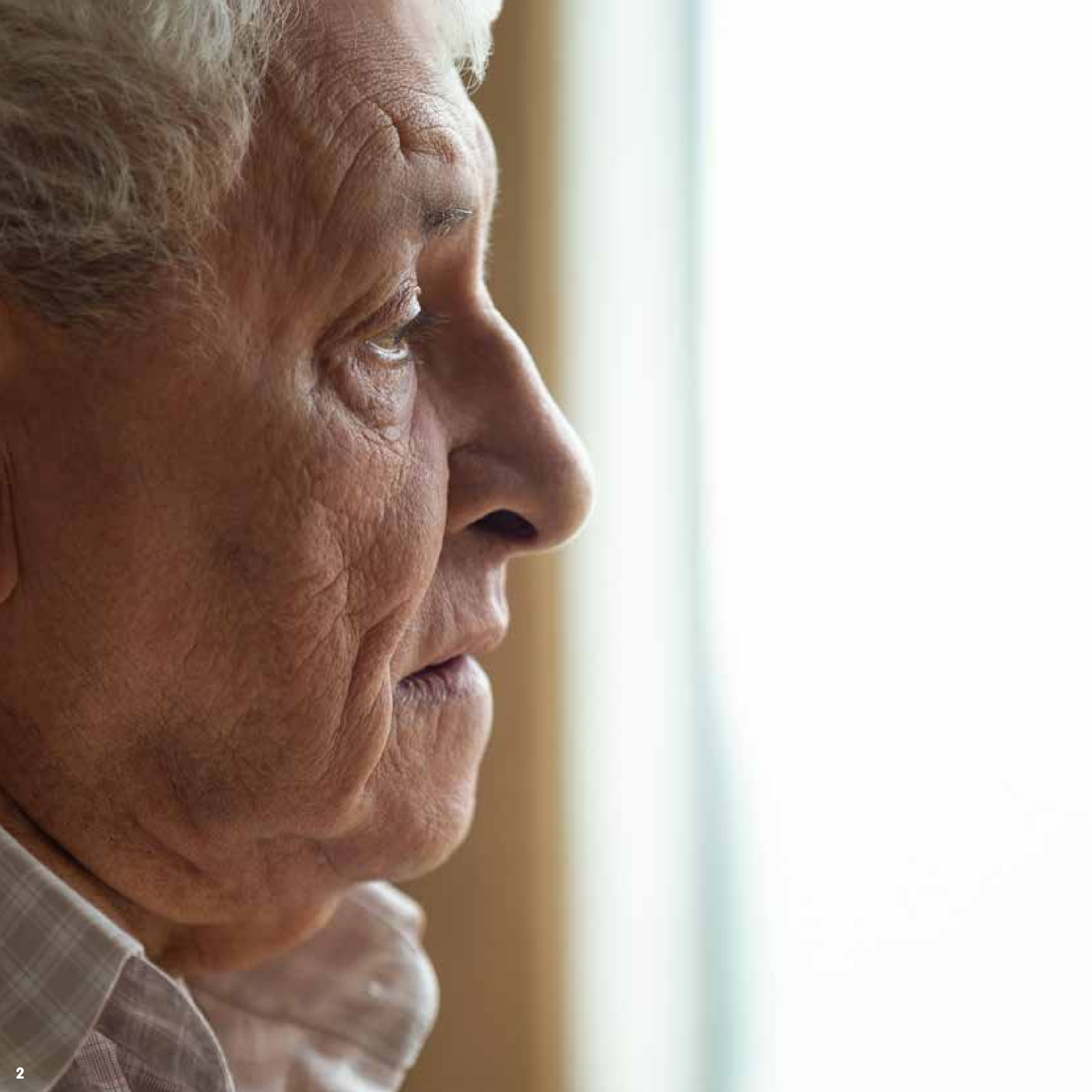
WARM HOME PRESCRIPTION

# Could keeping people warm and well at home reduce their need for health services?

## Pilot findings 2021-22

www.warm.homes

Catapult Energy Systems



# Meet Peter

Peter* has a terminal lung condition: chronic-obstructive pulmonary disease, or COPD. The NHS works hard to support him.

He takes seven medications and receives great community care, but still ended up in hospital twice last winter.

His specialist respiratory nurses are really frustrated. They know they are sending him to a cold damp home that exacerbates his condition.

Peter knowingly underheats his home because he worries he can't afford the bill. He stays in bed on cold winter days to stay warm without putting the heating on. He often skips meals to save up for the heating he needs.

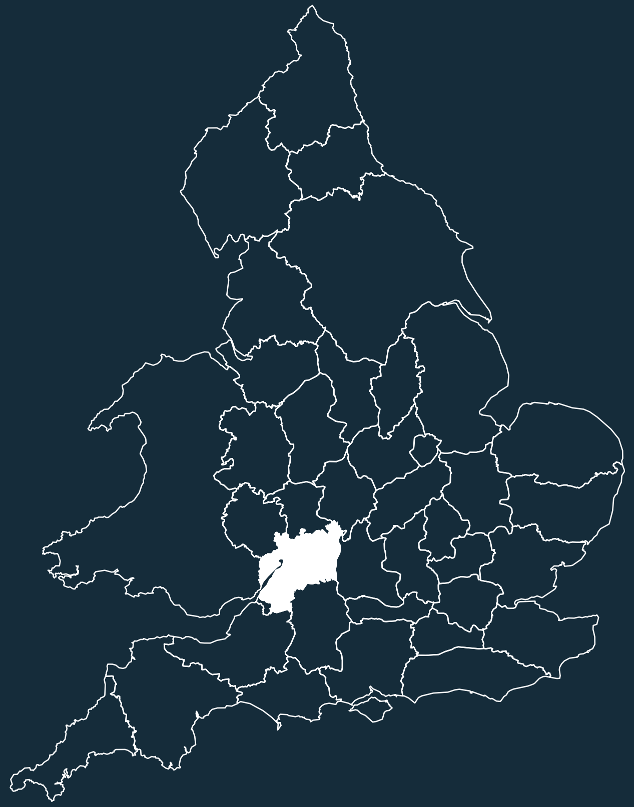
Someone offered him free insulation, but he couldn't face the disruption. He found it hard to think about at the time because he felt cold, hungry and exhausted.

Peter might not need to go to hospital for an emergency this winter if his home was warm enough to keep him well.

**Fictional Persona*

# Prevention...

From December 2021 and March 2022 we 'prescribed' warmth to 28 patients with health conditions in Gloucestershire to reduce the risk that the cold would cause harm and hospitalisation.



# ...or treatment?

In the same period, over 2,000 similar patients fell ill and were admitted to hospital for emergency treatment, costing the NHS over £6m and straining front line staff dealing with Omicron.

# Warm Home Prescription

*Can supporting high-risk, fuel poor patients to keep their homes warm reduce hospital admissions and save NHS costs?*

In Gloucestershire the Strategic Housing Partnership agreed to trial Warm Home Prescriptions.


# What is it?

Health staff (e.g. social prescribers) identified patients with chronic conditions adversely affected by cold homes.

**Living and sleeping areas at 18-21°C, all times, all winter* at no cost to patients (just like other prescriptions)**

Patients were only eligible if they:

1. Had been diagnosed with a relevant health condition by health teams (e.g.COPD, emphysema, chronic bronchitis).
2. Were under 60 and received free NHS prescriptions, or were over 60 and struggled to pay their heating bill.

Local energy charity visited each home within 5 working days to:

- Check the heating system was working
- Show patients how to use their controls
- Pay for fuel (e.g. call supplier to add credit)
- Upgrade heating controls (if needed) and
- Offer insulation and support through the Warm and Well programme.

**Following advice in the UK Government's Cold Weather Plan (Link)*

# These patients are not hard to find

## Two routes to find patients:

### 1. Proactive

Search GP database for relevant patients

Automated SMS booking

Or printed letter invitation

Phonecall or visit from Social Prescriber

### 2. Reactive

- Identify eligible patients during routine GP surgery visit
- **Ask Social Prescribers to identify patients during their normal working patterns (mechanism used for this pilot)**
- Train others to find candidates (e.g. housing support, or community groups)
- Self-referral or refer-a-friend online.



# It must work for all eligible patients

**1. House Type**

*Terraced, semi-detached, detached, flat, bungalow, park home*

**2. Tenure**

*Privately owned, privately rented, social housing*

**3. Heating System**

*Gas-central heating, electric, oil, LPG, solid fuel*

**4. Heating Controls**

*Usable, damaged, misunderstood*

**5. Meter**

*Standard/pre-pay, smart/dumb*

**6. Account**

*Direct debit, vouchers (including debt if present)*

**7. Digital Literacy**

*Impaired, basic, sophisticated*

# It improved vulnerable patient's lives

*"At some stage in the winter, he has to go onto an emergency pack which has steroids and antibiotics. He hasn't had to this year."*

*"We used to be at the doctor's all the time. I don't think he's been to the doctors at all, really. So, it's helped us enormously and we're very grateful."*

*"I've been on antibiotics for less time in the last couple of months than I have in a long time"*

*"When I've been able to heat more constantly, I haven't really needed to go to the doctors for antibiotic and steroids like I have done in the past. So, it was good for my health."*

*"I normally end up in hospital in sort of the colder months, I tend to get pneumonia, pleurisy, flu and stuff, which does land me in hospital. The last time it almost landed me in intensive care. This year, I didn't actually need to see the doctor at all."*

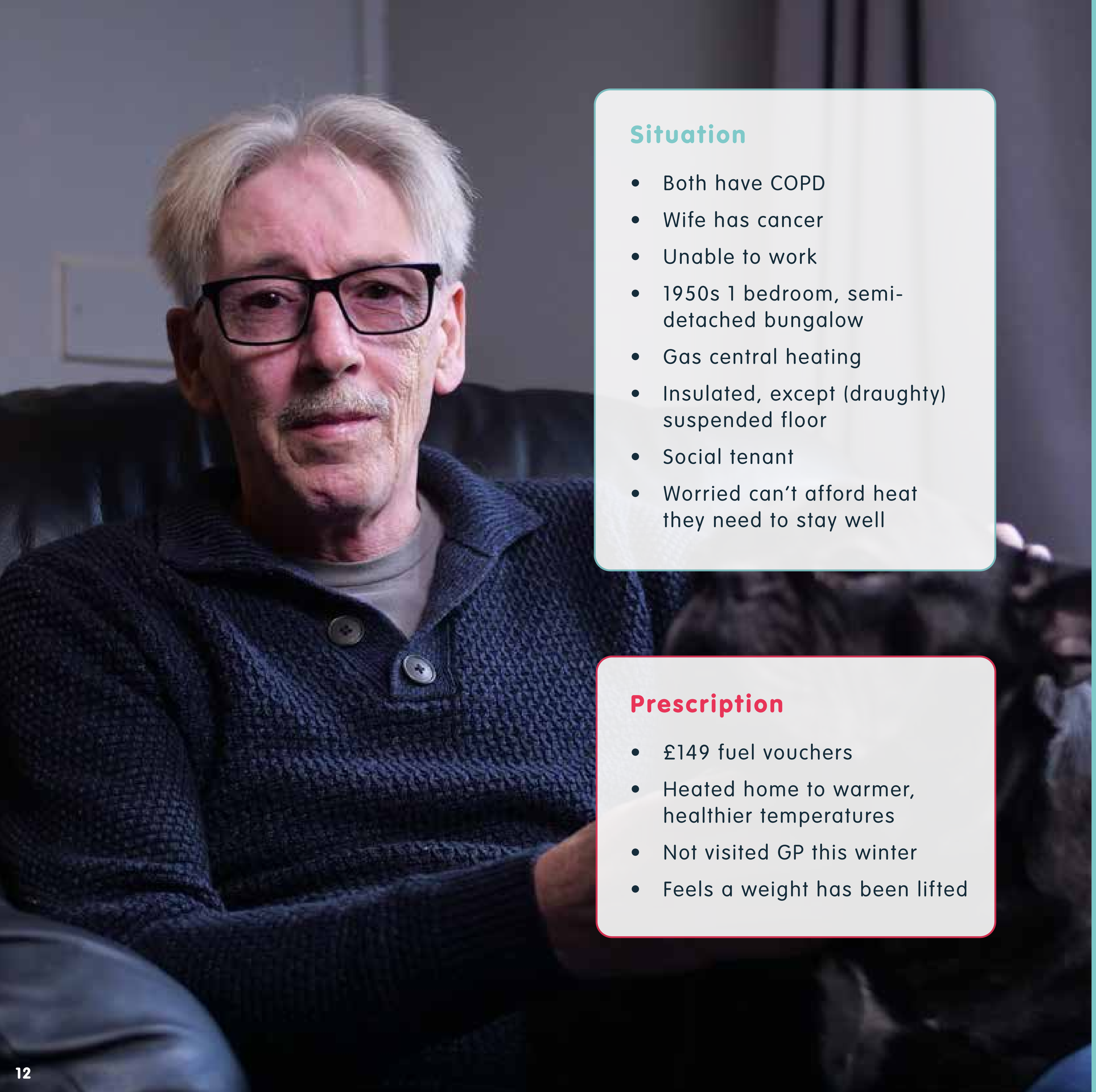
*"It's probably stopped getting worse to be honest. I've not had any chest infections."*

*"Since I've been able to keep my house warm, I've not had any [chest] infections. Whereas before I probably had a couple of infections because I wasn't keeping the house warm."*

*"She is feeling a lot better. She's not staying in bed as long because obviously now it's nice and warm for her to get out of bed."*

# Hear how it helped last winter


**Browser link*



### Situation

- Both have COPD
- Wife has cancer
- Unable to work
- 1950s 1 bedroom, semi-detached bungalow
- Gas central heating
- Insulated, except (draughty) suspended floor
- Social tenant
- Worried can't afford heat they need to stay well

### Prescription

- £149 fuel vouchers
- Heated home to warmer, healthier temperatures
- Not visited GP this winter
- Feels a weight has been lifted

# Meet Michael and his partner

### Before

"Me and my partner both have COPD. In my partners case it's worse than mine, so it's causing a lot of anxiety the cost of heating"

"We both suffer from depression. We've both got COPD, which means not been able to do things. It really gets you down."

"The problem is the draughts; it comes through like a full force wind"

### After

"This has been a total godsend to me. I can't stress it any more."

"I don't think we would have gotten through the winter without it quite honestly."

"Normally, we wouldn't have had the heating on for as long as we did."

"Definitely, being warm rather than breathing in cold air all the time, that's helped a lot."

"It's been such a relief to be able to turn the flipping heating on and not have to worry about it"

"Will it happen again next year, that's my only question"

**All names changed to protect participant identities.*

# Meet Jill and her mum

## Before

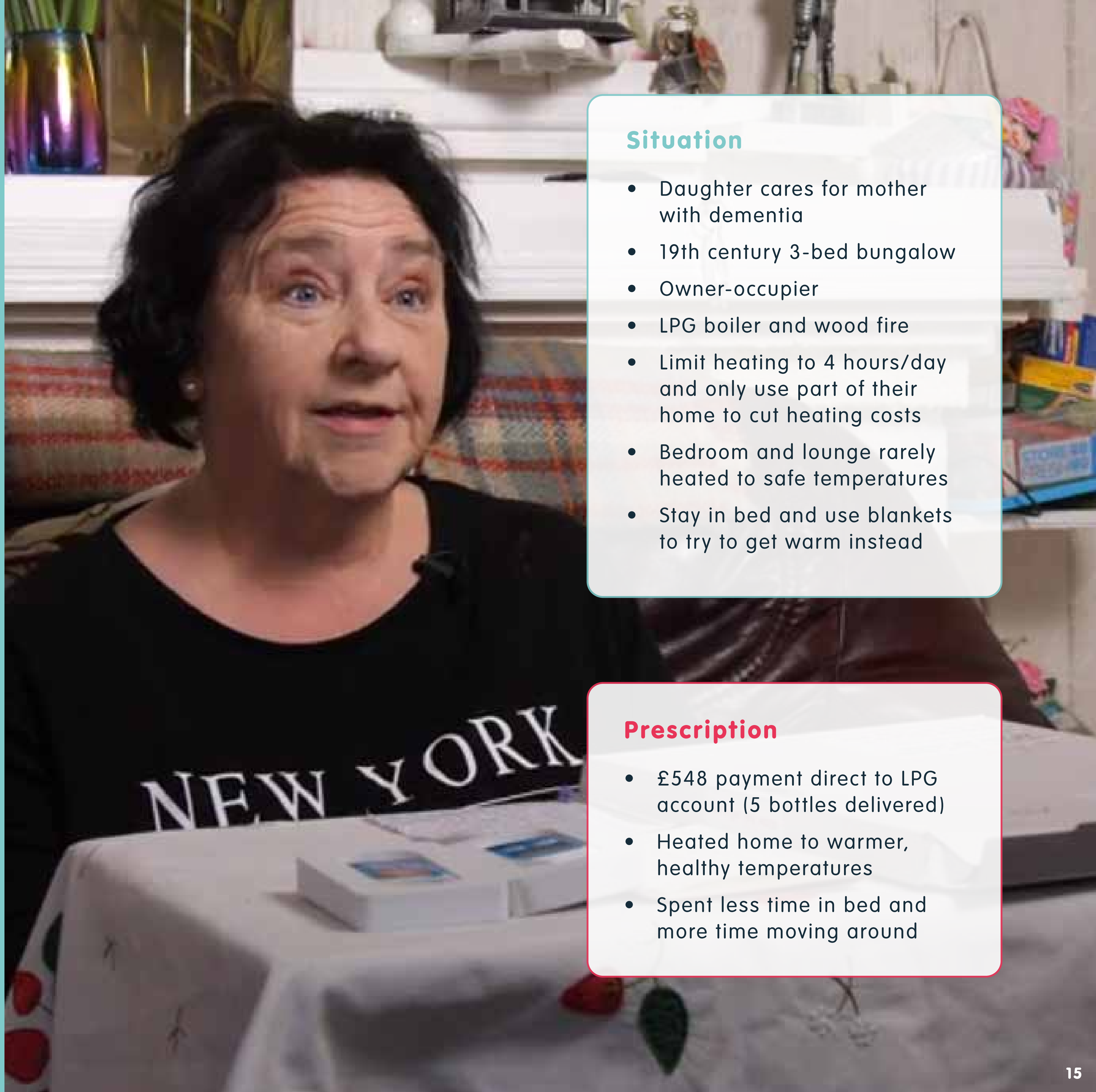
“We were just not using the heating; it wasn’t happening because of the expense”

## After

“It was a great help. It meant we could have the central heating on a lot longer than it was going on before. I was only having it on for about four hours before and that was just not enough.”

“She is feeling a lot better. She’s not staying in bed as long because obviously now it’s nice and warm for her to get out of bed.”

“It makes a difference not sitting there with sort of hand gloves on and extra jumpers and everything”

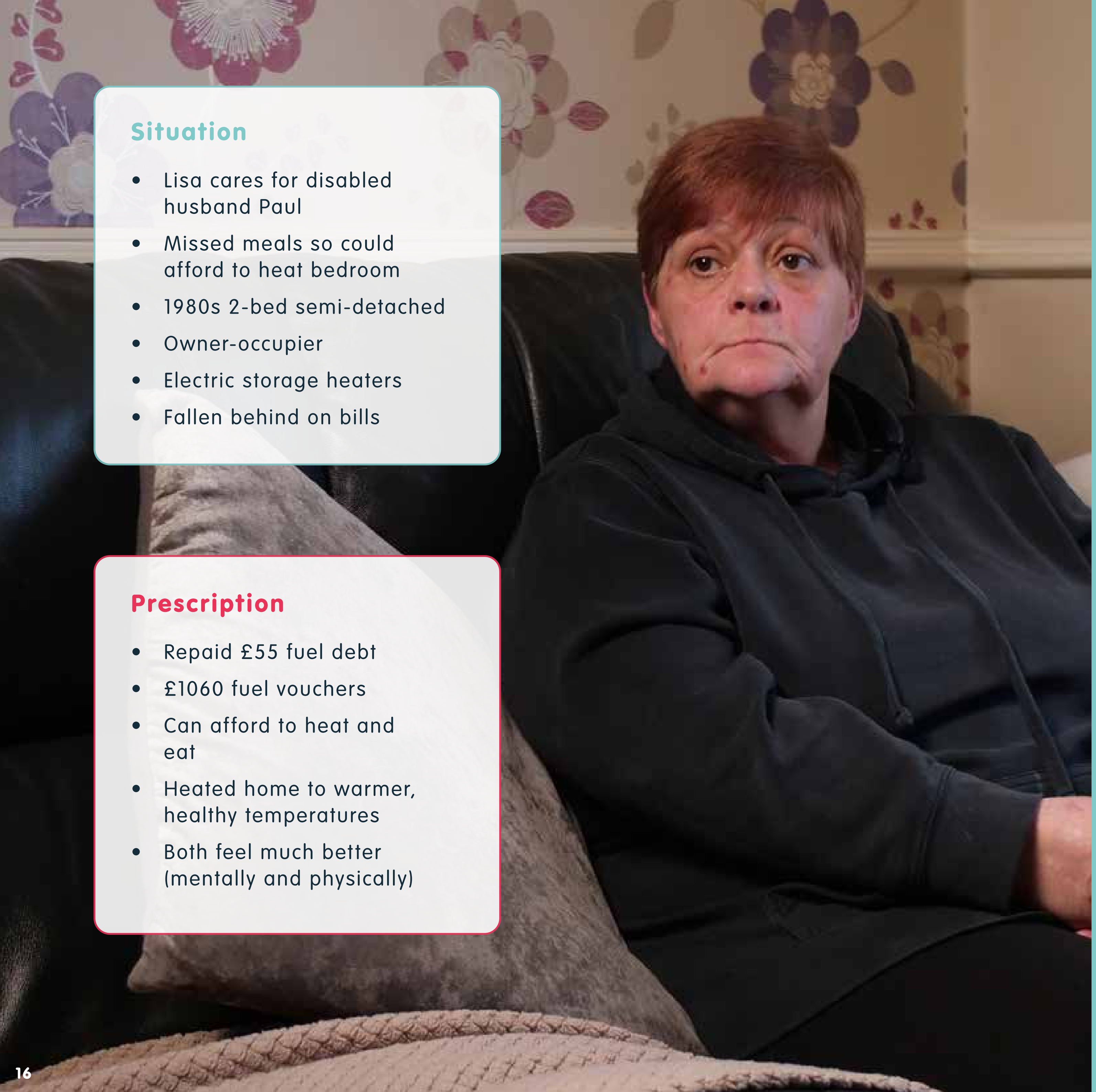



### Situation

- Daughter cares for mother with dementia
- 19th century 3-bed bungalow
- Owner-occupier
- LPG boiler and wood fire
- Limit heating to 4 hours/day and only use part of their home to cut heating costs
- Bedroom and lounge rarely heated to safe temperatures
- Stay in bed and use blankets to try to get warm instead

### Prescription

- £548 payment direct to LPG account (5 bottles delivered)
- Heated home to warmer, healthy temperatures
- Spent less time in bed and more time moving around



### Situation

- Lisa cares for disabled husband Paul
- Missed meals so could afford to heat bedroom
- 1980s 2-bed semi-detached
- Owner-occupier
- Electric storage heaters
- Fallen behind on bills

### Prescription

- Repaid £55 fuel debt
- £1060 fuel vouchers
- Can afford to heat and eat
- Heated home to warmer, healthy temperatures
- Both feel much better (mentally and physically)

# Meet Lisa and her husband Paul

## Before

"I always made sure that my husband was warm even if it meant that we couldn't afford the electric so that he would sleep downstairs on the mattress. As long as he was warm in one room then that was fine."

## After

"Since we've had this, it's helped immensely. I mean, we've never been this fortunate. So, for us, it's made all the difference."

"It has helped so much with his mental health because he feels good in himself, because he's not shivering."

"I haven't had to choose between food and electricity. It has helped immensely."

"It's made all the difference to him, I mean I don't usually see my husband cry and it's made him cry, so you know it's been fantastic, and I can't thank you all enough. It means the world to us so thank you so much."

# The design team had lots of questions

*'Which conditions to include?'*

*'Which health care staff are best placed to find patients?'*

*'How can we gather feedback from patients whilst making sure the service is ready to scale?'*

*'Who will pay for the energy in different situations and how?'*

*'How will we gather evidence to test the business case for this preventative measure?'*

*'Can we stop direct-debits rising next winter if patients use more energy than normal this winter?'*

*'How will we support patients in rarer situations who are harder to help?'*

*"How do we calculate the right amount of fuel credit to prescribe?'*

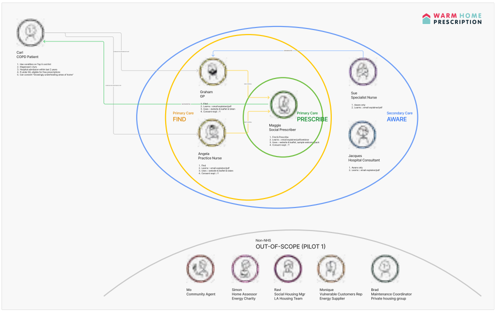
*'How will we confirm that we prescribed enough credit to cover the heating bill?'*

*'How will we measure increases in room temperatures?'*



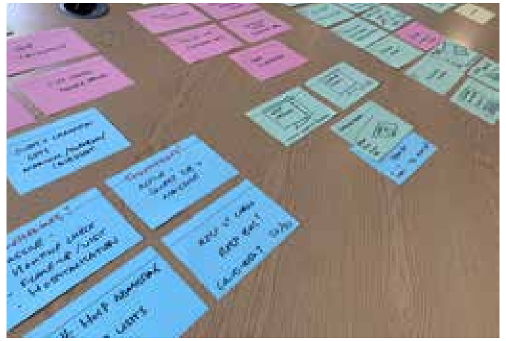
# Working with partners to find answers

The Energy Systems Catapult led an 8-week design sprint with healthcare and energy partners to design a service that local teams could deliver.



We developed patient personas and mapped out their journeys with GP's, NHS Managers, Social Prescribers and Energy Advisers to define a blueprint for the service.

We beta-tested the service with less risky patients to resolve problems before rolling it out to the rest of the pilot group.



# The pilot service worked like this:

Catapult staff **trained** delivery teams and put all materials online at: [www.warm.homes](www.warm.homes)

NHS teams **identified** eligible patients (e.g. social prescribers, complex care teams)

They referred patients to a partner energy charity who **checked** their heating system was working, showed them how to control it and **credited** their account

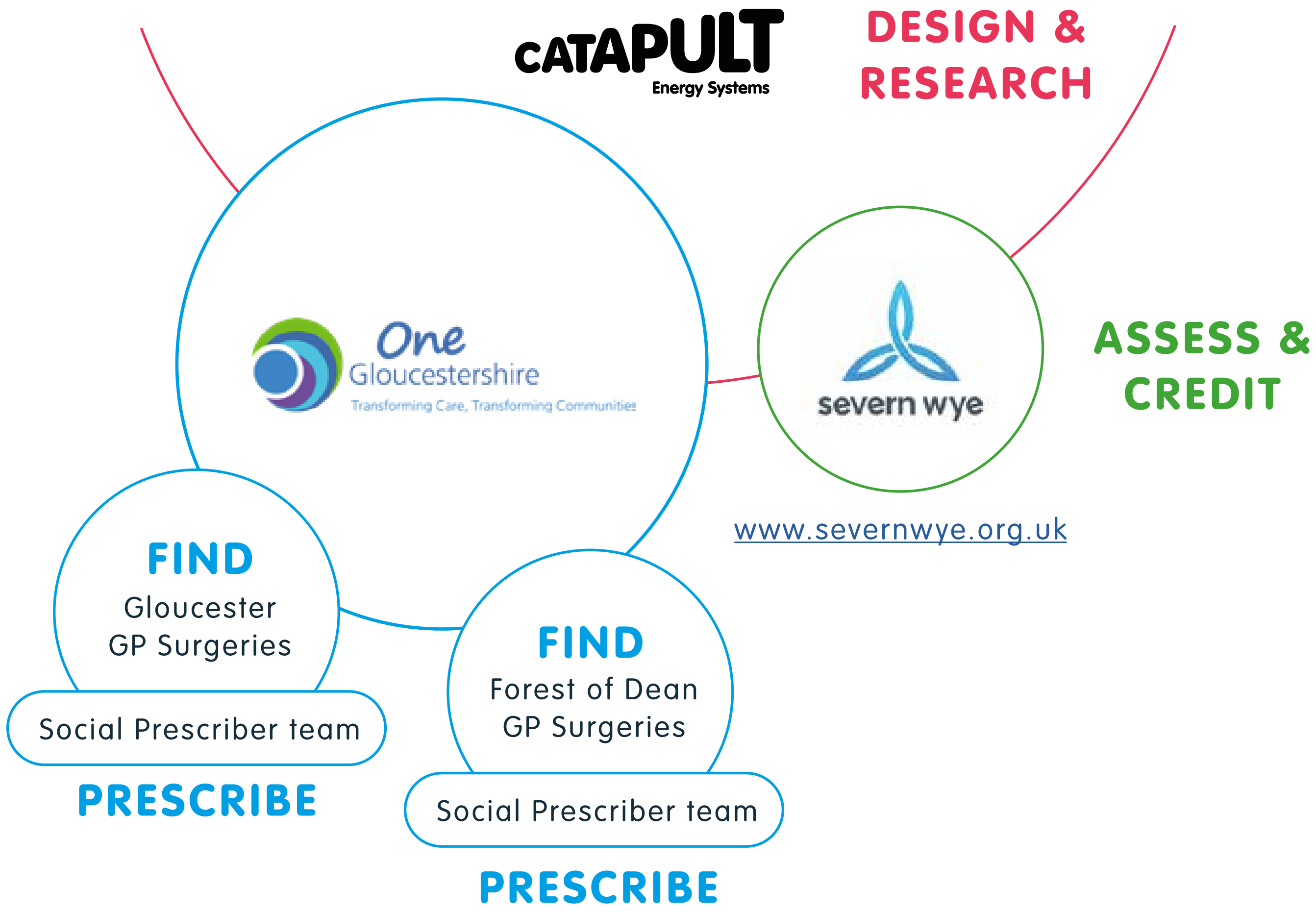
Patients could immediately **heat their homes** to healthy temperatures

The charity arranged any controller **upgrades** needed along with extra home energy upgrades where possible

**Customer services** answered patient's questions and ran research to learn from the pilot

## Who ran the service?

Local teams based in Gloucestershire delivered the service so it can continue to operate without the Catapult in future.






## How did it feel to deliver?

*"It's a good scheme and it improves people's health and wellbeing. It's a very basic need that can be met and reduce the exacerbation of an illness." (Prescriber)*

*"It's really nice when there's something tangible that you can work on because often there's not always that many quick wins." (Prescriber)*

*"When we spoke to other social prescribers in the county, they were keen to have an opportunity for access to the scheme." (Prescriber)*

*"It was really very straightforward. I couldn't see where it could be improved." (Prescriber)*

*"Making the referral is super straightforward and you get a fast response, which is fabulous." (Prescriber)*

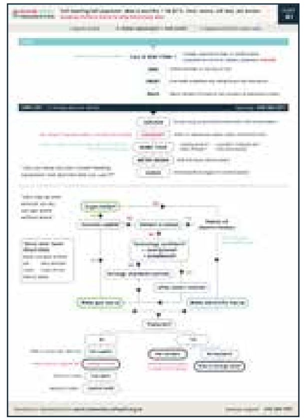
*"The support services, whether it has been Severn Wye or the Catapult, they've just been so responsive and supportive and just made everything flow so quickly." (GP)*

*"What this project is allowing us to do is be much more proactive. It's much better to stop someone getting unwell and keep them well. You can get ahead and say, 'this is the group of people we are going to target this winter'." (GP)*

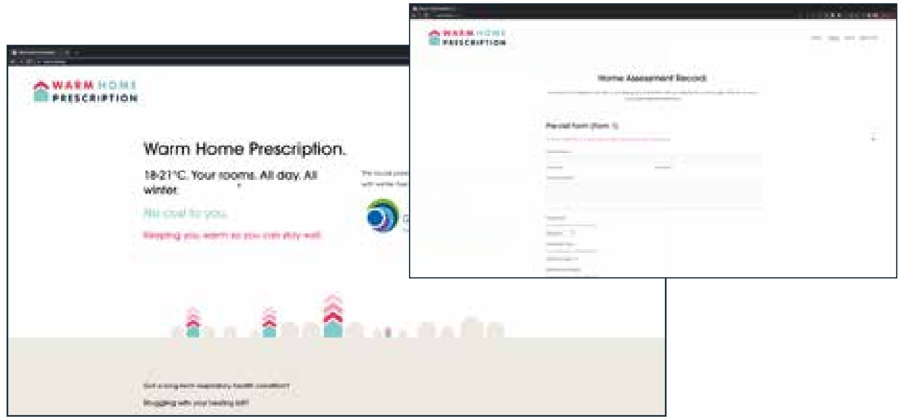
*"It finds more vulnerable patients than usual and makes them more open to disruptive measures that can save energy and carbon in the long term." (Energy Charity)*

*"We fill in a referral form, which isn't very long, and within a day or two they're in contact with the patient, which is the fastest response were getting from services at the moment. So, it's remarkable." (Prescriber)*

# How did we train service providers and explain the service to patients?



Partner briefing packs

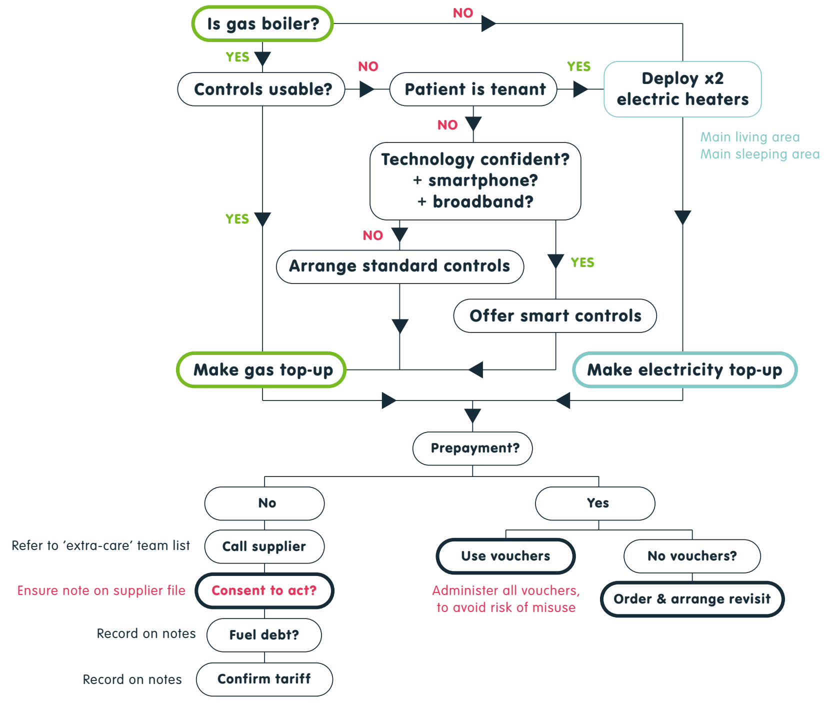


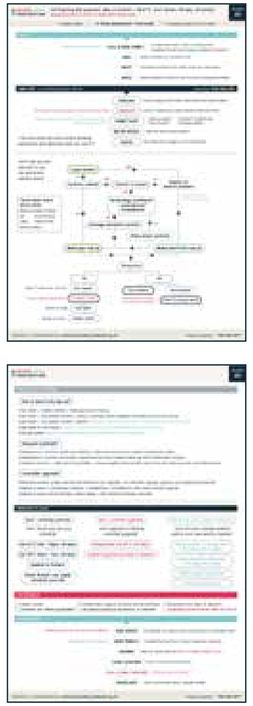

Prescriber & Assessor web forms were also available in print form in case they had no mobile phone coverage on site


Patient information pack (including temp loggers)


Home visit checklists

# Comprehensive intervention logic



*Refer to Form A1*

## Principle-led service design

1. Leave no-one out (temporary plug-in electric heaters if needed)
2. Use existing equipment where possible (e.g. storage heaters)
3. Provide practical support for every type of fuel (e.g. solid fuel)
4. Show people how to control their heating (upgrade their controls if needed)
5. Clearly indicate when the service starts and ends
6. Check in at key moments to ensure safe control and service understanding
7. Refer on to other energy efficiency schemes where applicable

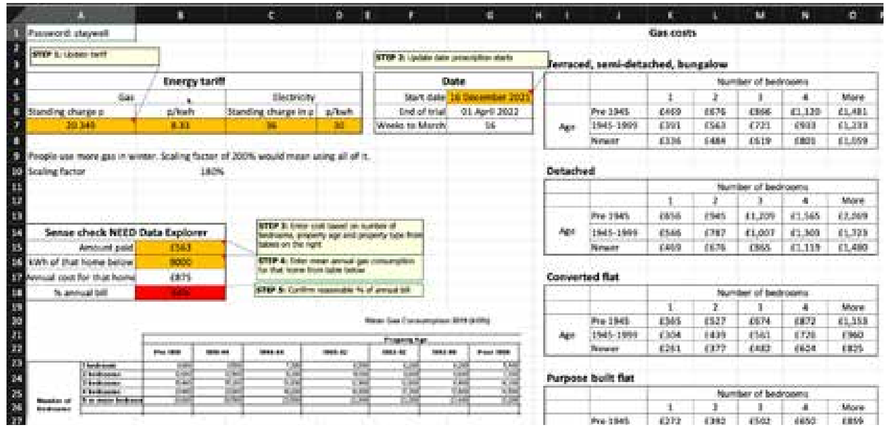
# Calculating heating credit

**We created a tool for energy advisers to estimate heating costs for each patient.**

For homes with gas central heating, advisers entered information about the home (type, age, and number of rooms), date, gas tariff and the tool estimted the heating cost until April 1st using historic gas consumption for similar homes.

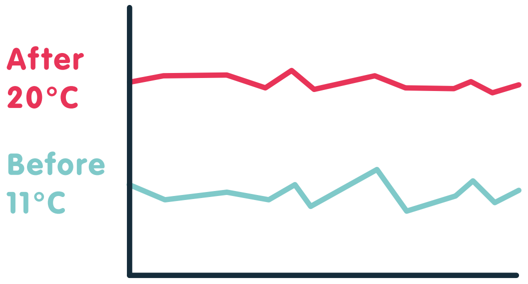
For homes with electric heating, advisers entered information about the tariff, power of each heater (or storage radiator), number of heating hours per day and the tool estimated the heating cost until April 1st.

This was hard to do accurately so the tool included some 'reality checks'. For instance it compared the estimate with the top 5% of homes. Given these patients were so vulnerable underestimates were of particular concern. We asked patients to share meter readings at the end of the trial so we could add more credit to anyone we had underpaid. Fortunately this was not needed for any patients.



# We monitored temperatures to see if patients followed the prescription

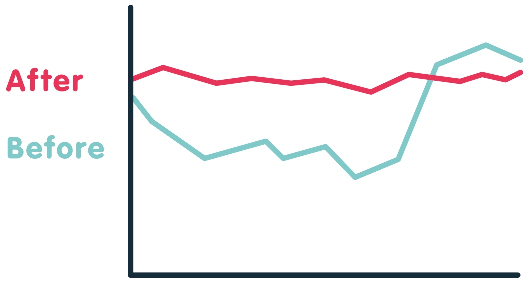
### Temperatures increased in most homes (as expected)




(Patient 14)

We asked patients to follow health advice and heat their homes to 18-21°C.

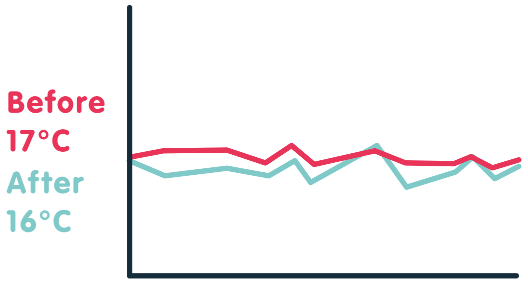
### Most homes also had more constant temperatures (which is safer)




(Patient 10)

Rapid temperature variations can harm patients with some health conditions

### However, some homes showed little or no increase in temperature




(Patient 32)

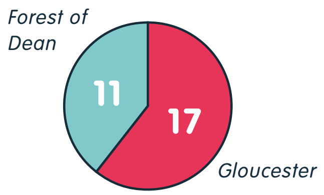
### Some patients did not completely trust this new service

Some patients worried their bills would go up in future if they used more heating. Others thought the credit might not cover the bill in full. These insights will inform service design improvements in future.



# Prescriptions worked for everyone

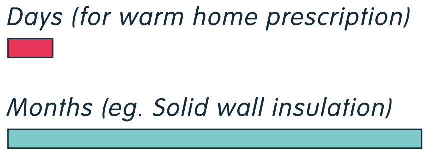
### Where




Total patients, by region

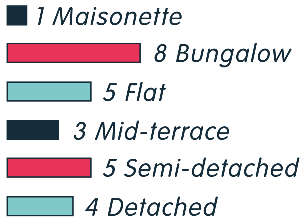
### Time from finding a patient to them feeling the benefit


Prescribe to service 'live' times

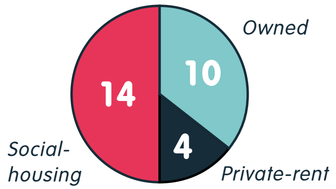



This is far faster than other measures

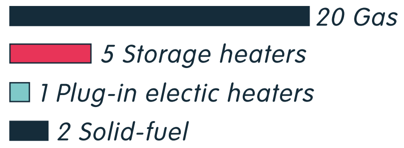
### It worked for people in any situation



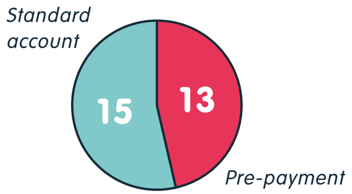

Home type



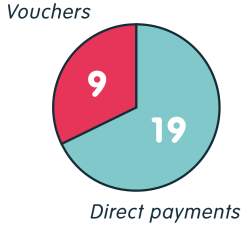

Tenure




Fuel




Meter




Credit

**5** **Fuel debts settled**
**-£3.13 to -£442.44**

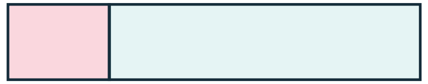
**2** **Wireless control upgrades**

# How much did the pilot cost?

The average cost per patient on the pilot was **£647**, including:

1. Average home assessment time: 5 hours
2. Average payment and patient calls: 4 hours
3. Installing wireless heating control (if required): £350
4. Fuel credit ranged from £66 to £1,922 (varying with duration and home)

**Lowest cost in pilot**



**£346**

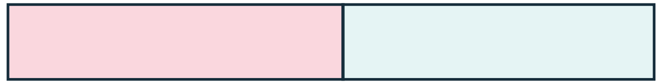
Fuel: £66 Time: £280

**Highest cost in pilot**

**£2,202**

Fuel: £1,922 Time: £280

**Average cost in pilot**



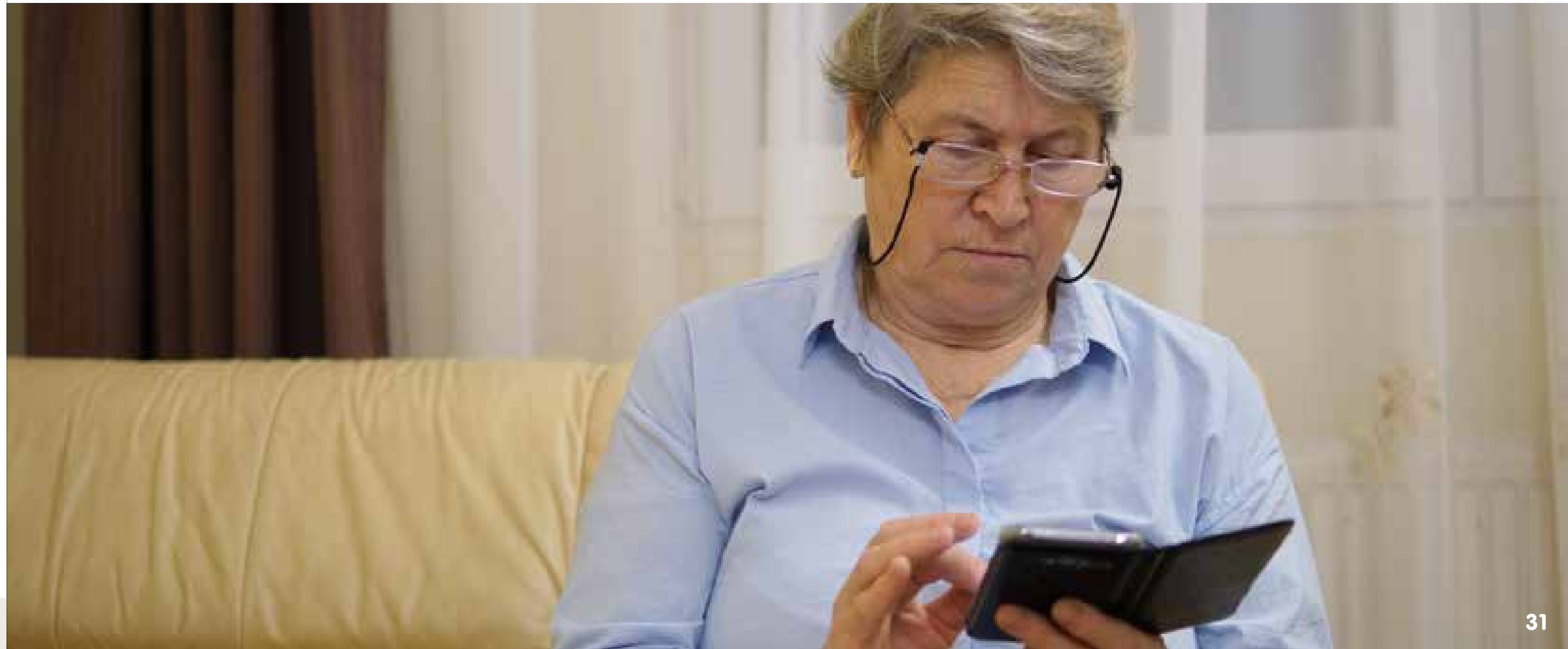
**£647**

Fuel: £367 Time: £280



# How to reduce costs at scale

1. Use GP records to invite patients
2. Automate messaging, appointments and support (where possible)
3. Minimise site visits and duration (where possible)
4. Stop monitoring temperature (once impact verified)
5. Reduce user research (once service optimised)
6. Streamline energy payments
7. Simplify meter reading to check enough credit provided



# Examples of insights to learn from

1. GPs were too busy to prescribe patients. Others were far better placed.
2. NHS brand and follow-ups gave patients more confidence that the service was legitimate and increased temperature compliance.
3. Remote prescriptions were possible when COVID prevented home visits.
4. Energy supplier 'hot-lines' sped up service delivery.
5. NHS staff identified other health conditions the service would alleviate.

# Challenges to solve

1. Improve 'compliance' so all patients live at safe temperatures levels.
2. Some patients did not give meter readings (e.g. some patients couldn't read their meter, others ignored contact).
3. Make sure all patients know when the service started (some did not).
4. Design low carbon solutions for patients on LPG or coal.
5. Make sure patients use pre-payment vouchers (one patient gave vouchers to a family member in need).

*We already have many ideas for solving these challenges.*

# What's next?

We've proved the service works so now it's time to:

- Improve the service design
- Help more patients in more areas
- Evaluate how it effects NHS costs

# Thank you to our Gloucestershire partners

One Gloucestershire
Transforming Care, Transforming Communities

www.gloshospitals.nhs.uk

severn wye

www.severnwye.org.uk

**Churchdown Surgery**

www.churchdownsurgery.co.uk

EVOLVE

www.evolvehes.co.uk

**Forest of Dean GP Surgeries**

www.forestgpsurgeries.co.uk

WARM HOME PRESCRIPTION

# Your area next?

## Get involved

If you want to help vulnerable people get the heat they need, contact us to help roll this service out.


**Matthew.Lipson@es.catapult.org.uk**

**Ian.Jones@es.catapult.org.uk**

**Energy Systems Catapult**
**7th Floor, Cannon House,**
**The Priory Queensway,**
**Birmingham, B4 6BS**
**Tel: 0121 203 3700**


**www.warm.homes**

CATAPULT Energy Systems