Deploying a "next generation" EPR
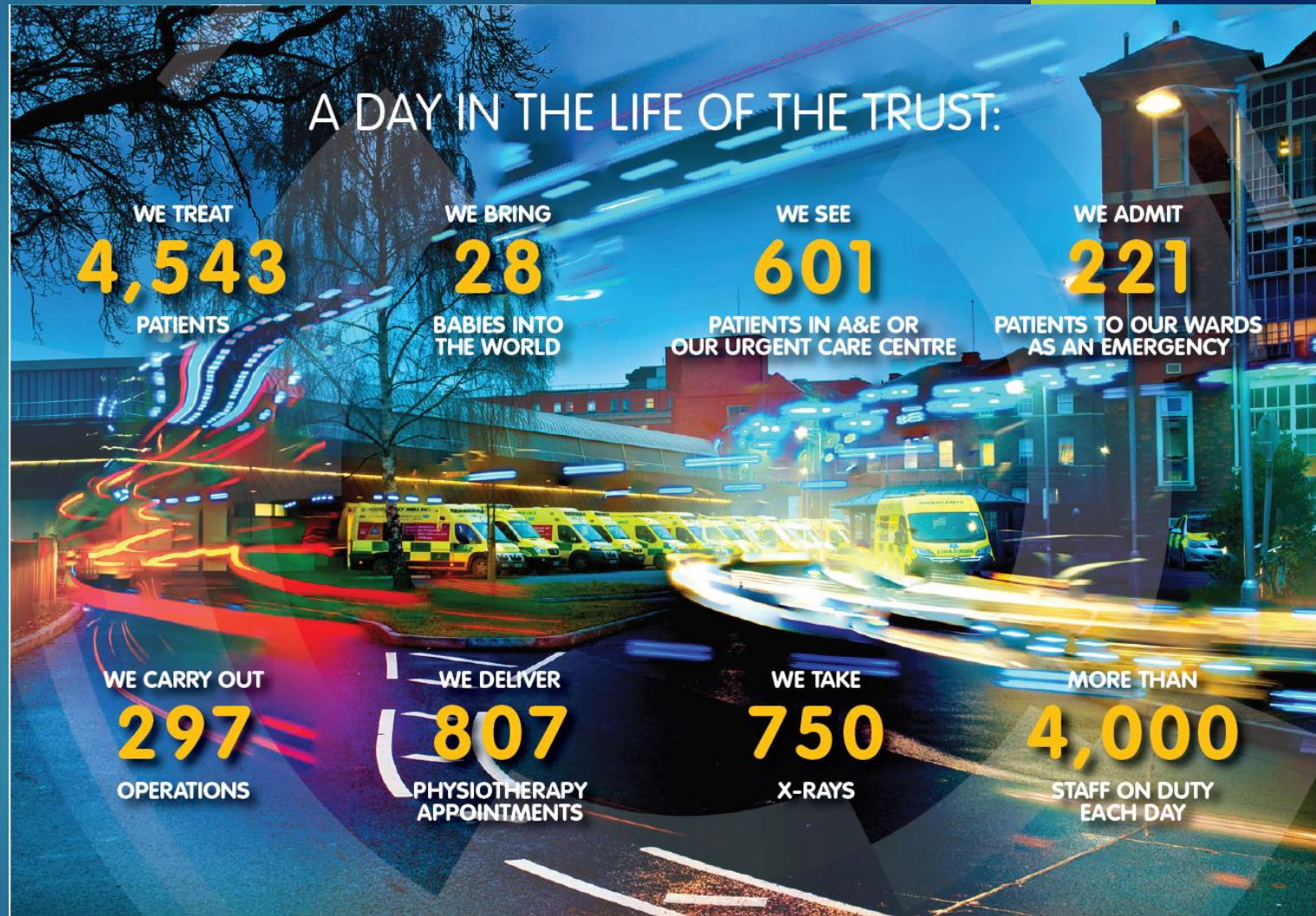
PUTTING USABILITY FIRST

hello my name is…

Andy Carruthers
Chief Information Officer & SIRO
University Hospitals of Leicester NHS Trust

Context

- University Hospitals of Leicester
  - Acute teaching trust
  - c2000 beds across 3 main sites
  - 17,000 staff
- EPR contract signed 2019
  - Initial 3 year programme
  - Target HIMSS EMRAM 6
  - Wave 1 digital aspirant & trust funded

A DAY IN THE LIFE OF THE TRUST:

WE TREAT
4,543
PATIENTS

WE BRING
28
BABIES INTO THE WORLD

WE SEE
601
PATIENTS IN A&E OR OUR URGENT CARE CENTRE

WE ADMIT
221
PATIENTS TO OUR WARDS AS AN EMERGENCY

WE CARRY OUT
297
OPERATIONS

WE DELIVER
807
PHYSIOTHERAPY APPOINTMENTS

WE TAKE
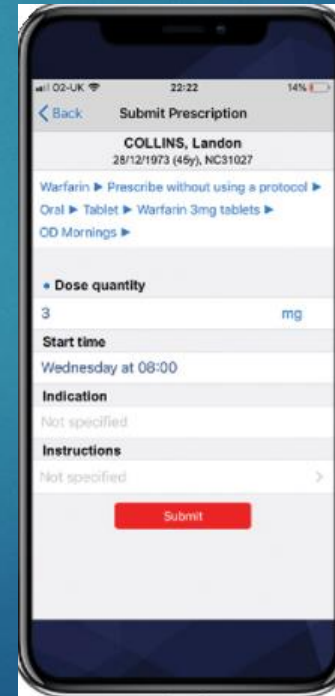**750**
X-RAYS

MORE THAN
4,000
STAFF ON DUTY EACH DAY

EPR Approach

- Aiming for balanced coverage across care settings (ED, inpatient & outpatient areas)

- Mobile first, PAS last, standards based

- Multi disciplinary, collaborative co-design process
  - Senior clinical leadership via CMIOs, CNIO, CPIO
  - Clinicians, technology professionals, clinical safety, operational teams, patient representatives

- Programme phase delivers core EPR functions

- Parallel continuous improvement / digital product management approach to incrementally enhance clinical functionality

Usability

► What do we mean by usability for an acute EPR?

  ► Speed of data entry

  ► Intelligent workflow

  ► Information visible when needed

  ► Making it easy to do the right thing

► Fast, efficient, intuitive

► Record sharing

EPR Maturity

- 2019: EMRAM baseline & gap analysis

Sample ePMA benefits

- Pharmacists are able to identify re-order requests more easily which has reduced the time to fulfil medication re orders by 69% (over a 3 month period in 2021, reduced from average 9.5 to 3 hours to fulfil). Reducing the risk of missed doses.

- Antifungal Smartlist - (patients with invasive IPPV/ECMO at greater risk of fungal infections) Real time ability to review at risk patient groups meaning all can now be seen during the working week

- Real time view of patients for Antimicrobial Stewardship round - saving of 80 hours per year

- Force medications with an end date without compromising patient safety. Supporting reduction in antimicrobial resistance

- Greater stewardship of high risk medications: Diabetes Team able to view all inpatients on all Insulin prescriptions in real time alongside blood sugar monitoring and ketone levels

- Safer Prescribing/Administration of Medication - Clinical staff being presented with Vital Sign Observations / Blood Sugar Levels at the point of prescribing and administration.

EPR Maturity

- 2019: EMRAM baseline & gap analysis
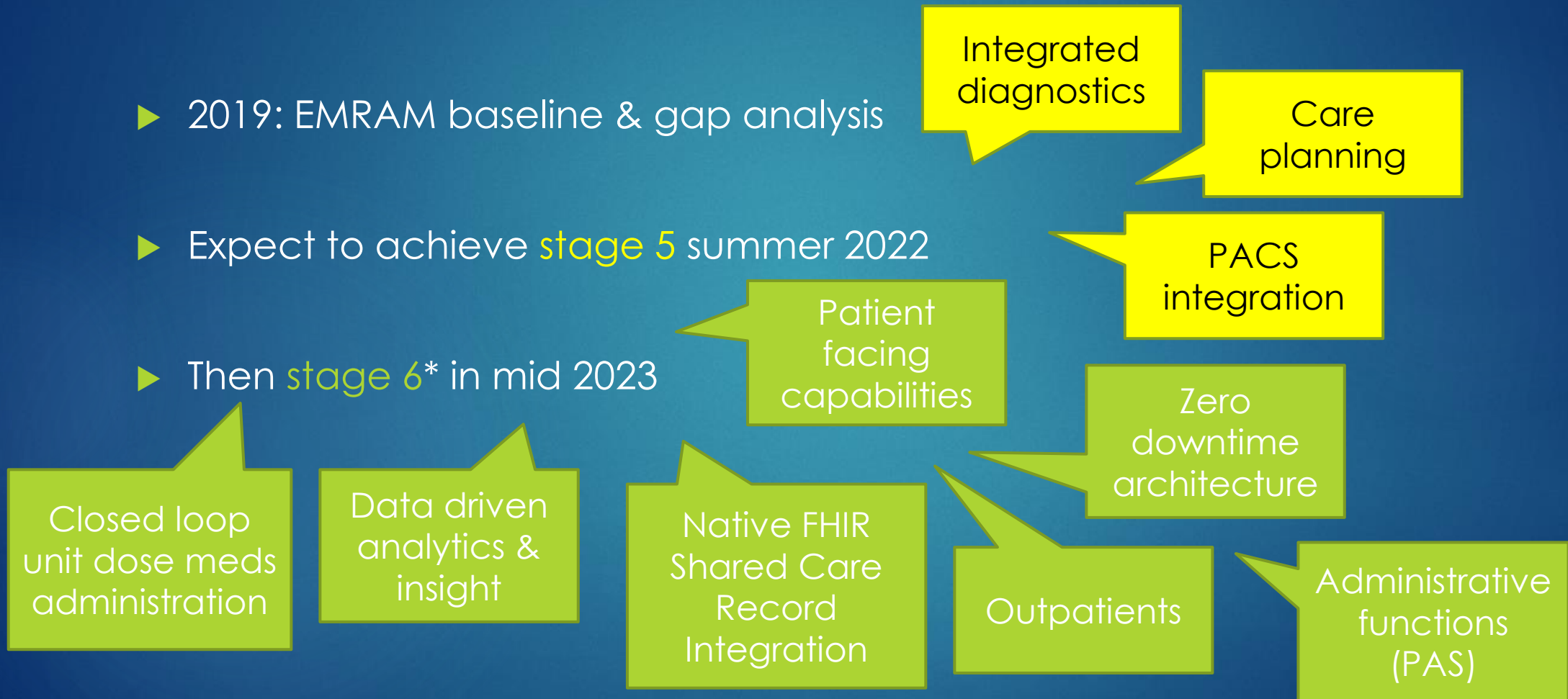
- Expect to achieve stage 5 summer 2022

Integrated diagnostics

Care planning

PACS integration

EPR Maturity

- 2019: EMRAM baseline & gap analysis

- Expect to achieve stage 5 summer 2022

- Then stage 6* in mid 2023

Integrated diagnostics

Care planning

PACS integration

Patient facing capabilities

Zero downtime architecture

Closed loop unit dose meds administration

Data driven analytics & insight

Native FHIR Shared Care Record Integration

Outpatients

Administrative functions (PAS)

* Subject to confirmation of criteria for EMRAM 22

Key messages

- Usability and co-design are proving critical to successful EPR adoption under post COVID-19 operational pressure
- A better user experience and better product(s) can realise additional benefits even when moving system to system
- Understanding and addressing capability gaps can enable rapid progress to higher order EPR maturity (EMRAM stage 5+)
- Real world testing of business continuity capabilities and organisational readiness whilst aiming for near zero downtime crucial for risk assurance
- Convergence onto platforms that can adapt and deliver standards based interoperability at the right geography for our patient pathways should be our aim