

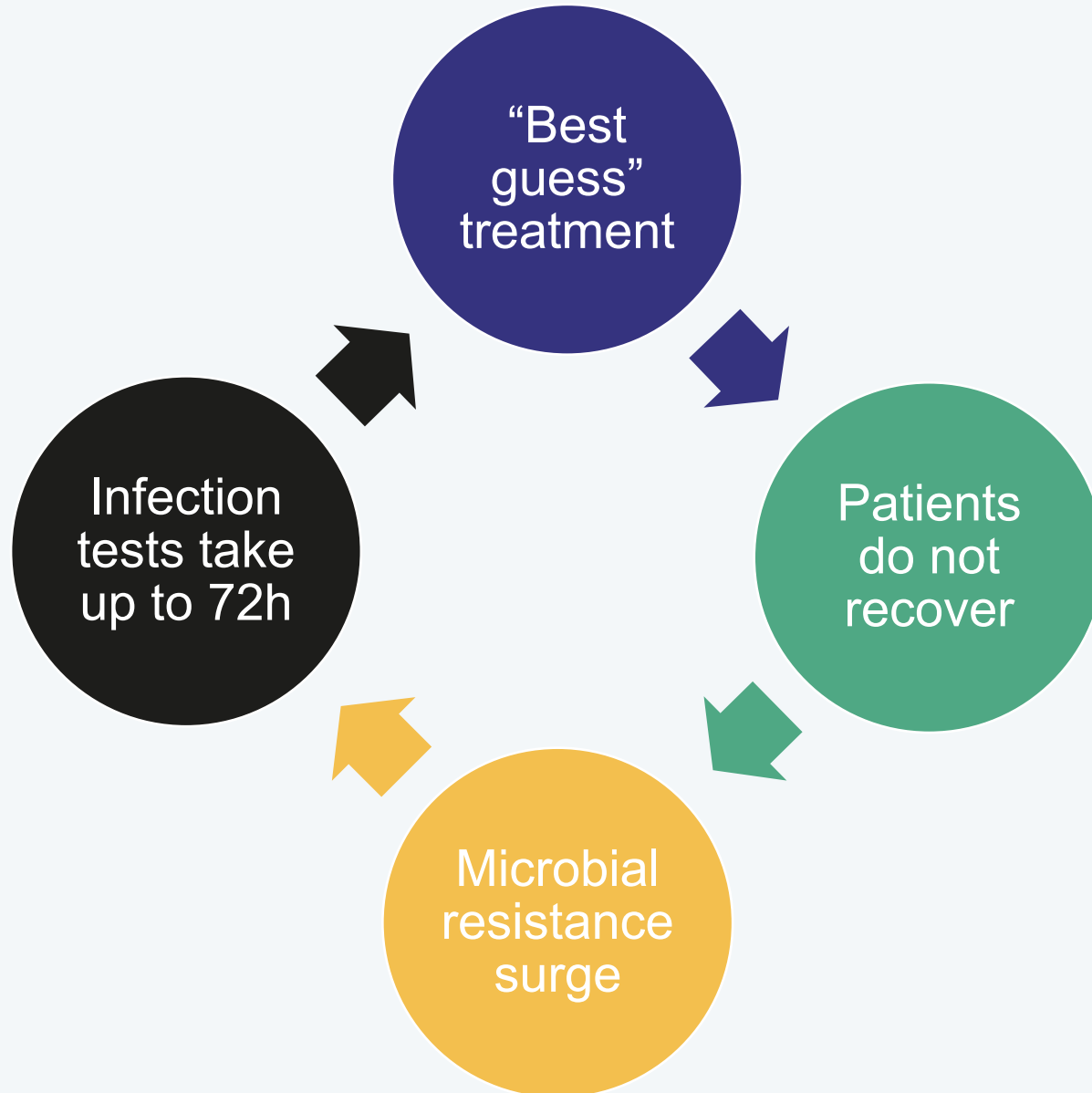
Saving your life in 15 minutes!

Dr. Carlos Meza
Managing Director, Co-Founder





Problem



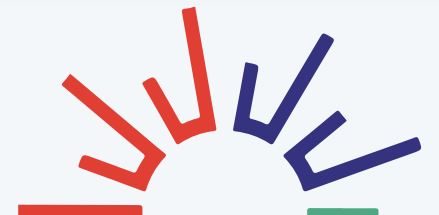
1.27m deaths
Worldwide, caused by
Antimicrobial resistance (**AMR**)



£180M
Per year to treat **AMR** in the
UK alone.



In the UK
50% of urinary tract infections
are AMR



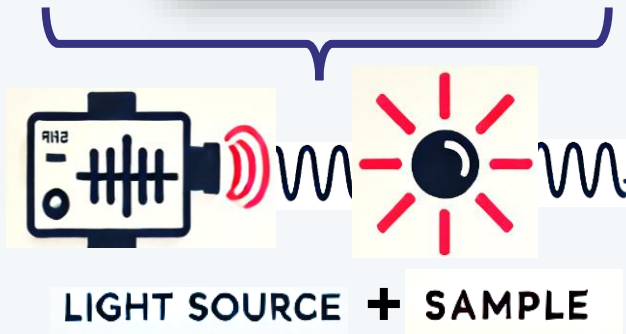


Solution



- 94% Accuracy
- 87% specificity
- 82% Sensitivity

In 15 minutes!



✓ **Certainty**

✓ **Healthy patients**

✓ **Fight back AMR**



Mission

To create **rapid** and **accurate** diagnostic tests for better patient outcomes.

Vision

To **lead** rapid AI diagnostics for optimal patient treatment.



Team



Innovate
UK

Carlos Meza
CEO (Co-founder)



Craig Williams
Director, co-founder,
microbiologist



NHS
**University Hospitals of
Morecambe Bay**
NHS Foundation Trust

Ihtesham Rehman Director, co-
founder, spectroscopist and
academic



Georgina Pope
NED, Tech transfer
manager



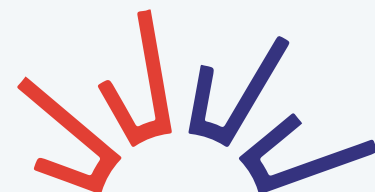
Saba Khan
Quality & Regulatory
Manager



Aldo Segura
Senior Data Scientist

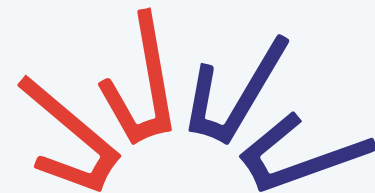
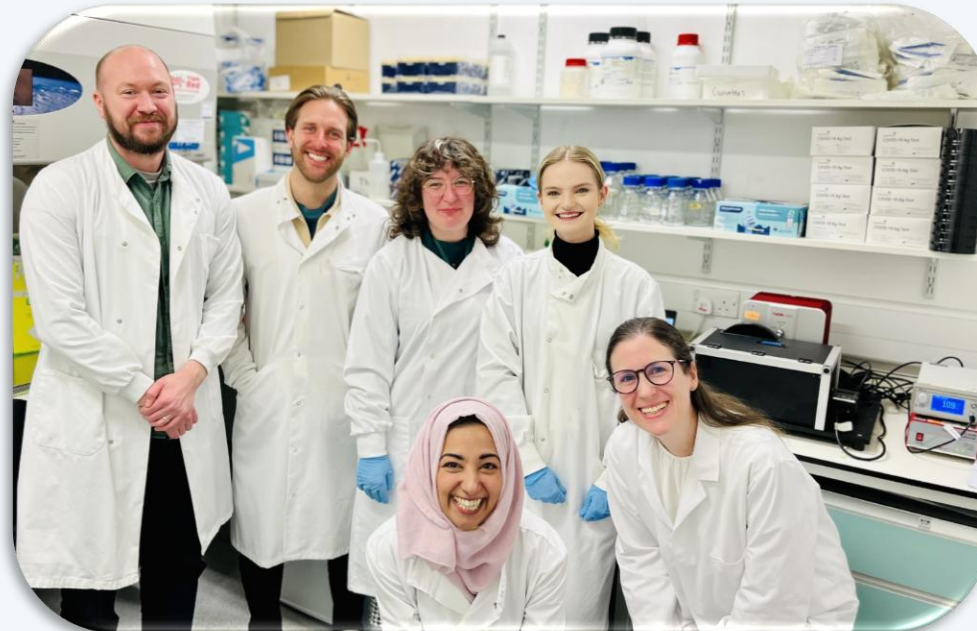


Lupita Rozada
Biological
Sample Analyst





Team and Partners





Objectives

- To evaluate the **effectiveness and accuracy** of **InfectiScan™** in detecting a UTI (urinary Tract Infection) AMR (antimicrobial-resistant) isolates and bodily fluid primary samples.

Objectives

- 1) Assess feasibility and reliability of **InfectiScan™**.
- 2) Collection of 500 UTI AMR and 200 urine primary samples.
- 3) Compare the performance of machine learning models on data from **InfectiScan™** and its gold standard.

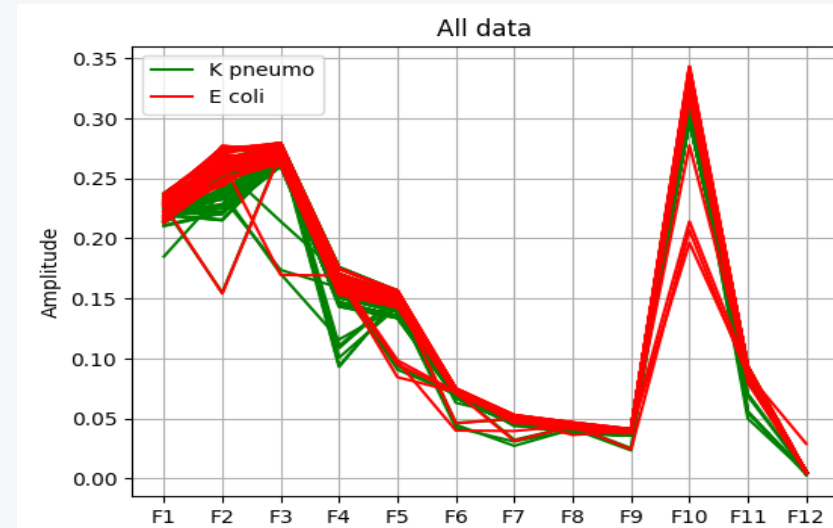


Work to refine AI models

- Validation of prototype data with simulated data with different incorporated preprocessing strategies.
- Update models of *in vitro* and biofluid on new collected data.

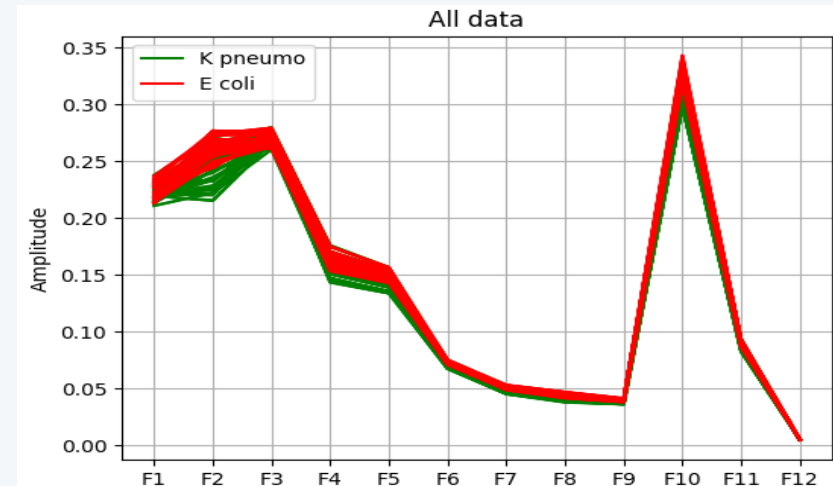
Predictions with all spectra

```
Acc: 0.848484848484
Balanced Acc: 0.846
Recall: 0.822222222
Specificity: 0.8703
F1: 0.8314606741573
ROC AUC: 0.94444444
```



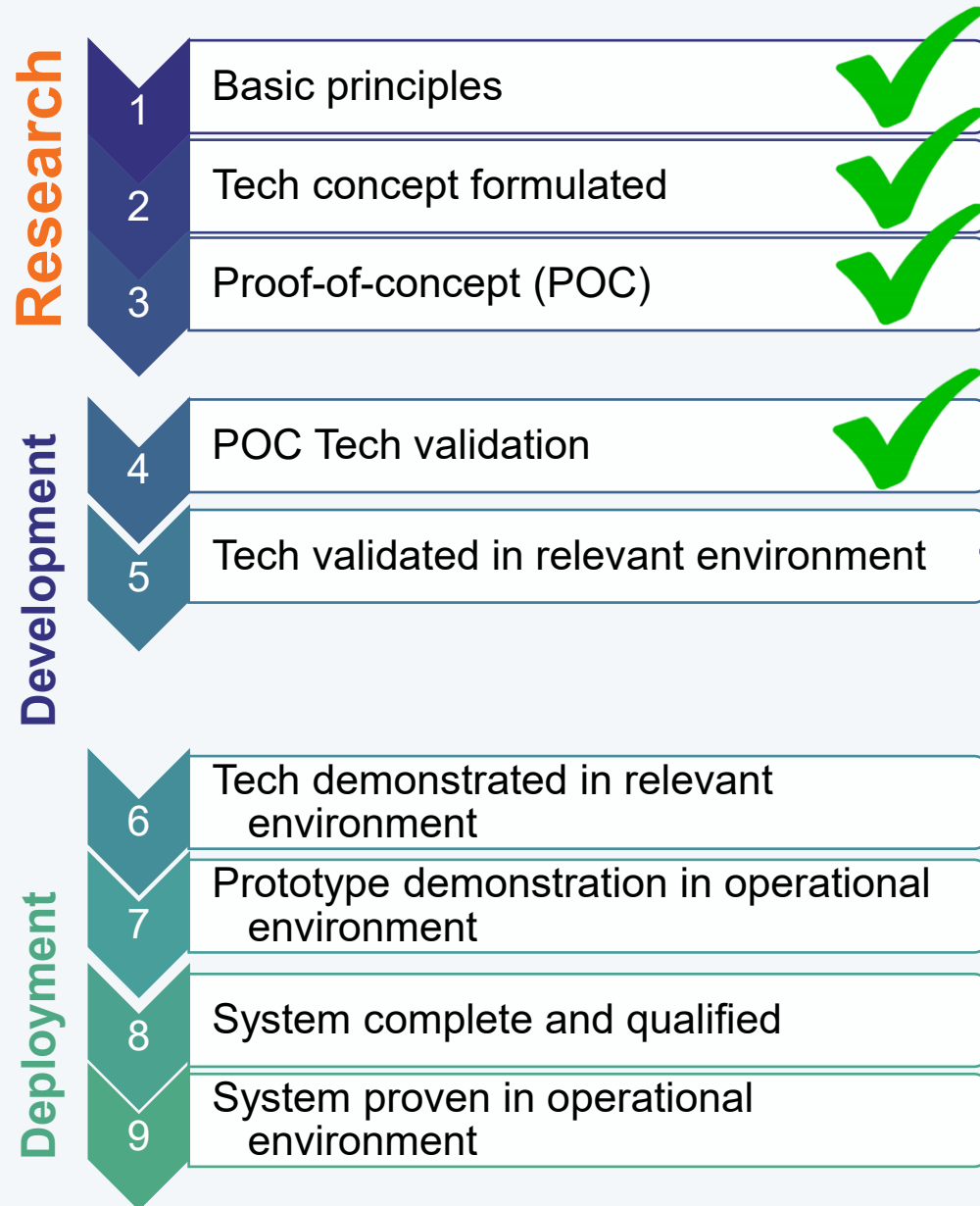
Predictions without outliers

```
Acc: 0.888888888888
Balanced Acc: 0.87243
Recall: 0.79487179487
Specificity: 0.950000
F1: 0.849315068493150
ROC AUC: 0.9461538461
```





Where the research will take us



Dec 2024 – Aug 2025 InfectiScan™ to be validated in another lab.

New site

New Users

Different patient population

125 YEARS
1898 - 2023

LSTM
LIVERPOOL SCHOOL
OF TROPICAL MEDICINE

iiCON
infection innovation
consortium



THANK YOU



CCI
Photonics



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