

digitalhealth

REWIRE

LONDON 14-15 MARCH 2023

Headline Sponsors:



MARC FARR

CHIEF ANALYTICAL OFFICER,
EAST KENT HOSPITALS AND KENT AND MEDWAY
ICB

digitalhealth

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LONDON 14-15 MARCH 2023

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ANALYTICS IN ACTION

PRO-ACTIVELY SHARING AFTER THE GOLDACRE
REVIEW

DEVELOPING 'RAP' FOR INEQUALITIES

DESIGNING A NEW LINKED DATASET

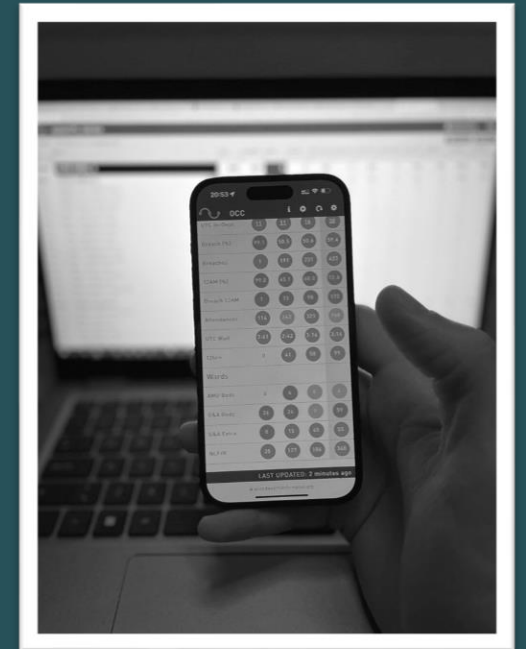
Our Values

We will enable everyone in our team to reach their potential

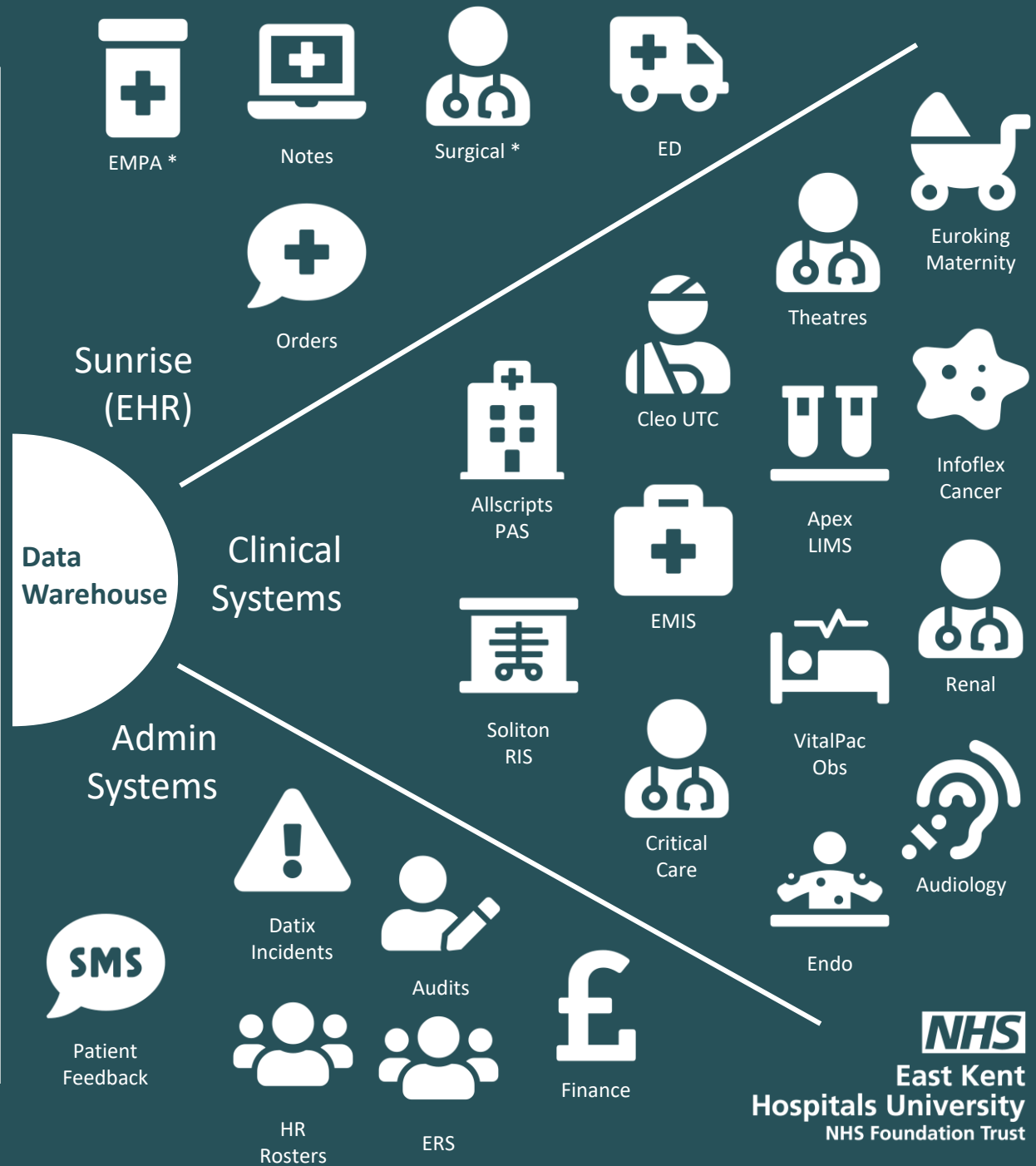
We will use data to make a positive difference to the quality of care and experience of every patient

We will use leading technologies to deliver the highest possible standards

We provide
reliable data
everywhere



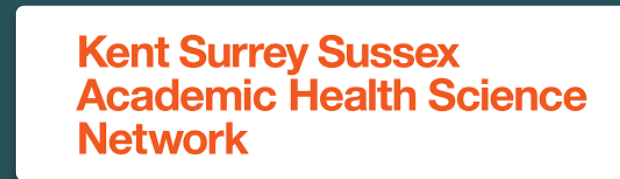
We employ advanced data processing



We are on a mission to harness 'Big Data'



We have a strong network across the region



Our clinicians receive direct patient feedback

RP04910 - Clinician FFT Feedback
Clinician Feedback

NHS
East Kent
Hospitals University
NHS Foundation Trust

Submitted at 06.02.2023 ★★★★★ 06.02.2023 Outpatient
Brilliant people. As ever.

Submitted at 06.02.2023 ★★★★★ 06.02.2023 Outpatient
Met with Mr Power and surgeon. Lots of useful and good information to help decide if jaw surgery should go ahead. Very reassuring.

Submitted at 06.02.2023 ★★★★★ 06.02.2023 Outpatient
Ellie was very friendly, polite, knowledgeable & professional which put my daughter at ease.
All the reception staff were helpful too.

Submitted at 06.02.2023 ★★★★★ 06.02.2023 Outpatient
Mr Power & the surgeon were very polite, knowledgeable & informative about Cerys' future surgery & braces which put her at ease as she suffers from anxiety.

Submitted at 07.02.2023 ★★★★★ 06.02.2023 Outpatient
Brilliant service lovely staff

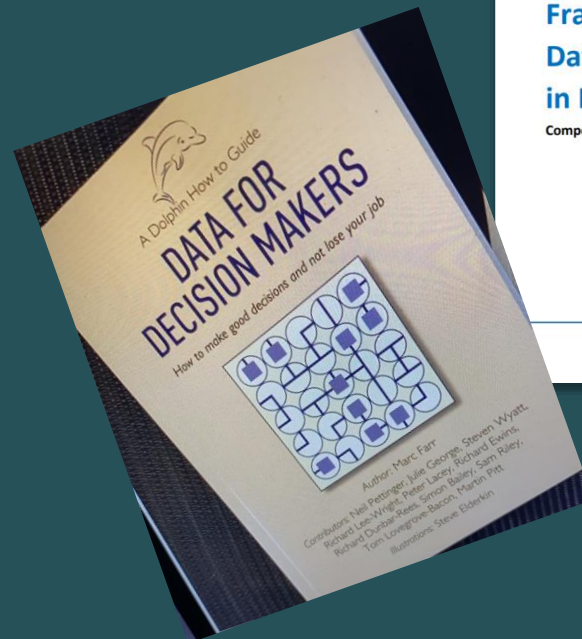
We are
focussing on
the Data
Quality Effort



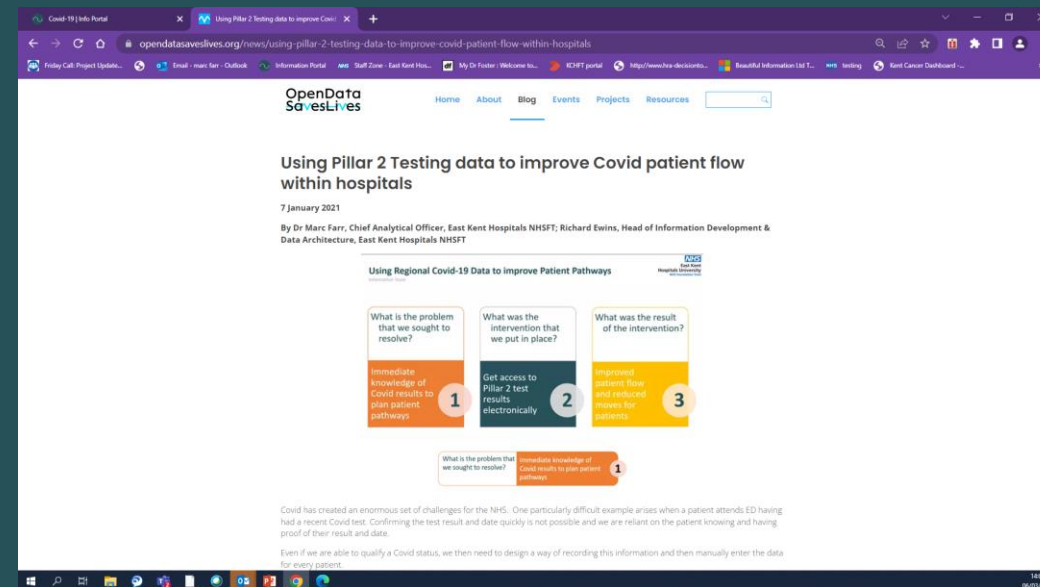
We are developing AI and Robotic Process Automation



We are
developing the
analysts of
tomorrow



We share data across the health economy



We are designing measures for variation and inequality

$$p\text{-chart: } \bar{p} \pm z_{crit} \times \sqrt{\frac{\bar{p} \times (1 - \bar{p})}{n_i}}$$
$$u\text{-chart: } \bar{\bar{u}} \pm z_{crit} \times \sqrt{\frac{\bar{\bar{u}}}{n_i}}$$

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

χ^2 = chi squared
 O_i = observed value
 E_i = expected value

$$Y_i = f(X_i, \beta) + e_i$$

Y_i = dependent variable
 f = function
 X_i = independent variable
 β = unknown parameters
 e_i = error terms

$$\sigma = \sqrt{\frac{\sum (x_i - \mu)^2}{N}}$$

σ = population standard deviation
 N = the size of the population
 x_i = each value from the population
 μ = the population mean

Approach to maturing our analysis

EKHUFT: Approach to Inequalities analysis

Phase 1 – Q1 22/23

Bronze

- Counts and Rates
- Crude data
- Examples include:
 - Staffing sexual orientation analysis
- Maturity level:
 - Pie Chart

Statistical Tools

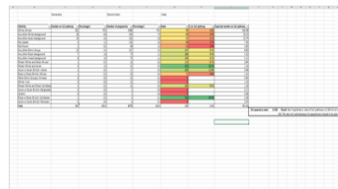
Segmentation Tools



Phase 2 – Q2 22/23

Silver

- Benchmarking versus all activity including statistical tests.
- Crude data
- Examples include:
 - Paediatric DNA rates
 - Continuity of Care for Maternity
 - Elective waiting list breakdown
 - Rates of falls
- Maturity level:
 - SPC

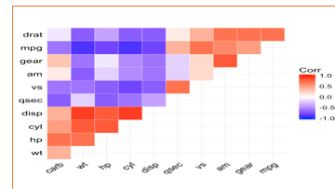


Phase 3 – Q4 22/23

Gold

- Regression and data mining
- Crude data
- Examples will include:
 - Factor analysis for DNA rates
- Maturity level:
 - Regression/Forecast

r/Python

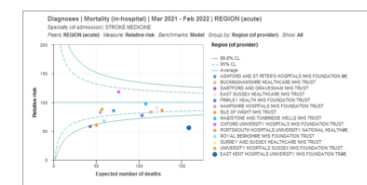


Phase 4 – Q2 23/24

Platinum

- Standardised rates
- Adjusted data
- Examples will include:
 - Overall equality and variation measure
- Maturity level:
 - HSMR

Acorn or Mosaic, Look Ups and Stratification Tools



From...



Did you know?

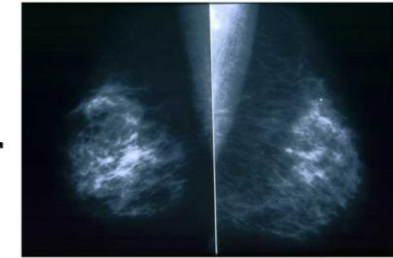


...there are as many unplanned pregnancies among the over 40s as there are for the under 20s...



Did you know?

...women diagnosed with breast cancer in their 40s from an affluent background are more likely to have a lumpectomy than a mastectomy ...

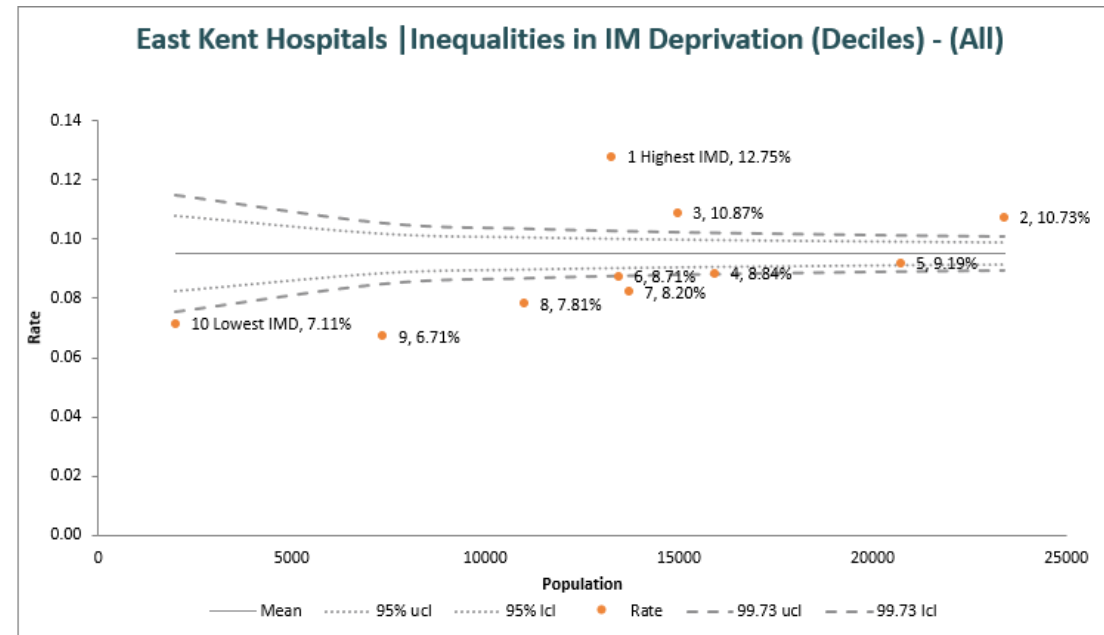


To...

The higher the level of deprivation the more likely families with children are to DNA.

Unknown is removed

Row Labels	Sum of Num	Sum of Denom	Index	Expected	Rate
1 Highest IMC	1,692	13,273	134	1263.7	12.7%
2	2,512	23,401	113	2228.0	10.7%
3	1,626	14,962	114	1424.5	10.9%
4	1,408	15,936	93	1517.2	8.8%
5	1,904	20,728	96	1973.5	9.2%
6	1,171	13,446	91	1280.2	8.7%
7	1,124	13,710	86	1305.3	8.2%
8	860	11,018	82	1049.0	7.8%
9	494	7,366	70	701.3	6.7%
10 Lowest IMI	143	2,010	75	191.4	7.1%





EKHUFT readiness assessment

This is an overall assessment of the organisational capability within the domains described and the associated judgements based on the evidence gathered. This is subject to a discussion with the aim to gain a consensus with the leadership team on relative strengths and areas for development.

