Achieving digital transformation at scale in North West London

Dr Tony Willis, Clinical Director for Diabetes, North West London
142,713 patients in NWL with diabetes

41% of all NWL admissions

63% of bed days (36% have a coded complication)

£598m NWL spend on diabetes patients (~22%)

377 additional beds by 2028 – a medium size hospital
Background: Clinician and user wish list

- Reduce variability in experience and outcomes
- Provide care planning resources
- Easy access to trusted diabetes information
- Put bigger emphasis on prevention
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<th>Practice name</th>
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Background: Initial work across 5 CCGs (CWHHE)

- 1.46m citizens
- 229 GP practices
- > 75,000 people with diabetes
- > 63,000 people at high risk of diabetes
Scale: Digital Initiatives

- Clinical System Optimisation
- Integrated Records
- Supported Self-Care Apps
- Information Hub
Digital: Clinical systems optimisation

- Templates
- Reports
- Alerts
- Guidelines
- Letters and care plans
Clinical systems optimisation: Clinical templates

Hyperlinks to clinical guidelines for each element
Clinical systems optimisation: Guidelines

**TYPE 2 DIABETES – DIAGNOSIS ALGORITHM**

**HOW TO TEST**

Diagnosis of Type 2 Diabetes can be made using HbA1c in those who are asymptomatic. It should not be used for diagnosis in children, pregnancy and those who are acutely ill or who have abnormal haemoglobin, anaemia and altered red blood cell lifespan.

- Follow up
- Code as diabetes
- Lifestyle advice
- Structured education management
- 6-12 month review

**TYPE 2 DIABETES – FOOT MANAGEMENT ALGORITHM**

**FOOT SCREENING AND MANAGEMENT**

Assumed patient part of ongoing care and on to one education as per NICE

Test foot sensation

- Inspect for any deformity
- Inspect for significant callus
- Inspect footwear
- Ask about any pain

Check for signs of infection

- Ask about previous ulceration

**Diabetic foot risk assessment**

- Low
  - Normal sensation, palpable pulses
  - Surveillance 3-6 monthly by clinician with footcare competence/training
  - Enhanced footcare education
  - Inspect feet 3-6 monthly
  - Advise on appropriate footwear
  - Review need for vascular assessment
  - Low threshold for further referral

- Moderate
  - One risk factor present e.g. neuropathy or absent foot pulses or other foot changes
  - Surveillance 1-3 monthly by clinician with footcare competence/training
  - Enhanced footcare education
  - Inspect feet 3-6 monthly
  - Advise on appropriate footwear
  - Review need for vascular assessment
  - Low threshold for further referral

- High
  - High
  - Increased surveillance 1-3 monthly by specialist podiatrist or member of the foot protection team
  - At each regular Diabetes visit footcare education / footwear / vascular status

- Very high
  - Presence of active ulceration/break in the skin, spreading infection, gangrene or unexplained hot, red, swollen foot with or without pain
  - Rapid referral to multidisciplinary footcare team
  - Admission to secondary care if patient systemically unwell

**Risk Status**

- Documented and patient provided with written and verbal education and emergency contact numbers

- Low risk
- Moderate risk
- High risk
- Ulcer

Date of preparation: September 2014. For review: September 2015.
Digital: Whole Systems Integrated Care

An integrated care record including primary, secondary and social care data: NHS-owned

Sources
- Primary care
- Secondary care
- Community
- Mental health
- Social care

Capabilities
- Clinical record
- Risk stratification
- Per patient costing
- LTC dashboards
- Population health

Over 2 million patient records: linked by NHS number
Integrated Records: Individual and population dashboards
Inner city app pilot: 430 patients with Type 2 diabetes
“This app has **changed my life. It keeps me motivated**”

“I have lost weight”

“I found it really useful to have a **friendly 'voice' on hand. I loved the little tips and advice I was sent and it kept me motivated**”
6.9 mmol/mol reduction in mean HbA1c

2.5 kg reduction in mean weight

Most deprived deciles over-represented vs diabetes register
60,000 people to receive structured education by 2021

>350,000 need to receive support in a sustainable way

Needs massively scalable and longer term solution
Know Diabetes

This website is for people with diabetes living in Hammersmith and Fulham, Kensington and Chelsea, Westminster, Ealing, Hounslow, Brent, Hillingdon and Harrow.

Know Diabetes houses over 200 resources – videos, games, online courses and leaflets to help you self-manage your diabetes.
Digital: Know Diabetes Digital Information Hub

Receive referrals from across NWL

Referral from other

GP Referral

Self referral

Triage patients to most appropriate intervention

Face to face course

Lifestyle change app
eLearning
Videos
Coaching / Mentoring

Single point of referral / Call centre

Digital: Know Diabetes Digital Information Hub

Social media

Emails

SMS messaging

Website management and content

Proactive life-long personalised support

myway digital health
Dynamic Health Systems
Microsoft

North West London Collaboration of Clinical Commissioning Groups
Digital: Personalised self-care support

Person with Type 2 DM, Age 67, Female, HbA1c 64, BMI 34

Pathway automation

Email → Landing page → Motivational videos → Change in weight → Keep going!

- Personalised support
- Wait 4 days
- Follow up
- Measuring response from linked clinical data

Different pathways for different groups of patients
Impact
Impact: Significant improvements in diabetes care

- 28,905 more receiving 9 key care processes
- 4,884 more with HbA1c ≤ 58 since 8/15
- 3,790 more achieving 3TT since 6/16
- 11,148 more on NICE recommended statin
- 26,171 more monitored for hypoglycaemia
- > 55,000 more with collaborative care plan
Impact: Diabetes prevention improvements

- 63,411 on NDH register
- 76% with HbA1c in last 15 months
- 31,652 offered referral to NDPP
- 11,837 accepted referral to NDPP
- 6,159 attended NDPP initial assessment
- 3,087 in NDPP groups
## Impact: Dashboards effectively driving change

### January 2015

**Network 1**
- North: 3582 residents with diabetes
- Total: 2541 residents with diabetes

**Network 2**
- South: 3582 residents with diabetes
- Total: 2541 residents with diabetes

**Network 3**
- Central Ealing: 1847 residents with diabetes
- Total: 2693 residents with diabetes

**Network 4**
- North West: 3582 residents with diabetes
- Total: 2541 residents with diabetes

### June 2016

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### February 2017

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**Network 4**
- North West: 3582 residents with diabetes
- Total: 2541 residents with diabetes
Impact: Improvements in key parameters
Impact: UKPDS effects of 11mmol/mol HbA1c improvement

- 37% reduction in microvascular complications (e.g. kidney disease, blindness)
- 43% reduction in amputation or fatal peripheral arterial disease
- 21% reduction in deaths related to diabetes
- 14% reduction in heart attack
- 12% reduction in stroke
Steno-2 study showed > 50% reduction in main cardiovascular disease outcomes in Type 2 diabetes.

Swedish population cohort study showed approx 75% reduction in coronary heart disease and 55% reduction in mortality.
Even a conservative 1% annual incremental reduction in complication rates is cost saving vs do nothing at year 3.
Case studies
Golborne ward is most deprived in London, 12 yr life expectancy gap between north and south

Case study 1: Clinical leadership, North Kensington

Map of Index of Multiple Deprivation (IMD) 2015
Case study 1: Clinical leadership, North Kensington

15 practices

4087 patients with diabetes

High levels of deprivation
Large North African population

What happened?

• **Clinical leadership** by local GP
• **Dashboard discussion** during clinical network meetings
• Bespoke **GP education** sessions

Golborne Medical: 3 treatments targets increased by **16.7%**
### Case study 1: Clinical leadership, North Kensington

#### June 2016

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Case study 1: Patient feedback

“...Having a consistent GP and specialist Diabetes nurse at the practice has helped my journey...I feel more motivated. I now know a lot more than I did before. I can even advise my family members who have diabetes. I feel more able to make healthy choices and more upbeat...”

Patient with Type 2 DM and Serious mental illness living in Golborne Ward, North Kensington
Case study 1: GP feedback

“...patient engagement has greatly improved. They feel...motivated to change...We are clinically **seeing results; better HbA1c control, lower cholesterol and improvements in BMI**”

*Dr Rachel Hames, North Kensington Medical Centre*

“...The **constant feedback** and **benchmarking** has brought out the **competitive spirit** amongst the team...”

*Dr Naomi Katz, Grand Union Health Centre, North Kensington*
Diabetes prevalence in Southall is 10.2%
22 practices, historically many single-handed, near retirement

12,077 patients with diabetes
43% born outside UK, 48% Asian

What happened?
- **Community diabetes team** provided support
- **Administrative support** from GP federation
- Saluja clinic (~ 1000 diabetes patients): **new practice manager, new culture of positivity, receptionist training**

5.7% improvement in NDA 3TT in past year across both networks
### Case study 2: Community team and GP federation, Southall

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**11.5% increase in National Diabetes Audit 3TT achievement**

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*Saluja*
Using dashboards to support quality improvement

| A   | B            | C          | D          | E          | F          | G          | H          | I          | J          | K          | L          | M          | N          | O          | P          | Q          | R          | S          | T          | U          | V          | W          | X          | Y          | Z          | AA         | AB         | AC         | AD         | AE         | AF         | AG         | AH         | AI         |
|-----|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
Impact: Ingredients needed for success

- Patient empowerment: collaborative care planning
- Clinician education
- Networks and MDTs
- Dashboards
- Contracts
- Clinical system optimisation
- Clinical guidelines