Paper Rags to Data Riches: How the Move to Paper Free Working is Supporting Service Improvements and Planning in Children's Services

Karen Lamb, Clinical Informatics Service Manager
Scott Wilson, Senior Information Analyst

NHS Greater Glasgow and Clyde


Child & Adolescent Mental Health
Speech & Language Therapy
Health Visiting
School Nursing
Community Paediatrics
Child Protection Unit
Shared Record

- https://www.emishealth.com/home?utm_source=eshot&utm_medium=email&utm_campaign=03-19NHSGGCStephen#

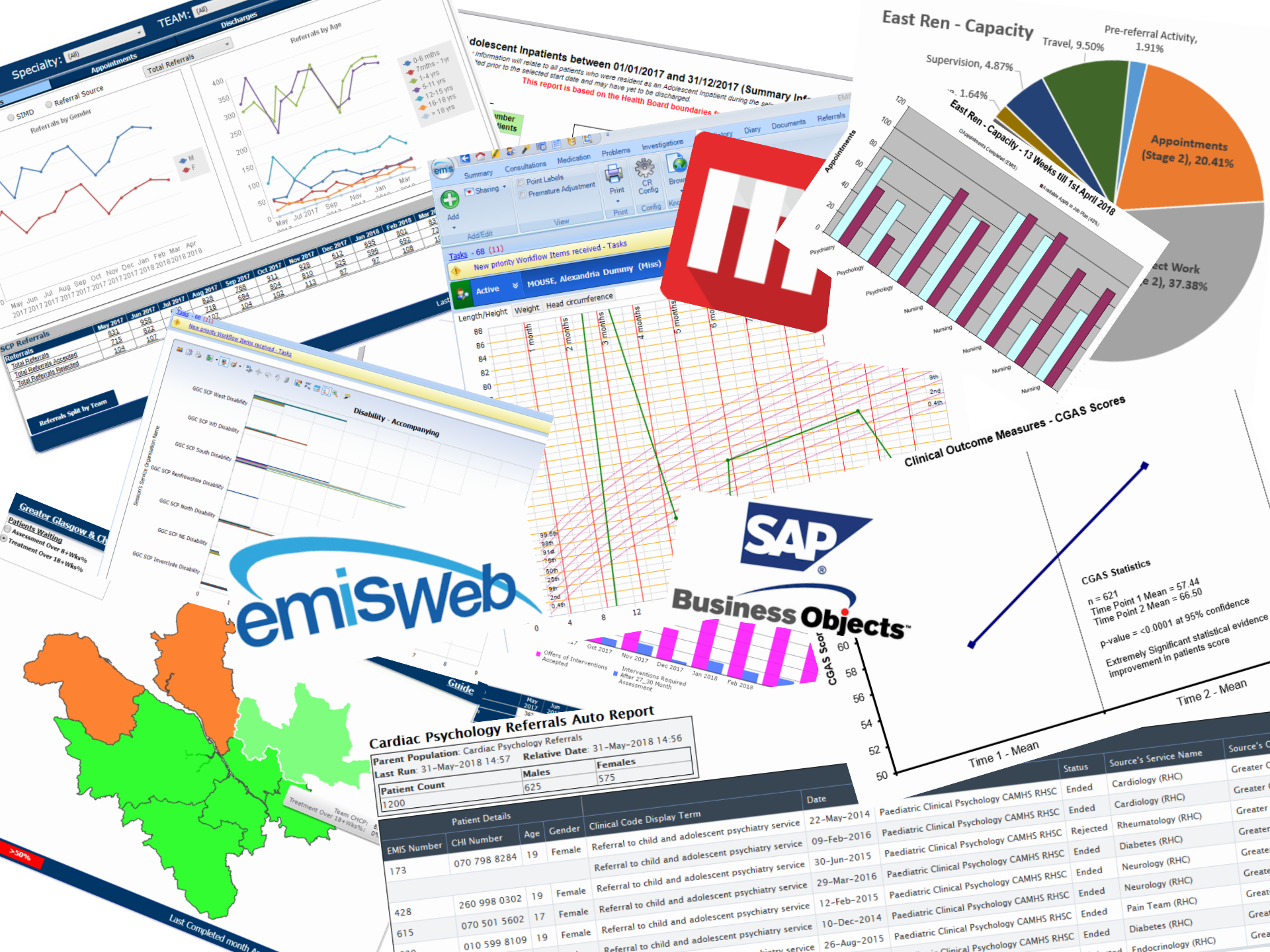
Challenges have been detected and must be considered to prevent damage.

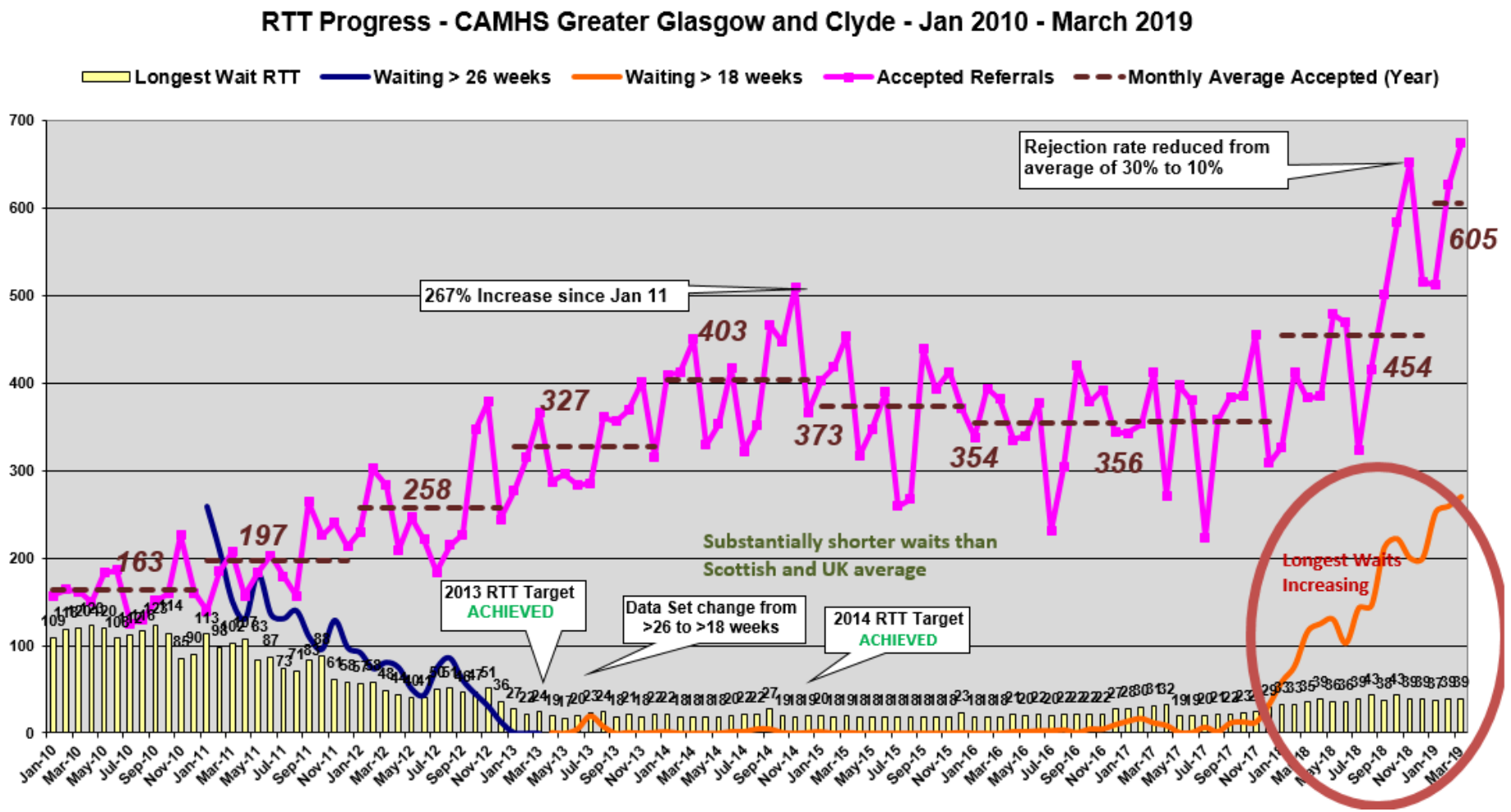
The problem could be caused by the following:

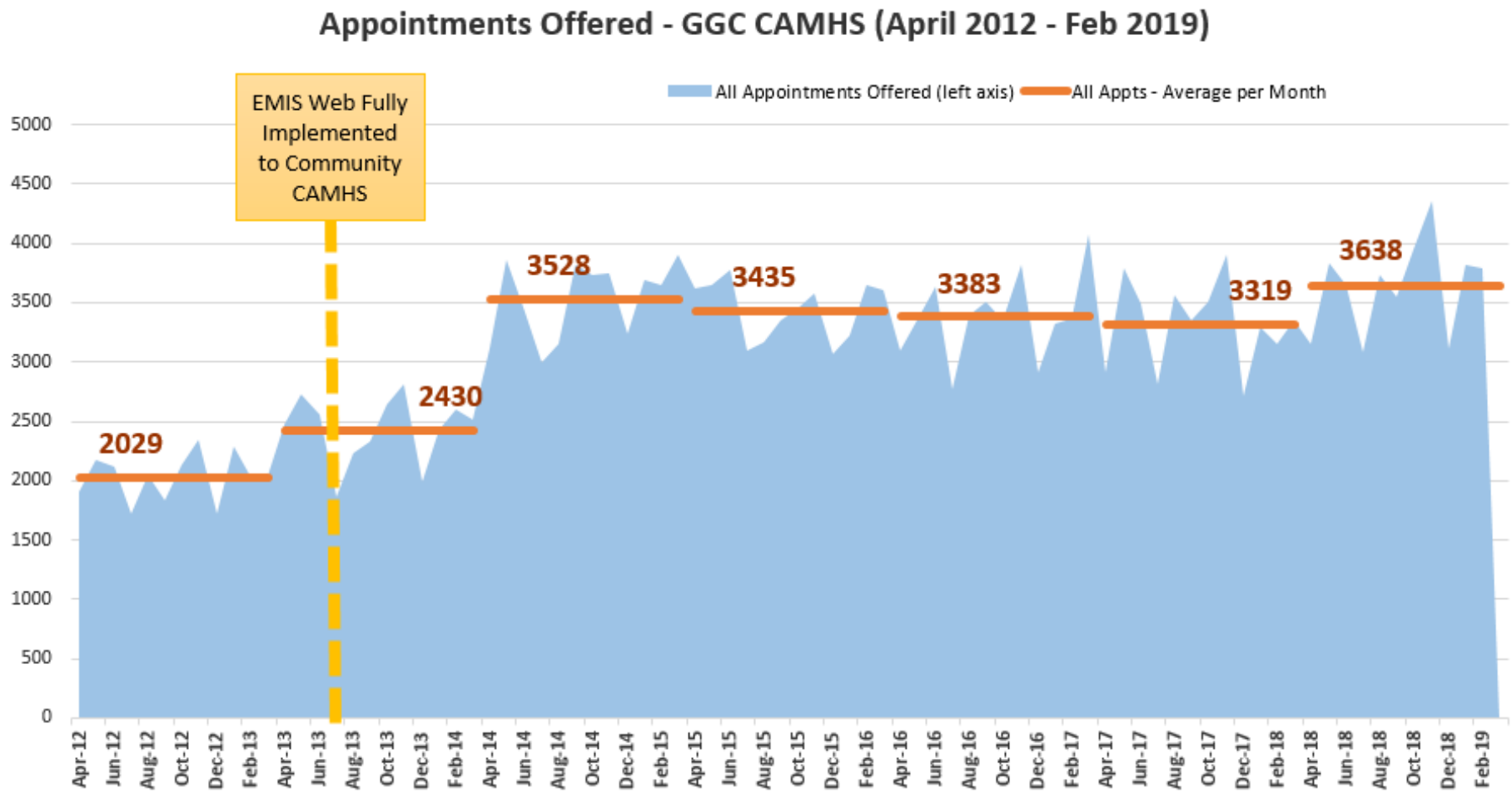
*** Scale of change
*** Information sharing and confidentiality
*** Challenges of a shared record
*** Managing expectations
*** Culture and beliefs about models of interaction
*** Skills gap
*** Leadership
*** The technology!
*** Data versus efficiency

Press any key to continue _

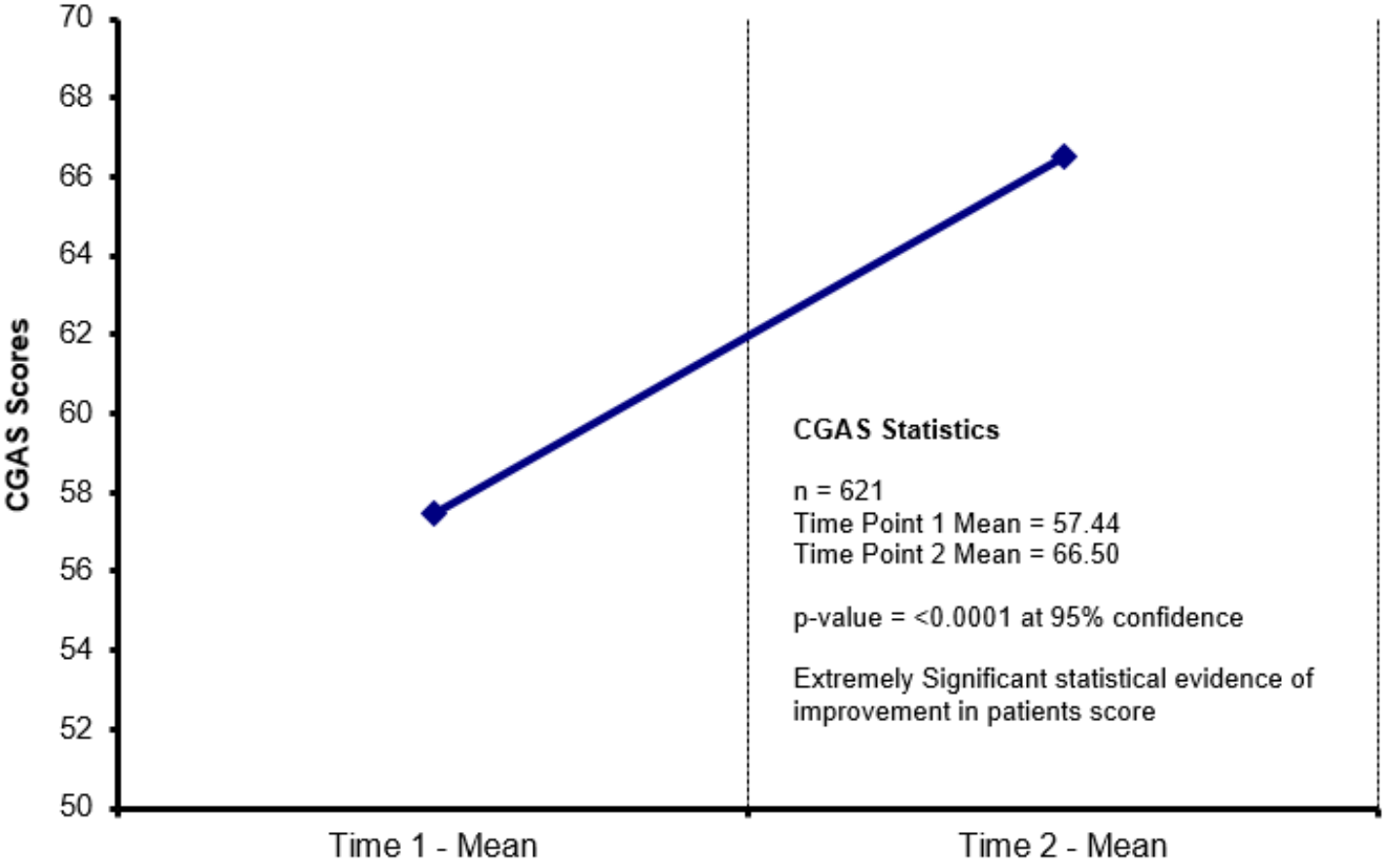

Shared Record
Info Sharing
Continuous Improvement
EMISWeb
Health Inequalities
Linkage
Value
Big Data
Quality
Electronic
Analysis
Service Development
Paper Rags to Data Riches
Person Centred
Research
Enable Development
Data
Digital
Communication
Joined Up
Informatics
Population Needs

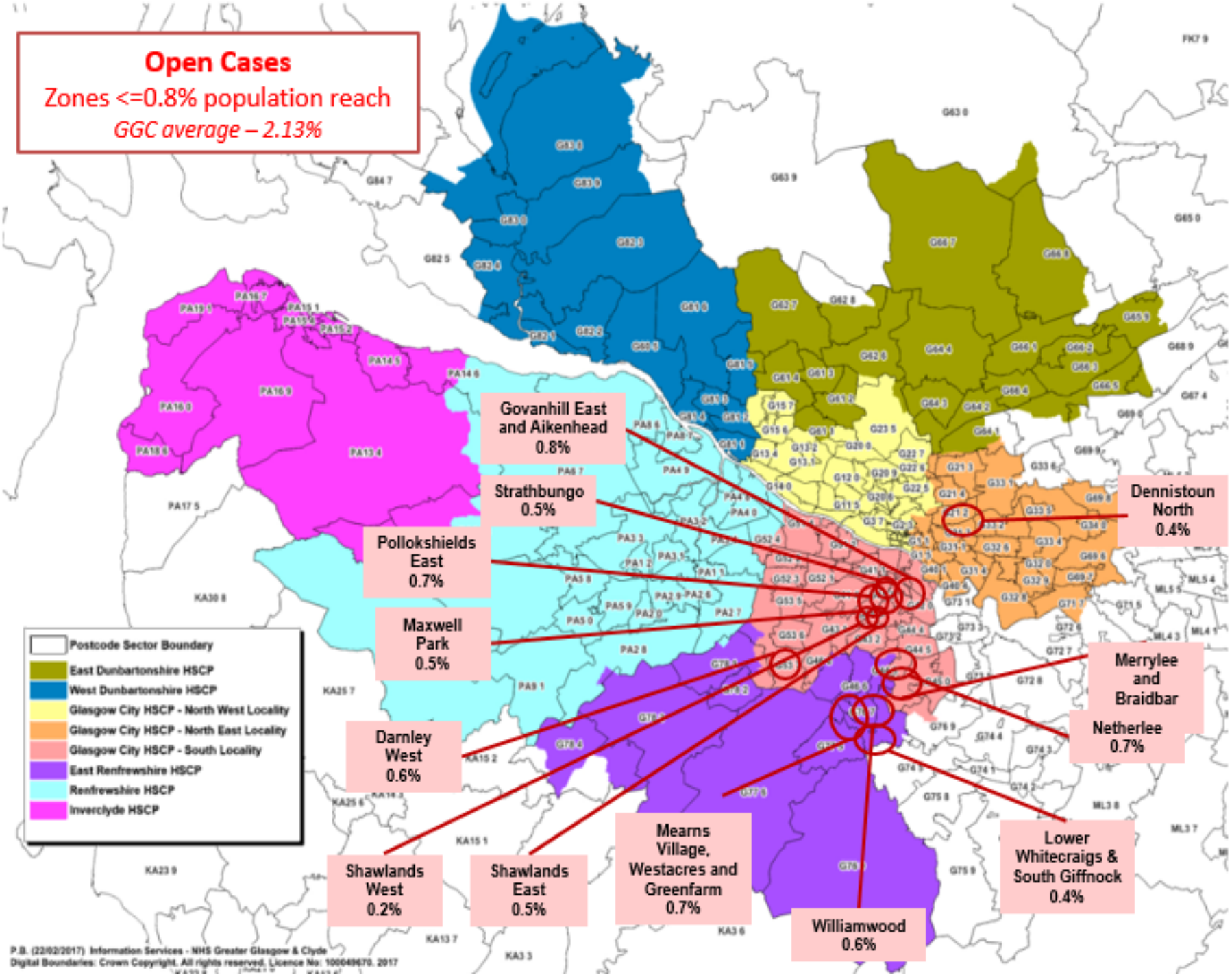

East Ren - Capacity
Pre-referral Activity, 1.91%
Travel, 9.50%
Supervision, 4.87%
1.64%
Appointments (Stage 2), 20.41%
East Ren - Capacity - 13 Weeks till 1st April 2018
Appointments
Psychiatry
Psychology
Nursing
Clinical Outcome Measures - CGAS Scores
CGAS Statistics
n = 621
Time Point 1 Mean = 57.44
Time Point 2 Mean = 66.50
p-value = <0.0001 at 95% confidence
Extremely Significant statistical evidence improvement in patients score
Time 1 - Mean
Time 2 - Mean
CGAS Scor
Disability - Accompanying
Referrals Split by Team
Greater Glasgow & Cl
Patients Waiting
Assessment Over 8+Wks%
Treatment Over 18+Wks%
emisWeb
SAP
Business Objects
Cardiac Psychology Referrals Auto Report
Parent Population: Cardiac Psychology Referrals
Last Run: 31-May-2018 14:57
Relative Date: 31-May-2018 14:56
Patient Count
Males
Females
1200
625
575
Patient Details
EMIS Number
CHI Number
Age
Gender
Clinical Code Display Term
Date
Status
Source's Service Name
173
070 798 8284
19
Female
Referral to child and adolescent psychiatry service
22-May-2014
Paediatric Clinical Psychology CAMHS RHSC
Ended
Cardiology (RHC)
09-Feb-2016
Rejected
Rheumatology (RHC)
30-Jun-2015
Diabetes (RHC)
29-Mar-2016
Neurology (RHC)
428
260 998 0302
19
Female
12-Feb-2015
615
070 501 5602
17
Female
10-Dec-2014
Pain Team (RHC)
010 599 8109
19
Female
26-Aug-2015
Endocrinology (RHC)


RTT Progress - CAMHS Greater Glasgow and Clyde - Jan 2010 - March 2019
Longest Wait RTT
Waiting > 26 weeks
Waiting > 18 weeks
Accepted Referrals
Monthly Average Accepted (Year)
Rejection rate reduced from average of 30% to 10%
267% Increase since Jan 11
163
197
258
327
403
373
354
356
454
605
Substantially shorter waits than Scottish and UK average
2013 RTT Target ACHIEVED
Data Set change from >26 to >18 weeks
2014 RTT Target ACHIEVED
Longest Waits Increasing


Appointments Offered - GGC CAMHS (April 2012 - Feb 2019)
All Appointments Offered (left axis)
All Appts - Average per Month
EMIS Web Fully Implemented to Community CAMHS
2029
2430
3528
3435
3383
3319
3638
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Apr-12
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Apr-14
Jun-14
Aug-14
Oct-14
Dec-14
Feb-15
Apr-15
Jun-15
Aug-15
Oct-15
Dec-15
Feb-16
Apr-16
Jun-16
Aug-16
Oct-16
Dec-16
Feb-17
Apr-17
Jun-17
Aug-17
Oct-17
Dec-17
Feb-18
Apr-18
Jun-18
Aug-18
Oct-18
Dec-18
Feb-19

Clinical Outcome Measures - CGAS Scores




Open Cases
Zones <=0.8% population reach
GGC average – 2.13%
Govanhill East and Aikenhead 0.8%
Strathbungo 0.5%
Pollokshields East 0.7%
Maxwell Park 0.5%
Darnley West 0.6%
Shawlands West 0.2%
Shawlands East 0.5%
Mearns Village, Westacres and Greenfarm 0.7%
Williamwood 0.6%
Lower Whitecraigs & South Giffnock 0.4%
Netherlee 0.7%
Merrylee and Braidbar
Dennistoun North 0.4%
Postcode Sector Boundary
East Dunbartonshire HSCP
West Dunbartonshire HSCP
Glasgow City HSCP - North West Locality
Glasgow City HSCP - North East Locality
Glasgow City HSCP - South Locality
East Renfrewshire HSCP
Renfrewshire HSCP
Inverclyde HSCP
P.B. (22/02/2017) Information Services - NHS Greater Glasgow & Clyde
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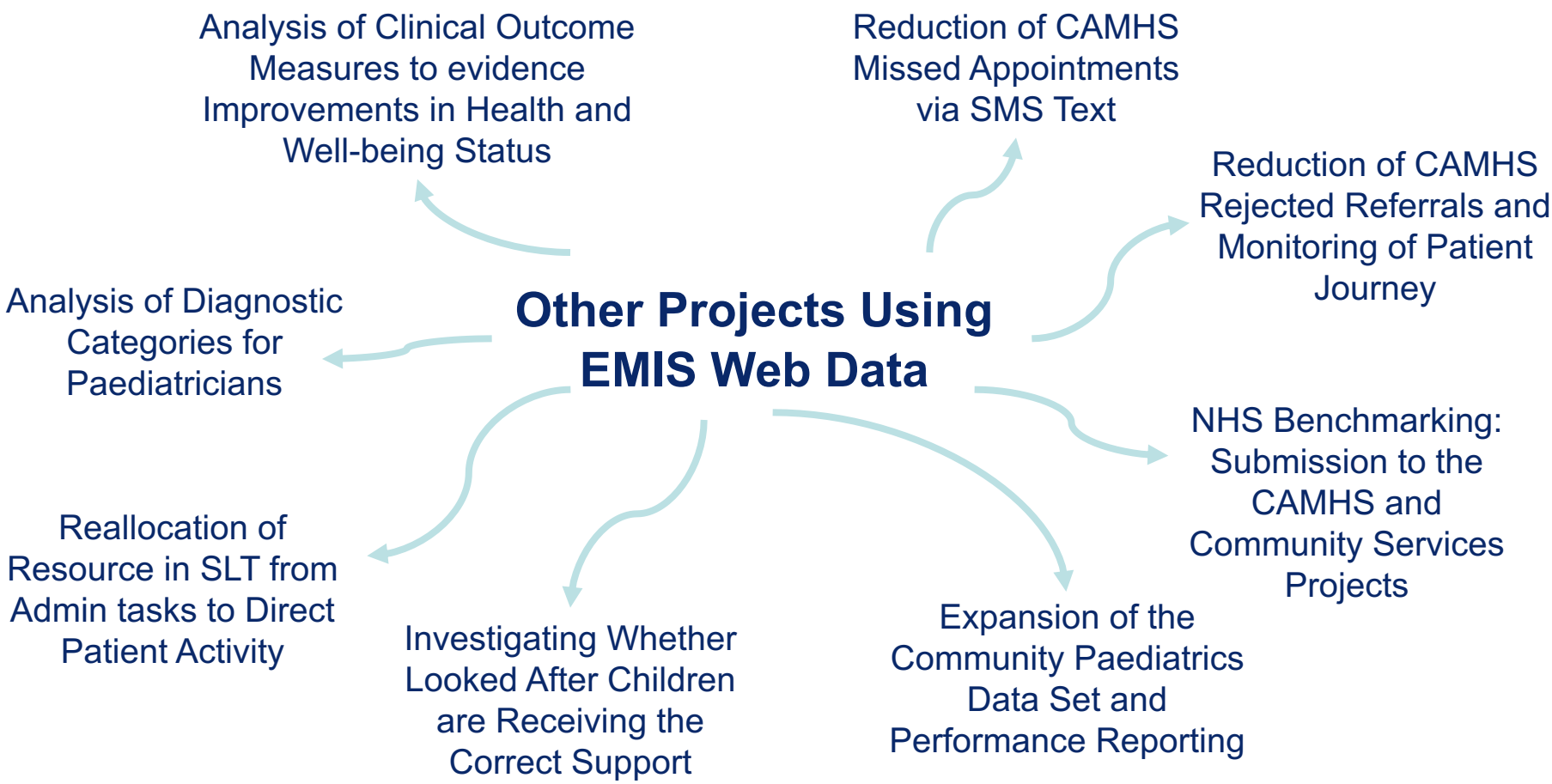

Other Projects Using EMIS Web Data
Analysis of Clinical Outcome Measures to evidence Improvements in Health and Well-being Status
Reduction of CAMHS Missed Appointments via SMS Text
Reduction of CAMHS Rejected Referrals and Monitoring of Patient Journey
Analysis of Diagnostic Categories for Paediatricians
NHS Benchmarking: Submission to the CAMHS and Community Services Projects
Reallocation of Resource in SLT from Admin tasks to Direct Patient Activity
Investigating Whether Looked After Children are Receiving the Correct Support
Expansion of the Community Paediatrics Data Set and Performance Reporting

Karen Lamb
Service Manager, Clinical Informatics
NHS Greater Glasgow and Clyde

karen.lamb@ggc.scot.nhs.uk

Scott Wilson
Senior Information Analyst
NHS Greater Glasgow and Clyde

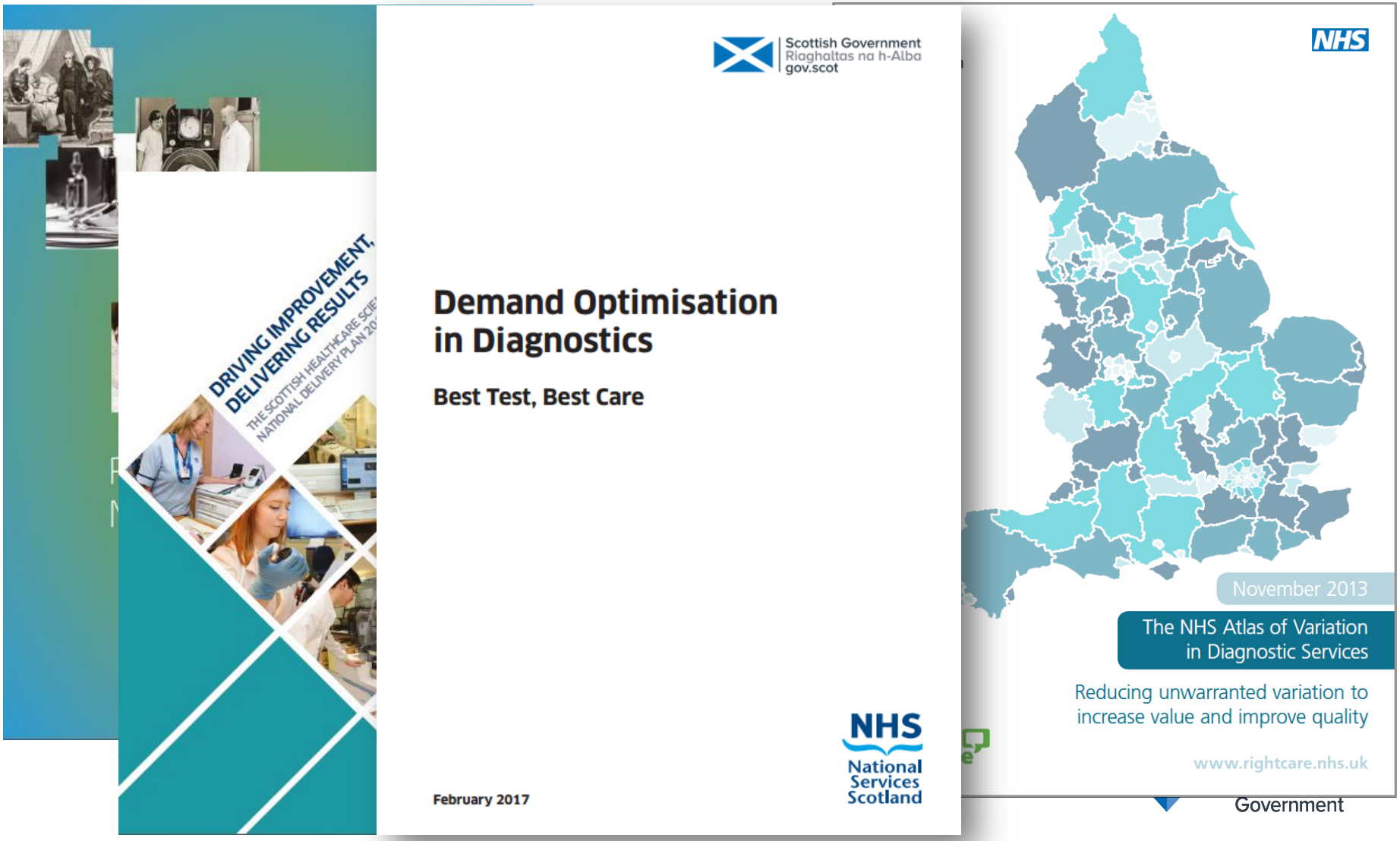
scott.wilson3@ggc.scot.nhs.uk

@nhsggcscs

Driving Improvements in Laboratory Test Requesting – The Context

Liz Blackman
Senior Programme Manager
National Managed Diagnostic Networks

How did we get here?



Driving Improvement

- Close partnerships with labs
- Deliver an interactive platform, not a static snapshot
- Improvement focus throughout
- Importance of service users

Driving Improvements in Laboratory Test Requesting – The Evidence

Claire Lawrie
Lead, Information Management Service

The Atlas of Variation

- Insert link to live atlas

Driving Improvements in Laboratory Test Requesting – In Practice

Dr Liz Furrie
Immunology
NHS Tayside

Team- resources

1. Laboratories
2. Health economists
3. Primary care
4. Secondary care
5. Public health

Outcomes- value

1. Correct test cascade
2. £££ viability
3. simplify/inform/aid
4. minimize waste
5. identify risk

- Know your service
- Know your population

to

Target the issues

Pick the correct project

- **Right patient**
- **Right test**
- **Right time**

Triple aim

- Improve quality
- Improve health
- Achieve value

- ✓ **Think Big- ideas are easy**
- ✓ **Multidisciplinary**
- ✓ **Across boundaries**
- ✓ **Once for Scotland**

Implementation is hard!

- ❖ Planning
- ❖ Collaboration
- ❖ Communication
- ❖ Quality

NHS SCOTLAND

Healthier Scotland
Scottish Government

- Integrated, automated blood sciences + virology
- Escalating rates of chronic liver disease
- Increasing Laboratory testing for CLD

Team- resources

1. Gastroenterology
2. Biochemistry
3. Haematology
4. Immunology
5. Virology
6. Primary care

iLFT-Intelligent Liver pathway

Outcomes- value

1. Intelligent cascade
2. Maximising value of tests
3. Simple requesting
4. Full interpretation
5. Minimising inappropriate referrals
6. Identifying risk

Pilot Study

Increased:

- detection Undiagnosed LD 43%
- Appropriate investigation of abnormal LFT 41-100%
- Liver diagnosis by GPs from 16-56%

Reduced:

- avoidable visits to GP by 85%
- referral rate by 75%
- Mortality, extra 0.021 quality adjusted life years
- Costs of £3,216/pt lifetime

Value/financial sustainability

- ICER £284 per correct diagnosis
- 100% probability of being cost effective

Real life data- 1st 6 months of going live

70% patients are suitable for management in 1° care

8 HCV, 2 HBV, 3 haemachromatosis, 1 PBC, A1AT 1 PiS variant and 17 carriers

The SAS Hypo Fife Project: Reducing the Harm from Severe Episodes of Low Blood Sugar

John Chalmers, Lead Clinician, Fife Diabetes MCN
Sharon Robertson, Lead in-patient Specialist Nurse
NHS Fife

SCI-Diabetes

MSD

NHS
National
Services
Scotland

Joint Working Project

University
of Dundee

NHS
Fife

Costs of hypoglycaemia?

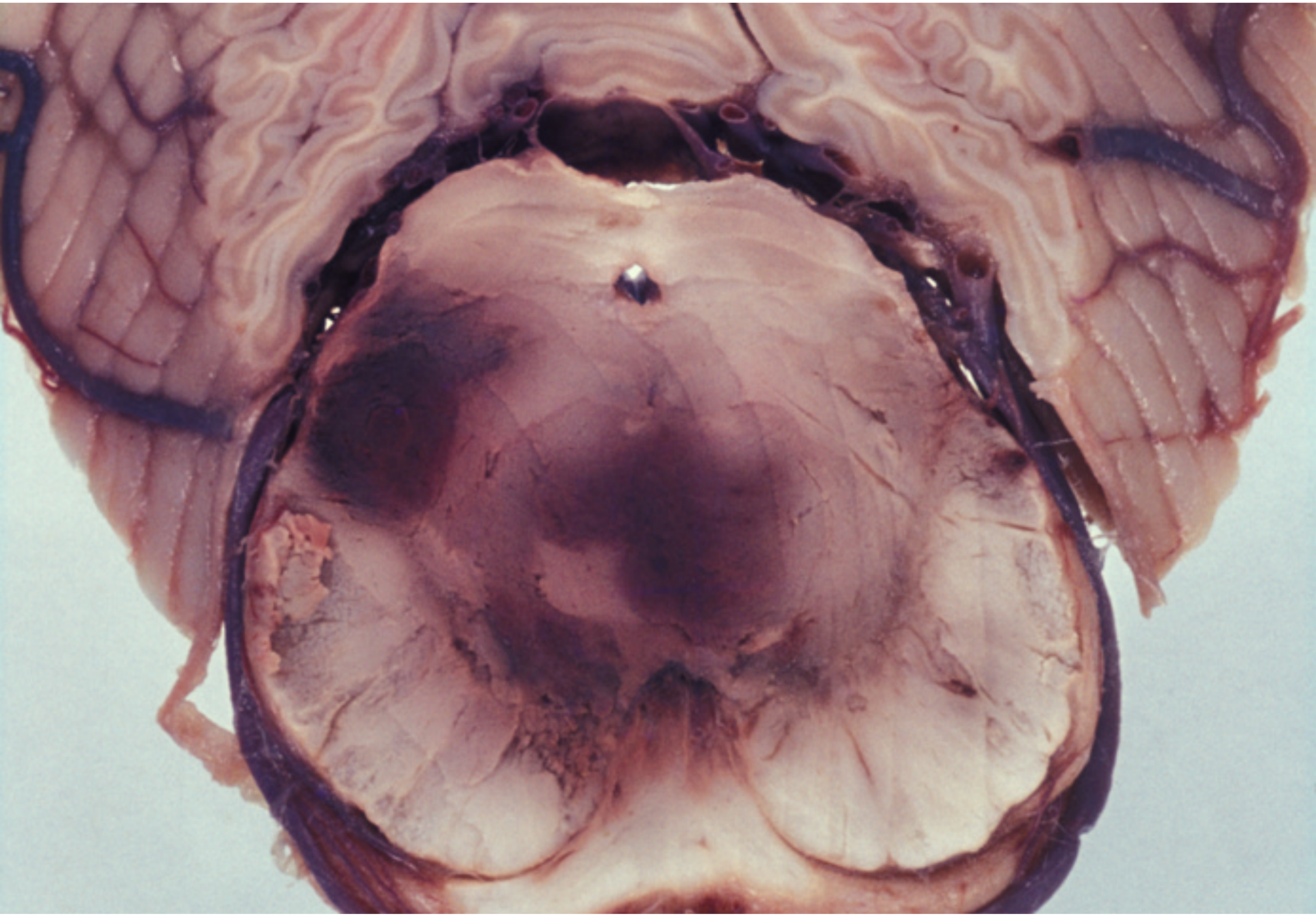
Patient

- Poor glycaemic control
- Driving/Employment
- Morbidity/Mortality

Health Service

- Ambulance Service Callouts
  - Prolonged visit
- A&E attendances
- Admissions
- NHS Fife c1000 callouts
- 672 conveyed to A&E
- Total Cost ~£844k
- Scotland ~£12.5m

2017 data



SAS-HYPO-FIFE PROJECT

AMBULANCE CALLED OUT

PATIENT ENGAGEMENT

MANAGE AT SCENE

NO HYPO

APPROPRIATE MANAGEMENT

HYPO

YES

DIABETES

Yes

SCI-Diabetes

>2 HYPO'S IN 6 MONTHS

Yes

INTENSIVE NURSE LED MANAGEMENT

PATIENT DATA TRANSFERED TO FIFE DIABETES CENTRE

PATIENT AT HOME

Yes

MANAGE OVER PHONE

Yes

FOLLOW UP WITH PRIMARY CARE PROVIDER

No

Option

No

MANAGED IN A& E

No

MANAGED ON WARD

APPOINTMENT MADE WITH DIABETES CENTRE

Yes

Process

Identification of patients with Hypoglycaemia

- Patients matched appear on SCI-Diabetes
- Contact with patients by Inpatient Diabetic Specialist Nurse (DSNs)
- Advice given
- Update of worksheet on SCI-Diabetes

Increased awareness of issues with hypoglycaemia for SAS

- Education
  - Train the trainers
  - 15 station champions
  - Hypoglycaemia
- Questionnaire
  - Ambulance crews
  - 38/100 responses

HYPOGLYCAEMIA

PATIENT & CARER INFORMATION LEAFLET

Please take the time to read this leaflet and keep it in a safe place

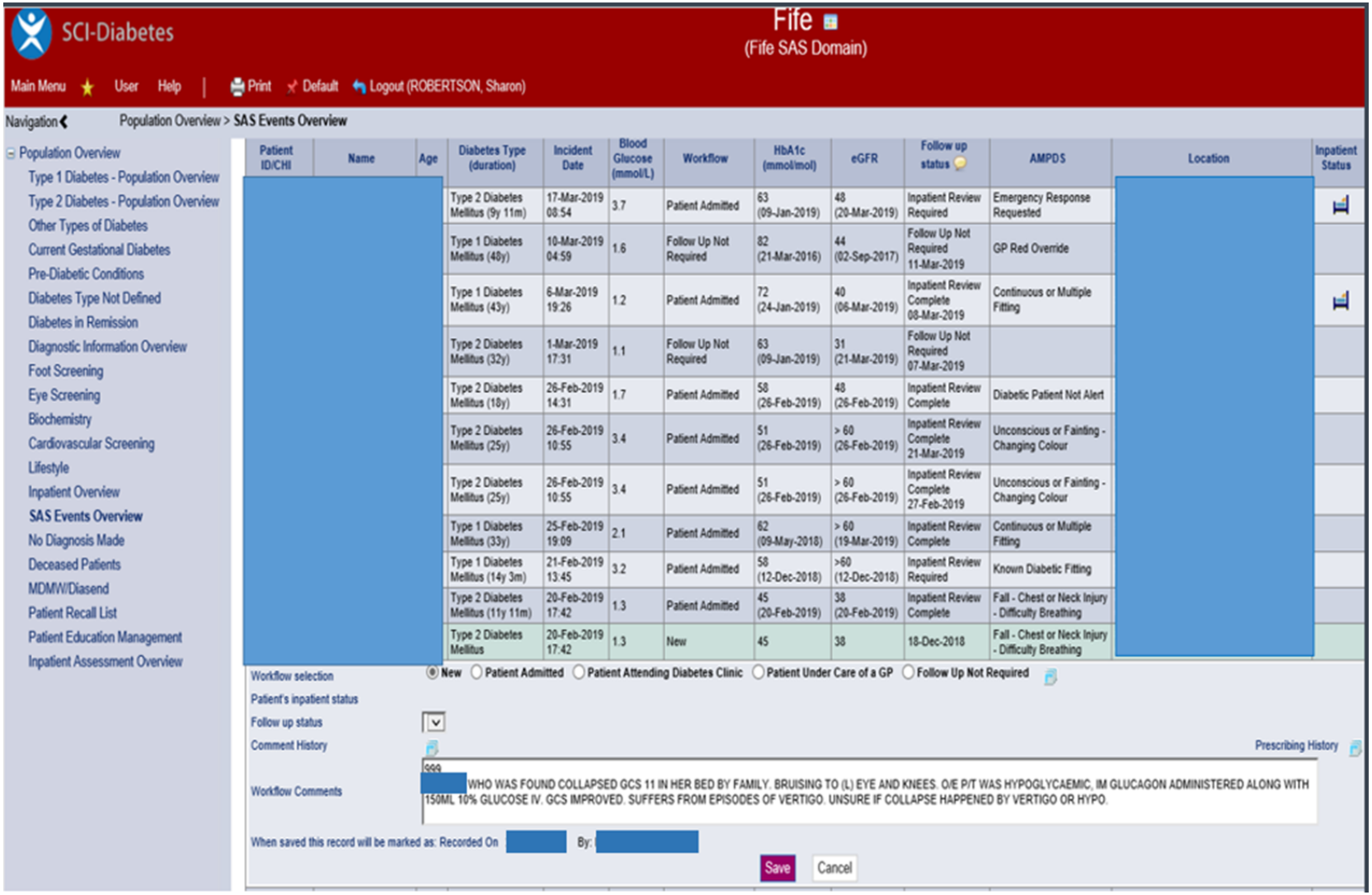
NHS
SCOTLAND

Data Matching

ISD clean data prior to transmission to SCI-Diabetes

Steps

- Receive Electronic Patient Report Form (ePRF)
- Identify reports with blood glucose recording
- Check Key Information Summary records to identify Community Health Index (CHI)
- Add GP practice code to determine relevant health board
- Transmit to SCI-Diabetes


SCI-Diabetes
Fife
(Fife SAS Domain)
Main Menu
User
Help
Print
Default
Logout (ROBERTSON, Sharon)
Navigation
Population Overview > SAS Events Overview
Population Overview
Type 1 Diabetes - Population Overview
Type 2 Diabetes - Population Overview
Other Types of Diabetes
Current Gestational Diabetes
Pre-Diabetic Conditions
Diabetes Type Not Defined
Diabetes in Remission
Diagnostic Information Overview
Foot Screening
Eye Screening
Biochemistry
Cardiovascular Screening
Lifestyle
Inpatient Overview
SAS Events Overview
No Diagnosis Made
Deceased Patients
MDM/Diasend
Patient Recall List
Patient Education Management
Inpatient Assessment Overview
Patient ID/CHI
Name
Age
Diabetes Type (duration)
Incident Date
Blood Glucose (mmol/L)
Workflow
HbA1c (mmol/mol)
eGFR
Follow up status
AMPDS
Location
Inpatient Status
Type 2 Diabetes Mellitus (9y 11m) 17-Mar-2019 08:54 3.7 Patient Admitted 63 (09-Jan-2019) 48 (20-Mar-2019) Inpatient Review Required Emergency Response Requested
Type 1 Diabetes Mellitus (48y) 10-Mar-2019 04:59 1.6 Follow Up Not Required 82 (21-Mar-2016) 44 (02-Sep-2017) Follow Up Not Required 11-Mar-2019 GP Red Override
Type 1 Diabetes Mellitus (43y) 6-Mar-2019 19:26 1.2 Patient Admitted 72 (24-Jan-2019) 40 (06-Mar-2019) Inpatient Review Complete 08-Mar-2019 Continuous or Multiple Fitting
Type 2 Diabetes Mellitus (32y) 1-Mar-2019 17:31 1.1 Follow Up Not Required 63 (09-Jan-2019) 31 (21-Mar-2019) Follow Up Not Required 07-Mar-2019
Type 2 Diabetes Mellitus (18y) 26-Feb-2019 14:31 1.7 Patient Admitted 58 (26-Feb-2019) 48 (26-Feb-2019) Inpatient Review Complete Diabetic Patient Not Alert
Type 2 Diabetes Mellitus (25y) 26-Feb-2019 10:55 3.4 Patient Admitted 51 (26-Feb-2019) > 60 (26-Feb-2019) Inpatient Review Complete 21-Mar-2019 Unconscious or Fainting - Changing Colour
Type 2 Diabetes Mellitus (25y) 26-Feb-2019 10:55 3.4 Patient Admitted 51 (26-Feb-2019) > 60 (26-Feb-2019) Inpatient Review Complete 27-Feb-2019 Unconscious or Fainting - Changing Colour
Type 1 Diabetes Mellitus (33y) 25-Feb-2019 19:09 2.1 Patient Admitted 62 (09-May-2018) > 60 (19-Mar-2019) Inpatient Review Complete Continuous or Multiple Fitting
Type 1 Diabetes Mellitus (14y 3m) 21-Feb-2019 13:45 3.2 Patient Admitted 58 (12-Dec-2018) >60 (12-Dec-2018) Inpatient Review Required Known Diabetic Fitting
Type 2 Diabetes Mellitus (11y 11m) 20-Feb-2019 17:42 1.3 Patient Admitted 45 (20-Feb-2019) 38 (20-Feb-2019) Inpatient Review Complete Fall - Chest or Neck Injury - Difficulty Breathing
Type 2 Diabetes Mellitus 20-Feb-2019 17:42 1.3 New 45 38 18-Dec-2018 Fall - Chest or Neck Injury - Difficulty Breathing
Workflow selection
New
Patient Admitted
Patient Attending Diabetes Clinic
Patient Under Care of a GP
Follow Up Not Required
Patient's inpatient status
Follow up status
Comment History
Prescribing History
Workflow Comments
999
WHO WAS FOUND COLLAPSED GCS 11 IN HER BED BY FAMILY. BRUISING TO (L) EYE AND KNEES. O/E P/T WAS HYPOGLYCAEMIC, IM GLUCAGON ADMINISTERED ALONG WITH 150ML 10% GLUCOSE IV. GCS IMPROVED. SUFFERS FROM EPISODES OF VERTIGO. UNSURE IF COLLAPSE HAPPENED BY VERTIGO OR HYPO.
When saved this record will be marked as: Recorded On
By:
Save
Cancel

Appropriate role for inpatient DSN

21% attended A&E only (not admitted)

33% admitted to hospital

= 54% attended hospital

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Healthier Scotland
Scottish Government

Results

120 episodes since March 2018

Average 2 per week

Only 50% captured as CHI's not matched

50% type 1

50% type 2

94.2% on insulin

5.8% on oral medication

Results

38% treatment change

25% insulin dose reduced

3% stopped insulin

3% stopped sulphonylurea

62% no change as identifiable reason for hypoglycaemic event

Patient feedback

Negatives

Discussions around driving and DVLA regulations – potential loss of licence

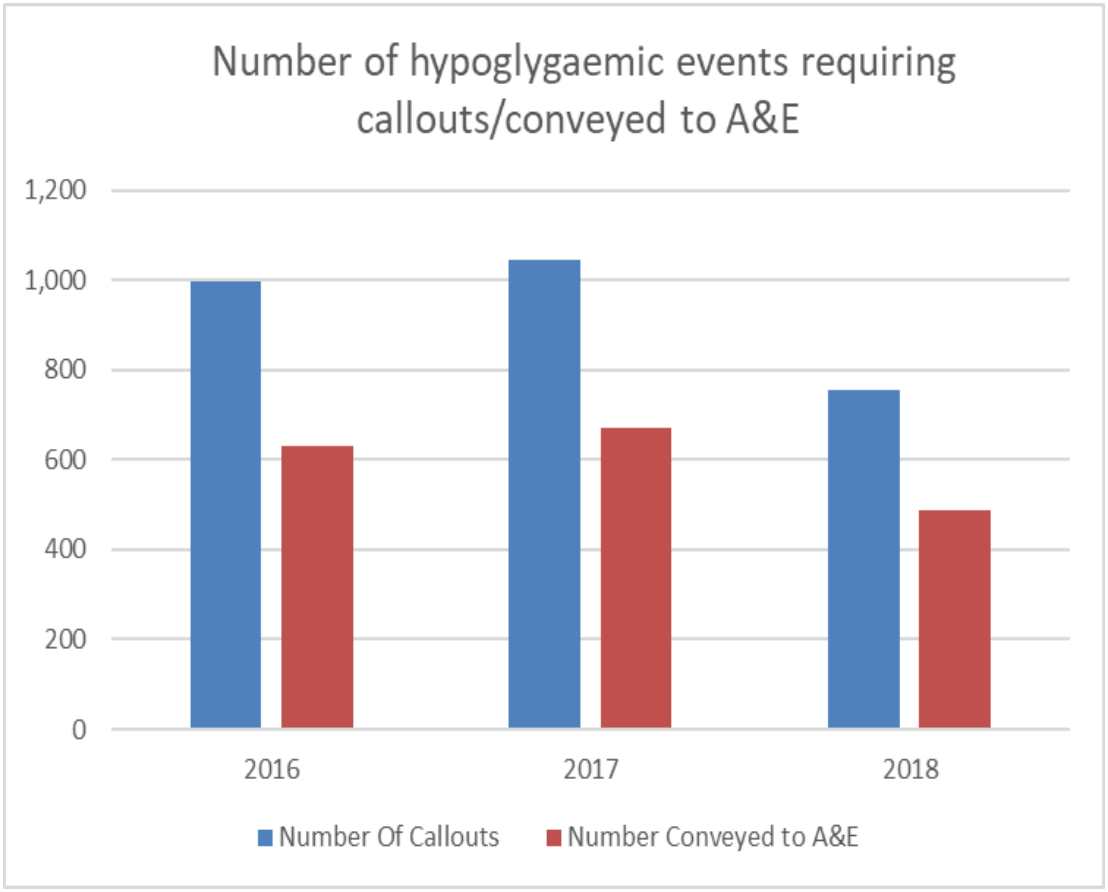
Outcomes and challenges

Outcomes

- Data flows from SAS callouts to Fife Diabetes Centre every day
- Station leaders trained
- Direct referral from SAS to DSN
- 38% reduction in callouts for hypoglycaemic events 2018 v 2017
- 38% reduction in conveyances to A & E 2018 v 2017
- £230k saving across SAS and NHS Fife

Challenges

- Data matching
- Online training



Roll out nationally

Permission for Data Linkage

- SAS/Local Caldicott Guardian
- Switch on SCI-Diabetes page

Ambulance Training and Education

- Local champion

Diabetes Specialist Nurse Support

- Identify individuals to undertake triage/patient contact

Whole Team Awareness

Other clinical areas linking to SAS?

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Healthier Scotland
Scottish Government

Contact

Dr John Chalmers

john.chalmers@nhs.net