations emerge stakeholders should pro-actively participate in trials. Equally, behaviour change via other methods (e.g. behavioural influencing techniques) should be embedded to complement product and device fittings, a rounded approach should be taken that recognises the complementary potential for both to reduce demand.

2.4. Delivery

Post visit

Following discussions of home visit delivery, stakeholders were asked to discuss any post visit activities.

Nearly 58% of stakeholders completed a **post visit customer experience survey**, with 75% having currently or previously conducted them. Generally, **customers** responded **positively** to the visit, with stakeholders noting that customers commented on the design of the visit and the outcome. The frequency and targeting of these surveys varied widely, from ad hoc occurrences to random households, to scheduled surveys to all households. These surveys largely focussed on **customer satisfaction** with the visit journey (recruitment, delivery, post-visit) to **monitor performance and improvement**. However, some stakeholders also questioned customers on **behavioural changes** and **sustained water efficiency changes** to understand the sustained impact of visits.

More broadly, half of stakeholders completed wider follow-up activities in addition to customer surveys. This included follow-up activities such as **leak fixing, PSR and wider services registering** as well as **second visits** (where the first could not be fully completed). It also included **water efficiency communications and messaging**. While there was limited reporting of this, of those that did follow up with visit recipients, this included a follow-up summary report, further advise and water efficiency guidance as well as usage reminders or nudges.

While the number of stakeholders who reported follow-up water efficiency **communications and messaging** was low, this was recognised as a **crucial aspect to achieving sustained water efficiency** and demand reduction, and minimising behavioural decay. This may be achieved by wider water efficiency activities such as general customer communications and water efficiency activities, but more specific and tailored follow-up activities to visit recipients may help improve successful outcomes.

Second home visits

Stakeholders were asked about circumstances where a **second home visit** may be offered to a household and the majority **did not offer this**. Circumstances where a second visit may be accommodated included:

1) if there was an issue with or additional work required after the first visit e.g. kit failure, leak fixing,
2) if a customer remained a high users after the visit (and they were originally offered a visit due to this),
3) after a certain amount of time had passed (2-3 years) to reflect maintenance and behavioural decay,
4) if a new occupant had moved in (and it in then technically a new household),
5) if the customer requested it.

stakeholders reported that the inclusion and exclusion criteria was a balance between achieving a return on investment (in terms of water saving) and the needs of customers, and if a customer requested a second visit (for a valid reason) this could often be accommodated.

2.4. Delivery

In-person vs. online

The Covid-19 pandemic presented a challenge and unique opportunity for stakeholders to delivery effective visit programmes. In response to the pandemic, several water companies and contractors offered 'online' visits, and in this questionnaire, we wanted to understand how many companies continued this activity and any learnings from delivering visits online.

As presented in Figure 4, all stakeholders had an in-person provision for home visits, 66% of stakeholder's delivered visits entirely in person, with 17% delivering them online (but having offered virtual in the past- see Ajia *et al*. (2021) for a case study [7]) and 17% continuing to offer virtual and in-person delivery. Therefore, **most stakeholders offer visits via in person means**.

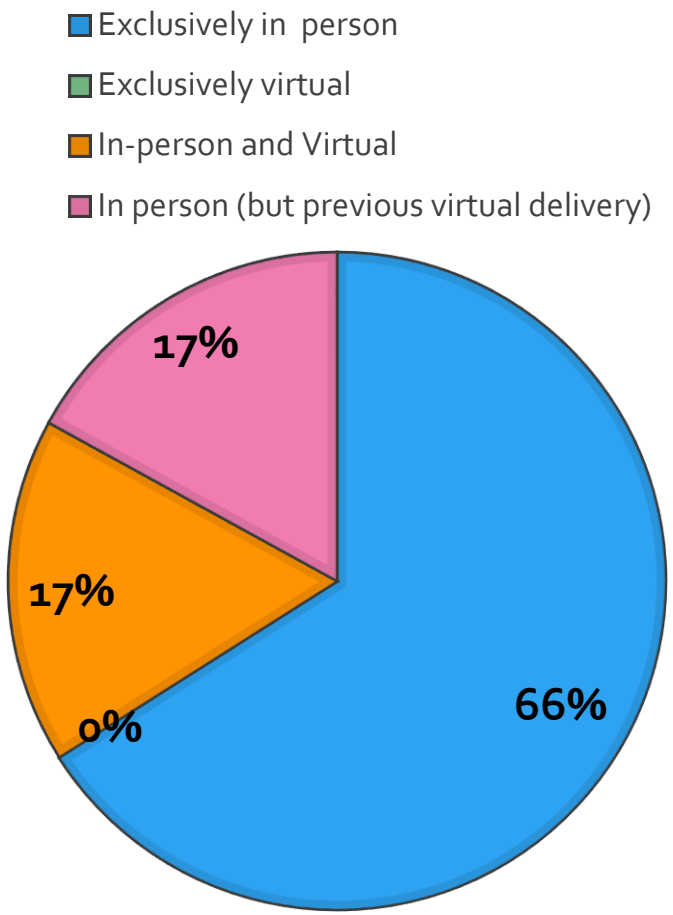
When questioned on their response, **in-person** was largely championed as the **more effective delivery** method due to three key reasons:

1. Stakeholders could ensure devices are fitted and fitted correctly,
2. visits could be tailored better to the household and customer engagement was of better quality,
3. better confidence in reporting on water efficiency, devices installed, and assumed savings.

Stakeholders noted that **virtual visits** can **reduce logistical issues** (in terms of geographical based delivery) due to the virtual nature, in certain circumstances they **can be more convenient** for the customer and could be seen as **less intrusive** (e.g., a stranger is not entering they home). However, stakeholders also reported that virtual visits can be **awkward** as the customer needs to carry the device around the home and can produce **less effective engagement and water efficiency outcomes** (lower water savings), for example leaks may not be identified and repaired in a virtual visit and Wi-Fi may not reach certain areas of the home (like the garden) and therefore limit discussion in this space. In addition to this, **customers may not want to fit devices** on the call and as a result may not fit them altogether (impacting the confidence on water efficiency devices installed). Finally, stakeholders reported that **cancellation rates for virtual visits are higher,** and they have **lower uptake** than in-person.

On balance, the limitations of current virtual visit delivery methods outweighs the potential benefits, and in-person delivery is more effective at achieving demand reduction and water efficiency outcomes. However, recent experiences with virtual visits reveal opportunities to engage with wider customer groups who may experience barriers with in-person delivery, for example those that may find it inconvenient or intrusive.

Figure 4: In-person vs online home visit delivery



[7] Ajia et al. (2021) Mobilising the public to reduce household water use in Essex and Suffolk Water. Link: https://eprints.whiterose.ac.uk/184920/

2.4. Delivery

Added value

It was recognised that while visit's primary objective relates to water efficiency, they provide a rare 1-2-1 interaction with customers and are an opportunity to communicate wider water company needs and initiatives. Stakeholders were asked about any 'added value' activities conducted across the home visit process.

The core additional activities reported were:

1) **PSR** and vulnerable customers registration and signposting.
2) **Affordability advice** and signposting.
3) **Metering and billing** queries and signposting.
4) **Leak repairs**.

Often stakeholders wanted to balance the 1-2-1 opportunity with not deviating from the main water efficiency aim of the activity.

As water use often relates to wider resource consumption and production (energy, food, waste), we asked stakeholders if wider resources are discussed and explored in visits, and 83% reported that to some degree they are. This largely related to the connections with **water and energy consumption** via hot water use and the **cost-of-living crisis** . Some stakeholders offered **advice relating to energy and water use** (e.g., discussing the connections between both), while others offered services such as an **energy cost saving calculator** relating to water efficiency as well as signposting to **energy efficiency initiatives and information**. One stakeholder even discussed trialling a collaborative energy and water efficiency audit.

Other examples included the connections between **water and waste disposal**, for example sink use and toileting flushing (and avoiding disposing of things like fats, oils, and grease in sinks as well as *unflushable* bathroom items in the toilet) so as to prevent sewer blockages. Some stakeholders provided advice in this area while others offered specific devices and products such as gunk pots (to dispose of fats, oils, and greases between dishwashing).

Overall, **added value opportunities** present an opportunity in visits to both **further** the **water efficiency aims** of the intervention while also **delivering wider water company and sustainability initiatives**. However, careful thought needs to be given to how added-value initiatives are delivered and whether they **impact the core demand reduction aim** of the visit. For example, too many 'added value' initiatives, could dilute water efficiency activities and overwhelm the customer. Careful attention should be paid to how, when, what, and why added value initiatives are delivered during a visit and how these interact with the core water efficiency message.

2.5. Measurement and evaluation

Post-delivery, evaluation of the home visit and measurement of the water savings achieved are vital and this study sought to explore how they are conducted and reported on.

Data and measurement

Stakeholders were asked about the type of data collected during home visits. Table 2 summarises the different types of data collected by stakeholders, with **water efficiency data** being the main source of data collected **due to reporting and monitoring tasks** following visits. In addition to this**, demographic data and property data** were collected for **post-visit analysis purposes.**

In terms of specific **pre and post visit water consumption analysis**, 75% of respondents reported conducting this, however, the frequency and granularity of this varied. Some stakeholders used smart meter, high resolution data and tracked changes over time, while others used a sample of meter data, some also reported using control groups of similar properties which had not been visited to monitor savings.

In terms of **measuring behaviour change**, stakeholders largely focused on **water savings achieved** (with varying approaches to this) with minimal activity to separate the impact of behavioural change from other measurable interventions (leaks fixed, devices fitted etc). While no explanations were given for this, it is likely due to the **difficultly in accurately measuring the impact of specific water efficiency interventions** which is linked to lack of data, data granularity issues, difficulty in isolating the intervention within wider data noise etc. As findings from Ajia's (2023) study of next steps for water efficiency engagement also indicated, understanding how behaviour change can be measured and evaluated is an area that water efficiency managers expressed a desire for specialised support and further exploratory work. [1]

Stakeholders were asked about any differences with measurement and evaluation for in-person and virtual delivery methods. While a majority of the sample did not deliver virtual visits, when they did, the measurement and evaluation methodologies were often the same as in-person. However, it was reported that the **savings claimed** from **virtual visits** are **substantially lower** as leak repairs are not carried out, online education is significantly less engaging than in-person, and stakeholders could not guarantee that devices and products were installed and fitted correctly.

Its important to note that not all stakeholders collected the data summarised in table 2. Likewise, they collected varying volumes and frequency of this data and there were methodological differences in how outcomes and savings were measured, making **direct comparison of approaches and outcomes challenging**.

Table 2: Data collected during the visit journey

Data type	Summary
Water Efficiency Data	Fixtures and fittings installed, literature provided, leaks identified/repaired, assumed of expected savings.
Demographic Data	Occupancy, whether children are present, health and medical needs etc.
Property Data	Ownership, property age, property type, micro-component data (what, age, model, frequency of use, number of appliances) etc.
Metering and billing Data	Meter status, bill frequency, contact details
Wider Water Efficiency Data	Qualitative data on the types of behaviour change etc.
Home Visit Data	Wider data on how the visit went, any issues, follow-up, and referrals etc.
Other Data	Estimated energy saving, carbon saving

2.5. Measurement and evaluation

Water savings and behaviour change achieved

While stakeholders had different approaches to measurement, making direct comparison of outcomes achieved difficult, **average water savings** achieved ranged from **40 L/Prop/D – 86 L/Prop/D**, with large savings often attributed to high use households and those with leak fixes. The lack of a uniform approach means that **differences in water saving achieved may be due to different measurement methodologies** and not related to actual differences in achieved savings (and differences in home visit outcomes). This builds a case for a uniform approach for measurement and evaluation of home visit outcomes.

Figure 4: Stakeholder case study of example savings range for different interventions delivered

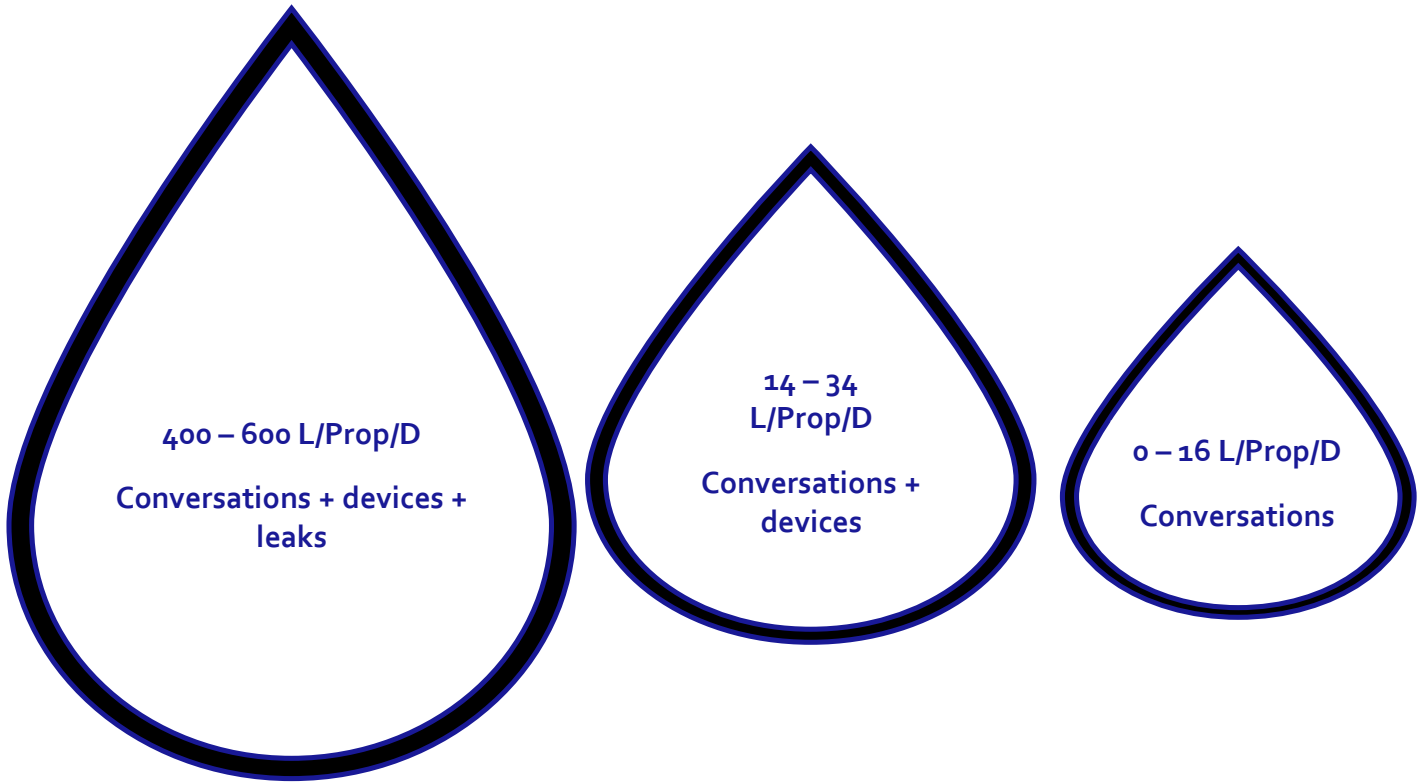


Figure 4 is an illustrative case study from one stakeholder and presents a sample insight into the potential range of savings that can be achieved through current home visit interventions. It's important to note that this is a case study and not a reality for all stakeholders and all households offered a visits, for example the higher end of 600 L/Prop/D potential saving is possible for only a small proportion of properties and not a reality for all.

Stakeholders noted how the end saving was affected by three key factors:

1) **Targeting regime**: which customer groups have been targeted and provided with a visit? For example in targeting high users they have a larger potential for saving.

2) **Type of audit and interventions offered**: are leaks (usually customer side) identified and fixed as part of the visit? What devices and products are provided and installed? What wider communications, literature-sharing and conversations take place?

3) **Add-on factors**: for example, fixing leakage (customer-side and supply-pipe), metering/smart metering fitting (if they haven't already got one).

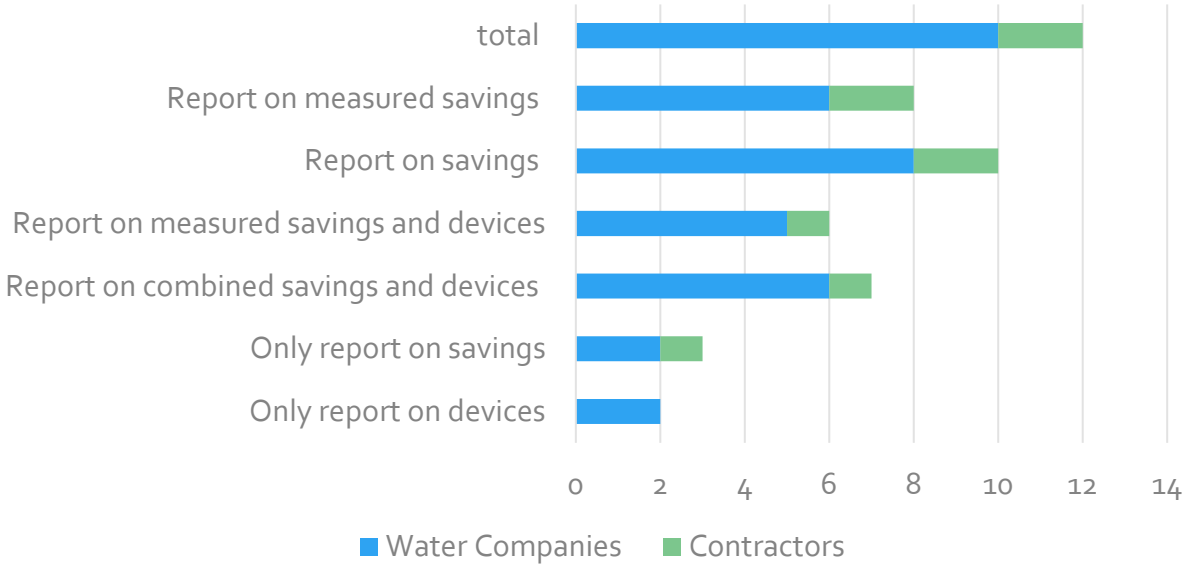
Finally, we gained some insight into whether water savings achieved via visits are sustained into the medium-long term (1+ year post visit). Several stakeholders commented on the appearance of **behavioural decay within 12 months** of the visit, with the **initial level of savings achieved often not sustained**. Follow up engagement, was recommended, to minimise behavioural decay and to ensure savings made are sustained and maximised.

2.5. Measurement and evaluation

Reporting and evaluation

There was **no standard approach to evaluating and reporting on home visit outcomes**, with subtle differences in how stakeholders approached this topic. Figure 5 summarises the approaches taken to reporting on home visit outcomes, revealing the differences across the sample. Most stakeholders reported on savings (10 stakeholders) with a smaller percentage reporting on measured savings specifically (8 stakeholders), and others reporting on assumed savings. To a less extent, some stakeholders reported on savings and devices (installed or provided) (7 stakeholders). Finally, 3 stakeholders reported only on savings and 2 stakeholders reported only on devices. While reporting on measured savings and devices installed may be perceived to be the optimal approach, current data and practical limitations mean this may be difficult for some stakeholders to achieve.

Figure 5: Reporting on home visit activities



In reporting the ways that data collected are used, stakeholders mainly cited **monitoring and reporting purposes** both internal and external to the organisation (e.g. to the regulators), for WRMP and business planning, monitoring delivery, as well as for tracking investment and the performance of contractors, although it must be noted that this is not an exhaustive list.

Second to this, stakeholders reported using this data for **programme improvement**, largely to track if desired outcomes were achieved (demand reduction etc.) and how this varied across different properties, demographics, and over time. The level of detail involved in this kind of analysis varied, with some stakeholders using it to set and monitor visit targets, others sharing it with other departments for further water efficiency engagement with customers, and other uses involving tracking outcomes of different interventions and devices installed and monitoring water savings over time.

However, **more attention** may need to be paid to **how programme improvements are designed and enacted**, as recent studies suggest that 87% of practitioners who claim to learn from failures of water efficiency interventions do not document such lessons and at least 1 in 5 do not have a repository for campaign activities. [1]

Overall, although stakeholders did not provide insight into why they adopted different measurement and evaluation regimes, this is likely due to **data limitations** (e.g., access to meter or smart meter data), **practical and resource limitations** (e.g., they do not have the resource to conduct this level of analysis), **different organisational priorities.**

As access to (smart) data improves, industry could seek to create a **standardised or best practice approach to measuring and evaluating home visit outcomes** and water savings made. This would support effective comparison and support measurement and reporting approaches to be optimised. The evidence collected did not allow for the identification of an optimal approach to measurement and evaluation, however best practice principles included; using the best available data, using mixed methods data and conducting data triangulation were possible, establishing savings and outcomes achieved, monitoring behavioural decay over time, and ensuring findings feed back into future visit delivery.

2.6. Stakeholder recommendations

Finally, we asked stakeholders to reflect on their thoughts and ideas for how visits could be improved to increase demand reduction and behaviour change achieved. Their recommendations include:

- **Continued and tailored engagement post visit:** continued water efficiency interventions, the benefits of repeat visits, tailored nudges e.g. personalised messaging and communication, and water usage updates.
- **Greater use of smart meter data**: to target recruitment, enhanced interventions, personalised messaging, and continued engagement and monitoring.
- **Coordinated and continuous review of interventions and incentives**: to monitor, evaluate, and share outcomes across networks.
- **Enhanced behaviour change opportunities**: to maximise savings and achieve targets.
- **Standardisation**: in how visits are delivered, measured, and evaluated, and reported on.

When asked about specific areas where stakeholders require support, the following themes were presented (ranked in order of magnitude):

1. Support with **measurement.**
2. Support with **comms and engagement** (uptake and effectiveness).
3. Support with **program efficiency** (ensuring value for money vs. water saving).
4. Support with **product and intervention efficiency** (ensuring resources are spent on the best products that achieve the highest sustained saving and are within a reasonable price bracket)
5. Support to **understand other companies' activities**.

2.7. Stage 1 conclusions

Section 2 of this report set out to summarise the key findings of our stakeholder engagement (project stage 1), and insights relating to the water efficiency home visit experience were collected. This can be summarised as a state of play presentation of how industry currently conducts water efficiency home visit programmes.

Expectedly, findings suggest a significant degree of **similarities in how stakeholders recruit for, deliver, and evaluate visits**, most notably in the offer and installation of water efficiency devices and products. This is due to industry collaboration and standards, as well as the role of home visit contractors in supporting multiple water companies.

Despite the degree of uniformity, there were elements of **diversity in how stakeholders approached visit programmes**, with varying outcomes, recruitment methods, and measurement and evaluation techniques. Notably, the different approaches to measurement and evaluation meant comparison of water savings achieved and visit outcomes is challenging. Due to the different levels of experience with visits, a range of different thoughts and experiences were shared.

Finally, stage 1 of this project identified a series of recommendations and points of improvement shared by stakeholders, these were taken forward in the development of our enhanced visit framework (stage 2).

3. Water efficiency home visit enhancement framework

3.1 Framework development

Following our stakeholder engagement activities, we worked with the insights shared and wider visit literature to formulate our home visit enhancement framework. The methodological approach taken to develop the framework is presented in Figure 6.

The framework received input and comment from a range of stakeholders as part of our project steering group.

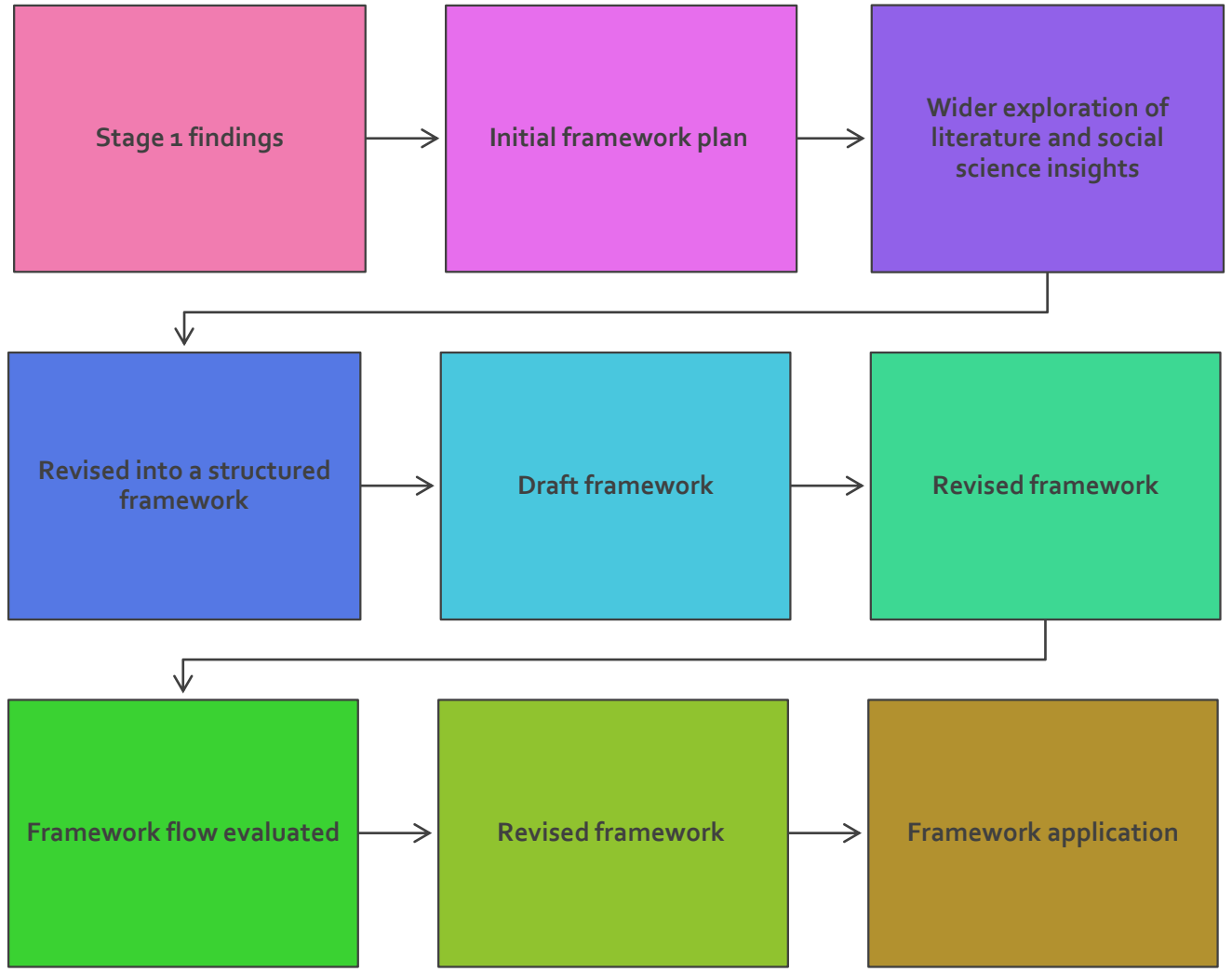
In the design of the framework, we opted for a cyclical process with suggested activities often following an evaluation and evidence-led approach to improvement. The framework was not designed to be completed in a linear order, but to identify various activities relating to different visit programme stages that could be conducted to enhance outcomes.

This framework has been designed using evidence and insights from household visit programmes, and while there are extensive cross-overs in how water is used in the household and non-household setting, we would urge caution when applying this output directly to non-household programmes. This is due to differences in how water is used in these settings and how non-household visits are recruited, targeted, delivered etc.

Finally, the framework is not an exhaustive list of relevant activities to build a visit programme, instead it sets out a series of balanced and accessible activities stakeholders could pursue to enhance outcomes.

This report will now lead onto the framework:

Figure 6: Framework development methodology



Water Efficiency Home Visit Enhancement Framework

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What is this framework?

This framework aims to support practitioners to enhance the delivery and outcome success of their home visit programmes. Working with a range of home visit stakeholders and drawing on existing literature, we have identified a series of gaps and created a task-based framework that focuses on these topics. While this framework is designed for household visits, there are learnings relevant to non-household visit programmes.

Who is the intended audience?

The primary audience for this framework is individuals that manage and oversee home visit programme delivery, principally, water company representatives. This framework can be used independently or as a group. If completing on your own, we suggest you at least engage with others in your organisation who are involved in your visit programme (for example, communicating your outcomes from completing this framework).

The framework has been designed to provide practitioners with opportunities to enhance home visit programmes, ranging from those who are in the early stages of development, to those with extensive experience of delivery and development.

Several tasks contained within this framework require participation with a wide range of stakeholders, including; water efficiency teams, visit delivery teams (plumbers, advisors etc.), recruitment staff, media and digital teams, customer engagement, marketing and communication teams, contract management teams, data and reporting teams, senior leadership etc. Strong links with your collaboration network throughout this framework will likely maximise the benefits.

How do I use this framework?

This framework opens with a training activity for you and your visit stakeholders to conduct, this focusses on the individual household level. The framework is then split into three phases (planning, delivery, and measurement) and three core themes in each phase that have been identified as areas for enhancement. Each of these themes has a series of activities for you to complete, these are designed to help you explore opportunities for visit programme enhancement and maximise your outcomes. Evaluation is encouraged throughout, with specific reflection at the end of each phase.

While the design of this framework follows a linear visit programme journey (planning, to delivery, to measurement with evaluation woven throughout), you should attempt to complete the activities in advance of each phase, especially the delivery and measurement focussed activities.

Finally, the framework has been designed in a modular fashion, allowing users to focus on one phase at a time, or one of the three core themes in each phase, and move through the relevant activities. You should return to this framework at regular intervals and redo specific activities to understand changes and improvements in your programme.

What will I need?

We recommend you open an accompanying working document to write down your ideas, actions, and plan how you will take the activity forward. It is up to you how you record and action each activity. You may want an individual document(s) if working independently or you could create a shared document or interactive tool if completing the framework with others.

Individualised Demand Reduction

To open this framework, we invite you to start at the household scale, follow the customer journey, and produce an individualised demand reduction plan. Starting at the household level, helps to link the wider management of your program to the on the ground reality.

For the individualised demand reduction plan, we **do not** propose that this activity is completed for each household. Rather, this is a training resource for you and your visit stakeholders to conduct, based on your knowledge of your own visit programme and evidence collected (this can be physical evidence or anecdote).

Below we set out the overarching customer journey and identify different touch points for individualisation. In this activity consider the following:

1) Understanding diversity and inclusivity: how could customer needs differ in each stage?

2) In each stage what do you do in terms of individualisation for each household?

Jot down a series of bullet points and actions to form your individualised demand reduction plan.

Consider repeating this activity at regular intervals or after you have taken steps to enhance your visit programme.

Planning Phase

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Current Approach

To start this part, please read section 2.3 of the stakeholder insights. This summarises the current industry approach to the recruitment phase. Now summarise your approach to visit planning and recruitment, note down a series of bullet points of your key stages and processes.

Laying the groundwork: big picture thinking and collaboration

This theme aims to get you to consider the bigger picture of your visit programme and establish your visit programme stakeholders.

Identify the long-term vision and specific objectives of your visit programme.

When identifying your long-term vision, define what success would look like across a certain period. For example, what would customer water use look like? What would the value people place on water be? E.g. We want to have provided water efficiency interventions to all customers by 2050.

When considering your visit objectives, you could think about this in terms of your organisational context and broadly such as its contribution to society, people, and the environment. This might include contributing to PCC targets, improving customer engagement, improving water literacy in society, enabling people from all communities to access water efficiency, ensuring water using behaviours are water efficient. Make sure to ground these in your wider organisations planning processes including your WRMP and business plan demand reduction aims.

Identify who is involved in your visit programme (this is your collaboration network).

This could be considered the most important step when looking to enhance your programme. When identifying who is involved be specific to your organisation and programme arrangements (use names if known). Taking advantage of this collaboration network through this framework could help you incorporate a range of insights and maximise your outcomes.

Identify your collaboration network's role in your visit programme.

For each stakeholder in your collaboration network, you could consider: 1) What is the aim of this stakeholder's role in the visit programme?, 2) what does this individual do to support the delivery of the long-term vision and visit objectives?, 3) What influence does this person have over a customer (directly – via a visit, indirectly – via the recruitment phase, customer engagement, via the design and evaluation of the programme).

Identify the avenues for collaboration.

Now that you have defined your collaboration network, you could identify your mechanisms and opportunities for collaboration. This activity gets you to consider how every stakeholder involved in your programme contributes to the design, refinement, and delivery of your programme. To start with, you could consider how you communicate and work with each stakeholder (if at all) in the planning phase.

Enable stakeholder feedback mechanisms to identify successes and challenges.

After identifying your avenues for collaboration, you should put in place opportunities for your programme stakeholders to share feedback, insights, and thoughts, this could be focussed on identifying the successes and challenges of your programme. This could include, a regular stakeholder survey, focus groups, on the ground chats with practitioners, a stakeholders' forum, a co-production workshop etc.

Pre-delivery Planning and Training

Now that you have thought about the overarching vision, objectives, and the collaboration needs of your programme, this theme invites you to consider some pre-delivery planning activities and training. This is not an exhaustive list, but a series of activities that may help you enhance your visit programme.

Identify what training and resources recruitment and delivery practitioners receive before a visit.

To start with, you could identify all the training opportunities and resources your recruitment and delivery practitioners receive before a visit, to help you understand your current context. Training might include delivery training, vulnerability training, diversity training, complaints training, device fitting and leak fixing training. Resources might include, visit scripts, water efficiency literature, tips and guides, household data, and planning resources. You might want to complete this task with members of your collaboration network.

Review this information against your vision and objectives.

it is important that your vision and objectives align with your current training and delivery resources. Work with your collaboration network to understand the reality of how your vision and objectives are understood.

Consult your recruitment and delivery practitioners on the training and resources provided pre-visit.

The views and evidence of your recruitment and delivery practitioners could provide valuable insights you might not have access to. Take advantage of your enhanced feedback mechanisms to collect insights on how useful these are, any gaps they would like support with, and their ideas for improvement.

Review these gaps against your current training, resources, and data and consider what opportunities, capabilities, and resources you could enhance.

Having identified some gaps or opportunities for enhancement with your recruitment and delivery team, now consider how you could practically build on and embed these ideas in your programme, balance your ambitions with your resource and capabilities.

Cost Benefit Analysis.

You will need to embed cost benefit analysis for new innovations, trials, and approaches. You can follow your own approach to this or consider the following: a) Identify the strengths and weaknesses, b) develop or obtain detailed costings from supplier, c) compare the expected monetary costs and intended benefits to understand viability (do this internally and with any contractors), d) review the cost of your innovation, trial, or new approach against your current budget, e) build a case for a new budget (uplift, re-allocation) if necessary. Think broadly about how you define and measure a benefit; how can you do this according to your vision and objectives and what metrics you can use to measure.

Review your contract arrangement with your delivery contractor. Identify any gaps or opportunities for enhancement.

It's important that every part of your vision and objectives are recognised here, for example, you could consider how water reduction, water literacy, devices fitted, behaviour change, etc. are all reflected and accounted for, this is especially important if you are embedding new interventions, activities or trials you have not delivered before. Consider how well your a) delivery approach, b) performance metrics, c) contractual incentives, align with all your visit vision and objectives.

Targeting and Recruitment Strategy

Moving on from your initial review and activities to enhance your planning and training activities, you could consider how your targeting and recruitment strategy could be refined.

Identify your current method(s) of recruitment and map out your customer visit journey.

Consider the method(s) you use to recruit customers for a visit and map out the customer visit journey. When exploring the customer journey consider each stage of the visit programme, from identification to delivery. If you use multiple recruitment methods, consider any differences for how a customer goes from identification to successful delivery, for example, are there multiple customer contact points between identification, approach, and delivery. You might also want to consider your conversion rate and the challenges in achieving sign up and identify who in your collaboration network is involved in each stage.

Review your targeting strategy.

If you have a customer targeting strategy defining the how and why is crucial to ensure you consider all opportunities. When reviewing your targeting strategy, you could identify the following: a) who you are targeting, b) how you are identifying these customers, c) why you are targeting them. You should also review your customer journey in the context of your targeting strategy, you could consider the following question: does the customer journey differ for different targeted customers? if so, how and why?

Conduct a horizon scan of how other companies recruit customers, and wider customer engagement activities within your organisation. Identify any new opportunities to trial.

You can use the insights section in this report, and wider literature to understand wider recruitment approaches you could trial. As visit programmes progress and change, it's important to keep up to date with the latest innovations in how customers are targeted and recruited as well as opportunities for visit recruitment across your whole organisation. For example, have you considered how secondary recruitment methods such as word of mouth, refer a friend scheme etc. could benefit your programme?

Collect and review insights on your targeting and recruitment strategy.

Collecting and reviewing a broad set of insights on your targeting and recruitment strategy could help you take a whole view approach. You could explore the following: a) Are your visit vision and objectives translated effectively to customers, b) how do we keep customers engaged throughout the recruitment phase, c) are you using data effectively to identify, target, and recruit your target audience, d) is your visit recruitment and targeting strategy inclusive of the needs of all customers in your target pool. You could consider the following approaches to collect insights; conversion rates, stakeholder feedback, customer demographics, customer survey, recruitment 'mystery shopper', post-visit data analysis, shadowing of recruitment activities.

Combine all learnings and update your targeting and recruitment strategy.

Start with actionable steps, and ensure new approaches are trialled and evaluated. Key points to remember in this stage include, being data driven, using modelling in your targeting and recruitment could help you to accurately predict and improve savings, embedding new data from emerging smart metering agendas and collecting more data could help you refine your approach, make sure to explore any unintended consequences, for example, you should consider include a random subset of properties to accurately assess performance of your targeting strategy and visit programme.

Evaluation: Ensure you establish an evaluation feedback loop to drive reflection and improvement. This may include building findings and insights into your future planning, delivery, and measurement activities as well as wider organisations planning (such as WRMPs and business plans). Consult with the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives.

Delivery Phase

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Current Approach

To start this part, please read section 2.4 of the stakeholder insights. This summarises the current industry approach to the delivery phase. Now summarise your approach to visit delivery, note down a series of bullet points of your key stages and processes.

Behaviour Change Techniques and Training

Review the Behaviour Change Technique taxonomy presented in the CCW Desktop Review of Behaviour Change. This presents an accessible and credible summary of behaviour change approaches, lots of which are already used across water efficiency. Some of these could be combined and you do not need to use all of them, they show the range of techniques available to you. For ease, we have summarised some of their findings below, highlighting key behaviour change techniques for use in visits with additional commentary.

Goals and planning : This could include households setting goals, making a commitment, and planning for how a behaviour could be performed. Your delivery practitioner could support this and provide literature, this could feed into post-visit activities.

Social support: Household members could be encouraged to support each other to make behaviour changes, you could also explore options for getting households to engage with others for support.

Shaping knowledge: Practitioners could provide knowledge and instructions on how to perform a behaviour to promote water efficiency, households could be encouraged to experiment and trial new behaviours that reduce their water consumption. This could be supported with wider materials e.g. how to videos.

Associations: Practitioners could provide prompts and cues to households on water efficiency. This could also be done in post-visit engagement activities.

Comparison of behaviour: Practitioners could draw households' attention to how their behaviour compares to others. This could also be done in post-visit engagement activities (e.g. through meter data comparisons).

Comparison of outcomes: Practitioners could prompt households to think about and explore a future outcome of changed vs unchanged behaviour, comparing the pros and cons.

Identity: Practitioners could frame the behaviour in a way that appeals more to the household, draw on their ideals, morals, and self-identity. This may be difficult to do pre-visit and requires a level of during visit conversation and chatter, yet with information gathered during the visit this could become part of post visit engagement activities.

Natural consequences: Households could be informed and reminded of the environmental, social, or health consequences of a behaviour.

Covert learning: Practitioners could prompt households to imagine the negative consequences of an unwanted behaviour or the positive consequences of a target behaviour. This could be reinforced from post visit engagement activities.

Repetition and substitution: Repeating a target behaviour until it becomes a habit is crucial to demand reduction, and this can be supported through pre, during, and post visit activities and literature, and can be achieved through physical and digital means. You could consider a staged approach to this.

Feedback and monitoring: This could include getting households to self-monitor behaviour, and households receiving information or evaluative feedback. This could happen live in the visit, or through follow-up actions.

Behaviour Change Techniques and Training

Now that you have reviewed the behaviour change techniques you could use in your visit materials, we now prompt you to consider a series of tasks to enhance your visit programme.

Identify your current visit interventions and literature that align with the behaviour change techniques and identify any gaps or opportunities for enhancement.

Here it is important to consider all interventions, literature, and resources that are used during the visit. You could also consider the pre-delivery training your practitioners receive. For example, this could include the visit scripts, the materials provided to the household (instructions, stickers, etc.), any specific behaviour change products. It might be useful to get a couple of different stakeholders to complete this task and compare findings. While this relates to the delivery phase, we advise that you complete it before delivery and incorporate findings into your planning activities.

Consider how your behaviour change interventions identified link to and compliment your product and device installation activities.

As this framework is focussed on opportunities for enhancement, and industry evidence indicate that product and device fitting are currently done well across visit programmes, we have not directly engaged with product and device-based interventions. However, it's important to consider how all interventions link, and drive your vision and objectives. For this task you might want to consider the following: what water uses are your product and device installation activities targeting? How (if at all) does this overlap with your current behaviour change interventions and literature? In terms of interventions for specific behaviour changes, are there any gaps in your whole view intervention list?

Can you identify any opportunities where these gaps or opportunities for enhancement could be improved? Create a plan of action.

Having considered your current interventions and literature in the context of the behaviour change techniques, and the connections to your product and device fitting interventions, you could now develop a plan of action to take forward for future delivery. Think about the following areas: Do you have any gaps in knowledge? What support and expertise might you need to engage with to develop these? What capabilities and resource gaps, in terms of practitioner training, planning and delivering resources, feedback mechanisms, might your visit programme have, how can these be overcome? Consider how you prioritise your action plan, what comes first, what are longer term goals? Make sure to define the behaviour you are influencing, what your proposed intervention is, and how you will trial, evaluate, and scale up successful activities. You should be careful to embed each behaviour change technique correctly and avoid unintended consequences.

Intervention Tailoring

Having thought about your target customers in the planning phase, and then considered how you can embed behaviour change techniques in your intervention list, it's important to consider how this is tailored to target customers for delivery.

Identify how intervention tailoring takes place currently (if at all).

For this activity consider what planning and delivery activities take place in your programme to tailor interventions to the customer. We prompt you to consider all interventions here, including product and device fitting, as well as behaviour change interventions and literature. You might want to consider how the following data sources are currently used (if at all) pre and during the visit to tailor: a) information on water using behaviours, b) household demographics, c) property details.

Consider the opportunities and challenges for visit tailoring against your current approach.

Having thought about how you currently tailor interventions, now consider what new approaches you could embed as well as any challenges to tailoring. Do this activity for both product and device fitting, as well as behaviour change interventions and literature. Like the above, you might want to consider how the following data sources are currently used (if at all) pre and during the visit to tailor: a) information on water using behaviours and consumption, b) household demographics, c) property details.

Review the practical impacts of when and how to conduct visit tailoring.

It's important to consider the practical implications of visit tailoring, specifically you might want to think about: a) how will you collect this data? what format or source? b) what data collection and fact finding are best done before and during the visit (to aid the practitioner in planning and delivery). Like with other activities to enhance your programme, consider any practice implications (cost and capabilities challenges), any impact to resources and training, any impact to the customer visit journey (e.g. will you need to collect extra data, will the design of the visit change?), access to data, how you will trial and evaluate any changes?

Working with your delivery team revise your process for visit tailoring.

Taking advantage of your collaboration network and feedback mechanism developed in the planning phase, work with your delivery team to plan for and revise your process for visit tailoring. Balance your revised visit tailoring with the practical impacts identified early.

Post Visit Engagement and Activities

It's important to plan for and consider any follow-up post visit engagement with visit recipients. We know that over time, savings made in visits can reduce and behavioural decay can take hold. Post visit engagement, should not be considered an afterthought, but explored and planned for well in advance of your delivery, ideally enacting in the planning stage.

Identify your current direct post visit engagement activities.

Understanding your current activities for post visit engagement is crucial to collect your baseline. We urge you to also consider other activities conducted across your wider organisation that could count as direct post visit engagement on water efficiency, think about this from the customers point of view and join the dots. Consult with your collaboration network and conduct a horizon scan across your organisation to identify all engagement opportunities. For example, wider comms campaigns, customer billing and metering activities.

Using the behaviour change techniques referenced early and insights from visit delivery, identify and plan for one new post visit engagement offer to deliver.

Taking tentative steps to embed new post visit engagement opportunities will help you trial and refine your approach, consider this in the context of your existing post visit engagement activities. When planning for and developing this, you might want to consider the following: a) Who will receive this engagement, what data will you use to identify the household, b) how will you deliver this engagement, c) at what frequency and for how long will you deliver this engagement, d) what is your intended objective, e) consider what data you will use to measure the impact of this engagement, f) create a control group to measure the outcome of this engagement against.

Deliver your post-visit engagement according to your plan and evaluate the outcome.

Measurement and evaluation are crucial for any new intervention, you could consider, whether the follow-up activity increased the longevity of water savings and/or behaviour change, and whether follow-up activities have a positive impact on customer service and satisfaction (using customer service measurement mechanisms such as CSAT scores, NPS measures, and C-MEX). Refer to the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives.

Consider the post visit engagement activity(s) in the context of your long-term customer journey.

In addition to specific evaluation of your new activities, think about the impact on the wider customer journey. In doing this you will build a picture of how all engagement, inc. water efficiency, links together and supports you in planning and identifying opportunities for enhancement, this will ultimately support the evolution of your programme.

Refine your engagement activity based on evaluation findings, repeat and expand the audience.

It is crucial to use evaluation and feedback for constant evolution and improvement of the visit programme, especially new activities and approaches. For new post visit engagement activities, use your evaluation findings to refine both the specific post visit engagement activity as well as your approach to developing and targeting new activities. Ensure you consult with wider evidence, engage your collaboration network.

Evaluation: Ensure you establish an evaluation feedback loop to drive reflection and improvement. This may include building findings and insights into your future planning, delivery, and measurement activities as well as wider organisations planning (such as WRMPs and business plans). Consult with the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives.

Measurement Phase

artesia

Current Approach

To start this part please read section 2.5 of the stakeholder insights. This summarises the current industry approach to the measurement phase. Now summarise your approach to visit measurement, note down a series of bullet points of your key stages and processes.

Customer Insights and Feedback

Customer insights and customer feedback are crucial tools to measure the outcome of your visit programme and interventions. Exploring opportunities for enhancement in this area may support you in refining your programme and achieving your vision and objectives.

Review what customer insights and feedback you currently collect and map out how this information is used in your visit programme and wider organisation.

We urge you to consider all data sources and collection avenues that you currently deliver or have access to that could be used. This could include water use data, customer focus groups, NPS (net promoter score), response rates to recruitment, post-visit surveys, anecdotally feedback shared with visit practitioners, complaints and feedback processes etc. Consult your collaboration network and feedback mechanisms in this process.

Explore other opportunities for customer insights and feedback for the benefit of your visit programme.

Now that you have considered data sources and collection avenues you already have access to, you could explore what wider data sources you could utilise to collect further customer insights and feedback. Look at wider literature, talk to your collaboration network, do a horizon scan of other organisations etc.

Design a new customer insight and feedback mechanism.

Now that you have explored other opportunities for customer insight and customer feedback collection, take this learning forward and design a new mechanism for collecting this information. Within this consider the following: a) How did the household respond to the visit?, b) How did the household respond to the interventions?, c) Think about what wider feedback the customer may provide in the visit, how is this captured and used? Consider the practical implications of this, for example: a) how (during the visit, post visit) will you collect it, b) when (what frequency) will you collect it, c) what method for collection (post visit survey etc.) will you use, d) what cost and capabilities implication will a new customer feedback opportunity incur. If you feel that your current approach to customer insight and feedback collection is optimal, you could review this approach against the above questions to identify opportunities for enhancement.

Trial your new customer insight and feedback mechanism, evaluate how it is working in practice and refine the offer.

Like with other activities for enhancement, it is important to trial and refine these new customer insights and feedback mechanisms. Using this evaluation insight to develop the offer and embed it ensures you are building on learnings.

Behaviour Change Measurement

One area identified by stakeholders and in wider literature as a key area of enhancement was behaviour change measurement. Work across industry is taking place to improve activities in this space, and we refer you to the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives for specific support with behaviour change measurement approaches.

Review your current data for measuring visit outcomes and identify opportunities and challenges for measuring specific behaviour change interventions.

Start with what data you currently have access to measure behaviour change. We urge you to consider the following general points, as summarised by Orr et al. (2018) as current approaches to measure the effectiveness of behaviour change [8] : a) demonstrable reduction in water use, b) maintenance of reduction in water use (over 2+ years), c) minimal resulting offsetting in relation to other water uses e.g. the reduction in one water use, resulting in an increase in another. You may achieve this through measuring water use before and after a visit to understand change, this may be done using control groups to assess differences. In your current data, there may be limited opportunities to measure specific behaviour change interventions, and therefore you may need to consider other data sources you could collect or access, to add to your existing data sources.

Design and implement a new behaviour change measurement approach.

Having explored your current approaches to behaviour change measurement and the opportunities and challenges, work with your challenges to design and implement a new measurement approach. Consider the following when designing; a) what behaviour(s) you want to measure (in isolation) and what intervention(s) you have delivered, b) existing evidence, c) what data collection approaches you will use, d) your sample and control group, e) how you will collect, store, process, and analysis the data, f) wider input and buy-in, g) what additional support and skills you may need support with, h) cost and capabilities practicalities. Once you have trialled the new approach, you should evaluate the measurement technique. You may want to consider the following; a) successes and challenges to measurement, b) successes and challenges to implementation, c) opportunities and barriers for scaling up and rollout.

Consider your learnings, engage further with the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives

As discussed, it is vital you conduct regular evaluation at every stage of the visit programme. In terms of your new behaviour change measurement approach, you should consider the learnings collected, and reflect on wider literature, especially the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives

[8] Orr et al. (2018) Water Efficiency and Behaviour Change Rapid Evidence Assessment (REA) Link: https://twenty65.ac.uk/media/editor/14194_WT1562p8_Water_Efficiency_and_Behaviour_Change_REA_FINAL.docx

Long Term Vision and Objectives

Finally, we bring the framework back to our first activity, to close the feedback loop and begin the process again. Having reviewed your vision and objectives, worked to enhance how you deliver them, and then worked to enhance your measurement, it is important to consider your approach to measuring them.

Review your current measurement approach and KPIs.

Start with considering how you currently measure your vision and objective achievement, this includes both the specific KPIs, data sources and measurement techniques to assess your visit vision and objectives as well as the wider demand reduction aims of your organisation plan (WRMPs, business plans). You might want to think about the following question, how effective if your current approach to measuring successes and limitations in achieving your long-term vision and visit objectives? This could include reflections on 1) can you measure if you have achieved your visit vision and objectives, KPIs, and wider demand reduction aims e.g. WRMP and business plan objectives 2) can you successfully identify limitations (what and why they have occurred) 3) are your measurement techniques accessible, robust, and routinely done.

Explore what wider data you can access to measure your vision and objectives.

As we are exploring your long-term vision this could include an extensive period and your access to data may change over this (for example new smart meter data). You could consider and plan for now, your future data arrangements. Think about how different quantitative, qualitative, and mixed methods data sources could help you here as well as different avenues for collection e.g. meter data, customer surveys, focus groups, your stakeholder feedback mechanisms, in-field auditing and evaluation, mystery shoppers. Try and focus on what each data set could reveal in the context of your visit vision and objectives, as well as the cost and capabilities implications. Key to this task is ensuring your approach is nuanced and understands the diversity and behaviour behind overarching water use reduction measurements.

Working with your data and reporting team, review your vision and objectives measurement plan.

Considering the previous activities, consult with your data and reporting team to review your visit objective and vision measurement plan. You might want to consider the following: a) your review of your current mechanisms and KPIs, b) your insight into other approaches, c) opportunities for measurement, d) how this plan may change across different time scales and different customer groups, e) practicalities of implementing this (e.g. do you need to establish new data collection pathways, do you need additional finances and resources?).

Evaluation: Ensure you establish an evaluation feedback loop to drive reflection and improvement. This may include building findings and insights into your future planning, delivery, and measurement activities as well as wider organisations planning (such as WRMPs and business plans). Consult with the EA and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives.

Congratulations you've worked through this framework!

You should have a series of actions to take forward and apply within your own home visit programme.

As a reminder, you are not expected to complete all activities in this framework in one go, and you should re-engage with this framework once you have completed your initial activities or are ready to move onto a different theme or phase.

Once I have completed the framework, what's next?

Once you have explored and completed all activities within this framework. You should continually engage with programme evaluation, this is vital for constant evolution and improvement of your programme.

We recommend you re-engage with this framework on an annual basis, to review evidence collected and progress made.

Further reading and key resources:

1) Environment Agency and Waterwise Evaluation Toolkit for Water Efficiency Behaviour Change Initiatives

LINK: https://www.waterwise.org.uk/evaluation-toolkit-for-water-efficiency-behaviour-change-initiatives/

Why? *This will provide crucial support with evaluating your visit programme, and new trials and initiatives you may pursue.*

2) CCW Desktop Review of Behaviour Change Campaigns

LINK: https://www.ccw.org.uk/publication/desktop-review-of-behaviour-change-campaigns/

Why? *This provides a deep dive into effective water efficiency campaigns, identifying what has been effective. It provides key insights you could take forward and learn from in your visit programme.*

3) Water Efficiency and Behaviour Change Rapid Evidence Assessment (REA) (Orr et al. 2018).

LINK:https://twenty65.ac.uk/media/editor/14194_WT1562p8_Water_Efficiency_and_Behaviour_Change_REA_FINAL.docx

Why? *Like the above, this provides a systematic overview of water efficiency and behaviour change. It provides key insights you could take forward and learn form in your visit programme.*

4) What's next for water efficiency engagement? Listening to UK public and water managers (Ajia et al. 2023)

LINK: https://www.waterwise.org.uk/2023/04/13/whats-next-for-water-efficiency-engagement-listening-to-the-uk-public-and-water-managers/

Why? *This paper provides both back end and end user experiences of water efficiency engagement in the UK and presents a series of practical actions for water efficiency managers to take forward.*

4. Conclusions and recommendations

Conclusions

This project set out to create an industry wide, planning and delivery framework for water efficiency home visits. It aimed to create an output that provided water efficiency managers with evidence, resources, and activities to support the enhancement of their visit programmes.

In conjunction with our industry steering group, we applied stakeholders' insights, wider literature, and Artesia's industry expertise to create an accessible, activity-based resource. This resource supports industry in maximising the potential of home visit programmes to reduce demand, with a particular focus on behaviour change.

Whilst this project experienced some limitations (including limited input from on the ground delivery practitioners), we believe this report provides useful insight and steps for enhancement to support visit stakeholders in building on existing successes to deliver their water efficiency agendas.

Following completion of this project, we set out the following recommendations for future activities:

Recommendations

1. When visit stakeholders attempt to make use of this report and enhancement framework, an evidence base should be built that aims to test the framework and evidence the outcomes. This could form a series of case studies, that are shared across industry water efficiency networks.
2. Once visit stakeholders have completed this framework, activities could be repeated across an appropriate time horizon and developments in visit programmes could be compared to the evidence presented in this report.
3. This framework should be revisited, and appropriate revisions made based on the evidence produced through its application. Future iterations of this framework should conduct additional stakeholder engagement to understand changes in how visit programmes are planned for, delivered, and measured. This could be conducted as AMP8 draws to a close.
4. Future work could include a project focussed on 'on the ground' delivery practitioners that aims to take forward the findings of this project and work directly with this key group of stakeholders to enhance visit outcomes.
5. As industry embarks on non-household water efficiency agendas, of which property water efficiency visits are a key tool, a related project could be conducted. This could build on the activities of this project to develop a non-household equivalent framework and engage specifically with the evidence and insights from the non-household settings.

Report control

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Terms and Definitions

Visit	Water Efficiency Home Visit
PCC	Per Capita Consumption
AMP	Asset Management Period
PSR	Priority Services Register
L/PROP/D	Litres per property per day
L/P/D	Litres per person per day
WRMP	Water Resource Management Plan

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1	Dave Gough	First iteration of final report	01/03/2024
2	Project Steering group	First draft of final report	22/03/2024
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