



# PenCycle

You return it  
We recycle it

AN EMERGING CLIMATE CRISIS CALL FOR A DIFFERENT APPROACH TO HOW WE USE OUR RESOURCES

# It's time for bold leadership & a circular approach



**The world is on an unsustainable path**



**Collaboration & industry action is critical**



**Value at stake from changing patient demands**

**3x** earths will be required to sustain consumption by 2050<sup>1</sup>

**50%** of GHG emissions saving must come from changing how we produce and consume resources<sup>2</sup>

**NHS Net-zero**

ambition by 2045 is a globally leading target<sup>3</sup>

The whole UK Healthcare sector *must transition* in pursuit of this ambition, **demanding collaboration on new, scalable solutions to serve patients sustainably**

**66%** of consumers expect greater business involvement in improving social & environmental outcomes<sup>4</sup>

**81%** of surveyed patients\*\* living with diabetes want the option to recycle their used insulin pens<sup>5</sup>

**References**

1. One Planet Network. About [Internet]. Rethinking how we consume. 2022 [cited 28 June 2022]. Available from: <https://www.oneplanetnetwork.org/programmes/sustainable-lifestyles-education/about#:~:text=Today%20our%20global%20footprint%20is,sustain%20our%20ways%20of%20living>.
2. Ellen MacArthur Foundation. Completing the picture: How the circular economy tackles climate change [Internet]. Ellen MacArthur Foundation; 2021. Available from: <http://file:///C:/Users/EMLG/Downloads/Completing%20the%20Picture%20-%20How%20the%20circular%20economy%20tackles%20climate%20change.pdf>
3. NHS. Delivering a net zero national health service [Internet]. NHS England; 2020. Available from: <https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf>
4. Accenture. How is COVID-19 changing the retail consumer? [Internet]. Accenture; 2020 p. 7. Available from: [https://www.accenture.com/\\_acnmedia/PDF-130/Accenture-Retail-Research-POV-Wave-Seven.pdf#zoom=40](https://www.accenture.com/_acnmedia/PDF-130/Accenture-Retail-Research-POV-Wave-Seven.pdf#zoom=40)
5. Data on file, Novo Nordisk market research October 2020 (n=300 UK patients living with diabetes)

ALIGNED AMBITION TOWARDS ACHIEVING A SUSTAINABLE FUTURE

# We all have a part to play **together**

**NET  
ZERO**



**BY  
2045**

**NET  
ZERO**



**BY  
2045**



— NHS Carbon Footprint — NHS Carbon Footprint plus —



Reference

- <https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2022/07/B1728-delivering-a-net-zero-nhs-july-2022.pdf>
- Data on file, <https://novonordisk.sharepoint.com/sites/circular-for-zero>

## WHY PENCYCLE

# The PenCycle challenge

**“Every year we produce and distribute more than 550 million pen devices worldwide, and as this number grows, it puts us at the forefront of one of the world’s biggest environmental challenges: *plastic waste*”**

**Dorethe Nielsen**

Vice President – Corporate Environmental Strategy, Novo Nordisk

Our challenge is to curb the amount of **end-of-life waste** and solve the challenge of products being incinerated and ending up in landfill.

We have developed a model that enables us to **efficiently** bring our devices back in our hands for **recycling and repurposing**.



PenCycle



Reference

1. Novo Nordisk. Can you recycle an insulin pen? [Internet]. Novonordisk.com. 2022 [cited 28 June 2022]. Available from: <https://www.novonordisk.com/sustainable-business/zero-environmental-impact/can-you-recycle-an-insulin-pen.html>

PATIENTS VALUE CONVENIENT THAT FITS INTO CURRENT ROUTINE; WHILE PHARMACISTS VALUE SAFETY AND SIMPLICITY

# Insights to build the solution

**PATIENT**

**Convenience**

“If I’d need to prioritise the most important aspects of such a program, I would always **put convenience first.**”

**Address for solution model**

- ✓ Build on established daily routines of patients and design considering practicability and ease of use

**Trustworthiness**

“I don’t want another app. A **personal contact** is more reliable and trustworthy.”

**Address for solution model**

- ✓ Consistent and transparent in communication and leverage established touchpoints of trust

**Flexibility**

“I want to be able to **store the container close to my sharps bin** and it should not be too big, if I needed to carry it to the pharmacy.”

**Address for solution model**

- ✓ Offer a solution which implicates adequate flexibility to integrate the item for storing pens in the patients’ homes and transport

**PHARMACIST**




**Safety**

“**Safety is crucial.** The waste needs to be treated properly as medical waste and should not cause any potential danger.”

**Address for solution model**

- ✓ Solution design to ensure pharmacists do not have to touch or get in contact with devices

**Simplicity**

“This initiative is great, but the supplier needs to think of **minimum involvement and workload** of the pharmacist’s staff.”

**Address for solution model**

- ✓ Considers pharmacists daily work, e.g., build on already existing routines and prevent additional burden for pharmacists’ workload, needs

PRE-FILLED PENS REPRESENT A SIGNIFICANT PLASTIC CHALLENGE LACKING A SCALABLE SOLUTION TODAY

# The PenCycle challenge

## Pen Device takeback challenge & opportunity

“Every year we produce and distribute more than 550 million pen devices worldwide, and as this number grows, it puts us at the forefront of one of the world’s biggest environmental challenges: **plastic waste**”



Often used pre-filled pens end up in general household waste and incineration, **ultimately in landfill**



Novo Nordisk are working to find a better solution that enables a **second life for device materials**



The important link in the chain is an **effective way of collecting & ‘taking back’ used pens from patients**



In a global scaling initiative, Novo Nordisk UK is the second market to go-live with a take-back initiative.

We are now exploring opportunities in key markets globally with the ultimate aim to have an industry solution for transforming medical device waste into new products with a focus on plastics (programme vision)

## Novo Nordisk UK Plastic Waste by Device (tonnes, 2019<sup>1</sup>)



23 million pre-filled pens distributed annually



600 tonnes of plastic going to waste



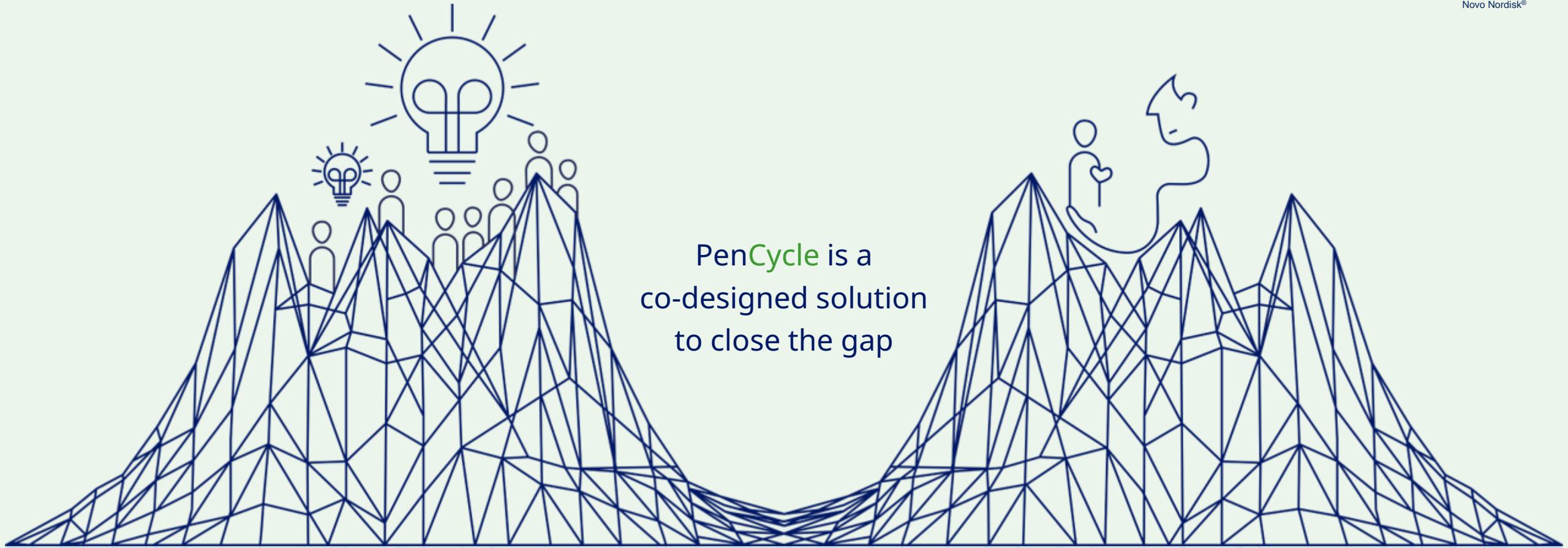
Two devices accounting for 2/3 of our plastic waste

1. Reference: Novo Nordisk annual packaging submission 2019 (ComplyPak)

## Current disposal method of pre-filled pens (2020 survey<sup>2</sup>)



2. Reference: Patient Insights - Novo Nordisk market research October 2020 (n=300 UK patients living with diabetes)  
\* Survey respondents permitted to select multiple answers, hence doesn't sum to 100



PenCycle is a  
co-designed solution  
to close the gap

**Novo Nordisk**

**Patients & Users**

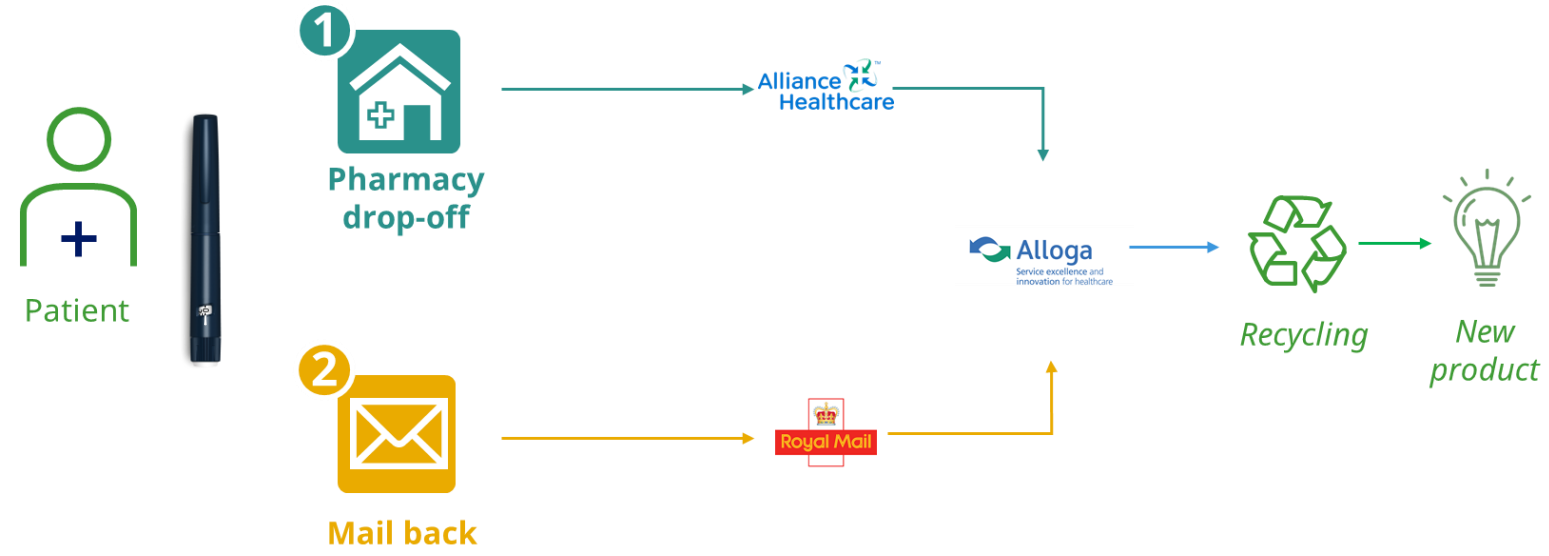
A REVERSED ENGINEERED SUPPLY CHAIN TO MINIMISE WORK, PROCESS AND CARBON FOOTPRINT

# We created PenCycle so patients can return them

You return it

We recycle it

3 pilot areas





## PARTNERSHIPS ARE KEY TO A JOIN-UP APPROACH IN ORDER TO GET PENS BACK FOR RECYCLING

# We created PenCycle so patients can return them

3 pilot areas

*'CPS were delighted to support and work collaboratively on this initiative on the basis of being the right thing for patients and for community pharmacy to play its' part in sustainability'*

**Matt Barclay** FRPharmS, Director of Operations  
Community Pharmacy Scotland

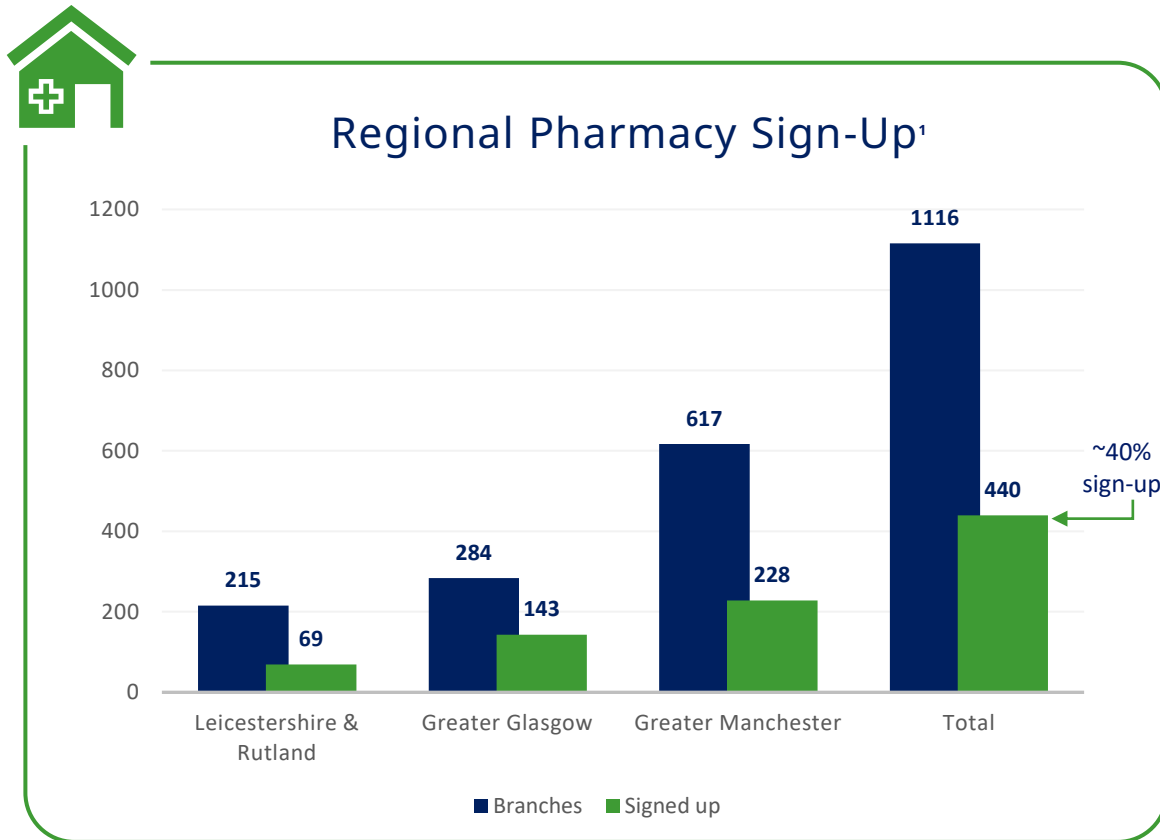
*'At GMLPC we are working to support our contractors in delivery of a sustainable Greener NHS for the patients and communities we serve. That is why we are delighted to support PenCycle which aims to halt medicinal pen devices ending up in landfill waste, giving them a chance to be repurposed into new useful products. We all have a part to play in adopting a circular approach for a better future and community pharmacy should lead the way. This is why we are supporting PenCycle. We hope to engage in further initiatives to support the sustainability agenda now and in the future.'*

**Luvjit Kandula** FRPharmS, Director of Pharmacy Transformation  
Greater Manchester Local Pharmacy Committee  
Chair – Community Pharmacy Provider Board (CPPB)  
Member of the Primary Care Board (PCB)



SINCE THE PILOT LAUNCHED (NOV'21) ENGAGEMENT ACROSS THE HEALTHCARE SYSTEM HAS GAINED TRACTION

# Engagement across the healthcare sector



**21** Hospital settings are advocating the recycling initiative<sup>2</sup>

**16** GP surgeries are advocating the recycling initiative<sup>2</sup>

HOW TO PENCYCLE

# PenCycle follows four **simple** and repeatable steps



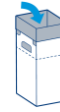
## 1 Provide

*...pen users with PenCycle return boxes*



## 2 Accept

*...pen users' returned boxes when full*



## 3 Collect

*...PenCycle return boxes*



## 4 Arrange


*...a collection with Alliance Healthcare*

### Pen Use




All user material will feature **clear instructions** on how to PenCycle, and how to **PenCycle safely**

 Only **Empty** Diabetes Pens

 Max **12** pens per box

 Remove the **Needle**

 Further info at: [www.pen-cycle.co.uk](http://www.pen-cycle.co.uk)

### Reorder

You can order **more materials** at any time, for **free**, by placing orders via your PMR platform, **My AH Portal** or by contacting Alliance Healthcare customer services

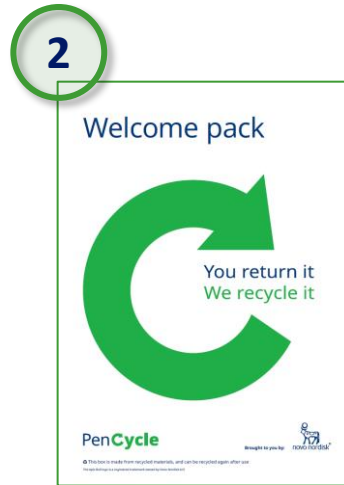
ALL PENCYCLE MATERIALS ARE SUPPLIED & REPLENISHED *FREE OF CHARGE*

# PenCycle materials in pharmacy



A 'Pharmacy Display Unit'

Containing x25 flat packed 'Recycling Boxes'



A 'Welcome Pack'

Containing information & promotional items



A blue 'PenCycle Recycling Bin'

25L to minimise space and workload

JOINING THE INITIATIVE UNLOCKS VALUE, WHILE THE PROCESS IS STREAMLINED TO MINIMIZE PHARMACY REQUIREMENTS

# Community pharmacy plays a central role



## REQUIREMENTS

1

### Pharmacist engagement

Engaging key staff members on the programme & processes to follow.

2

### Patient engagement

Utilise the supplied materials to promote & advocate PenCycle towards patients.

3

### Ecosystem integration

Utilise logistics partners solution as part of collection network with associated embedded process.



## VALUE

1

### Sustainability leadership

Improve sustainability performance and lead on a move towards a circular economy for medical devices.

2

### Patient demand & footfall

Capitalise on patient demand for recycling scheme and increase business via participation.

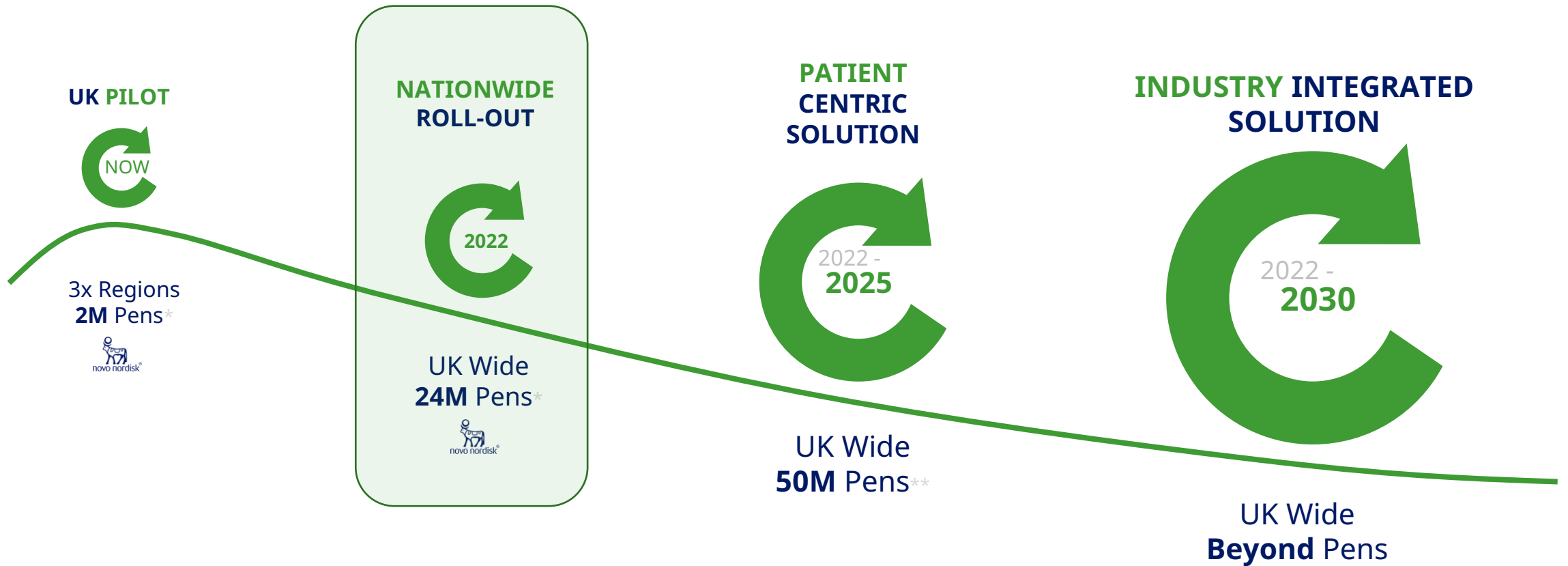
3

### Ecosystem engagement

Strengthen relationships and collaboration for progress towards a greener agenda.

NOVO NORDISK IS LEADING THE WAY AND PREPARED TO MOVE AT PACE TO GAIN MOMENTUM FOR A CIRCULAR APPROACH

# PenCycle aims to set a **foundation** for the industry



PenCycle

Reference

1. Data on file, England: English Prescribing Data 2021
2. Data on file, Wales: General Practice Prescribing Data Extract 2021
3. Data on file, Scotland: Prescriptions in the Community 2021
4. Data on file, Northern Ireland: GP Prescribing Data 2021



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[www.pen-cycle.co.uk](http://www.pen-cycle.co.uk)

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