PREDICTIVE MODELLING FOR UNPLANNED CARE IN THE NORTH EAST AND NORTH CUMBRIA

Prof. Graham Towl
Dr Camila Caiado, Dr Ian Briggs
**PARTNER ORGANIZATIONS**

- Durham University *(DU)*
- County Durham and Darlington NHS Foundation Trust *(CDDFT)*
- South Tees Hospitals NHS Foundation Trust *(South Tees)*
- South Tyneside NHS Foundation Trust *(South Tyne)*
- North Tees and Hartlepool Hospitals NHS Foundation Trust *(North Tees)*
- Northumbria Healthcare NHS Foundation Trust *(Northumbria)*
- Durham County Council
- Darlington Borough Council
- Darlington Clinical Commissioning Group
- HealthWatch
- NEAS
WHAT WE WILL NEED GOING FORWARD

INTEGRATED CARE
Cohorts of common need; nuanced complex cohorts & predictive need

DATA ACCESS
Extract and process data from a range of sources to improve planning

QUALITY & PATIENT EXPERIENCE
Real time quality and event prediction; risk of falls / dementia

PREDICTIVE WHOLE SYSTEM MODELLING AND EVALUATION

OPERATIONAL EFFICIENCY
A&E utilisation. LOS, home / res care. MDTs

CLINICAL OUTCOME MODELLING
Real time prediction of LOS, pressure ulcers, MRSA, risk of readmission

PERFORMANCE MGT SUPPORT
KPI and performance monitoring benefits mapping accountability support
County Durham and Darlington CHC proposal

Infrastructure development
- N3 connectivity for academia
- IG framework and gateway
- Collaboration agreements
- Analytics network
- Development plan

Unplanned care prediction
- A&E predictive flow model development
- Cross site surge scenarios
- Bed & staffing risk models
- Operation mgmt. and support
- Primary care and NEAS

Planned care and HNT
- HNT planned care scenario and risk modelling
- Base lining & evaluation
- Commissioning and integrated planning support
- Workforce planning

Pathway analysis
- Predictive analysis on two pathways: dementia and hard-to-reach groups
- Cohort identification and risk identification
- Self-management support

Analytical support and evaluation

Improved access and risk planning

Integrated planning and evaluation

Improved care and Pathway mgmt.