# The Diabetes MyQuest Consultation Tool©
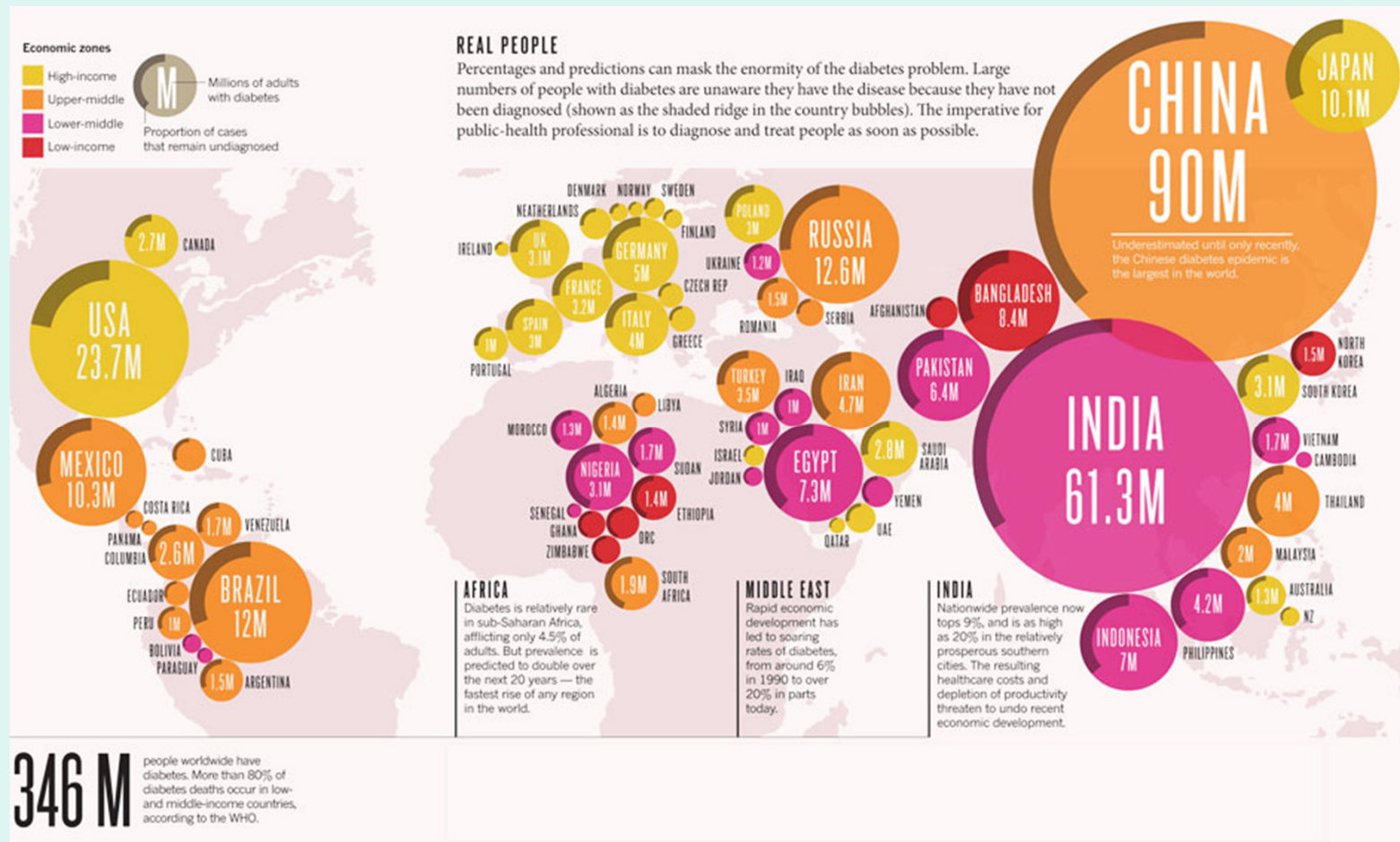
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# Study Background
# "Tsunami of diabetes"[1]

**Economic zones**
- High-income
- Upper-middle
- Lower-middle
- Low-income

M — Millions of adults with diabetes

Proportion of cases that remain undiagnosed

**REAL PEOPLE**
Percentages and predictions can mask the enormity of the diabetes problem. Large numbers of people with diabetes are unaware they have the disease because they have not been diagnosed (shown as the shaded ridge in the country bubbles). The imperative for public-health professional is to diagnose and treat people as soon as possible.

CHINA 90M
Underestimated until only recently, the Chinese diabetes epidemic is the largest in the world.

JAPAN 10.1M

CANADA 2.7M
USA 23.7M
MEXICO 10.3M
CUBA
COSTA RICA
PANAMA
COLUMBIA 2.6M
VENEZUELA 1.7M
ECUADOR
PERU 1M
BOLIVIA
PARAGUAY
BRAZIL 12M
ARGENTINA 1.5M

DENMARK  NORWAY  SWEDEN
NEATHERLANDS
IRELAND
UK 3.1M
GERMANY 5M
FINLAND
FRANCE 3.2M
ITALY 4M
SPAIN 3M
PORTUGAL 1M
GREECE
POLAND 3M
UKRAINE 1.2M
CZECH REP
RUSSIA 12.6M
SERBIA 1.5M
ROMANIA
AFGHANISTAN
BANGLADESH 8.4M
PAKISTAN 6.4M
NORTH KOREA 1.5M
SOUTH KOREA 3.1M
VIETNAM 1.7M
CAMBODIA
THAILAND 4M
MALAYSIA 2M
AUSTRALIA 1.3M
NZ
INDIA 61.3M
INDONESIA 7M
PHILIPPINES 4.2M
ALGERIA 1.3M
LIBYA 1.4M
MOROCCO
NIGERIA 3.1M
SUDAN 1.7M
SENEGAL
GHANA
ZIMBABWE
DRC 1.4M
ETHIOPIA
SOUTH AFRICA 1.9M
TURKEY 3.5M
IRAQ 1M
SYRIA 1M
ISRAEL
JORDAN
IRAN 4.7M
EGYPT 7.3M
SAUDI ARABIA 2.8M
YEMEN
QATAR
UAE

**AFRICA**
Diabetes is relatively rare in sub-Saharan Africa, afflicting only 4.5% of adults. But prevalence is predicted to double over the next 20 years — the fastest rise of any region in the world.

**MIDDLE EAST**
Rapid economic development has led to soaring rates of diabetes, from around 6% in 1990 to over 20% in parts today.

**INDIA**
Nationwide prevalence now tops 9%, and is as high as 20% in the relatively prosperous southern cities. The resulting healthcare costs and depletion of productivity threaten to undo recent economic development.

**346 M** people worldwide have diabetes. More than 80% of diabetes deaths occur in low- and middle-income countries, according to the WHO.

1.Tony Scully, Nature 485, S2–S3 (17 May 2012) doi:10.1038/485S2a Published online 16 May 2012

# Study background

- Move to globally manage T2D in primary care

- Move to use nurses to manage T2D in primary care[2]

- Managing T2D is complex: medication, BP, weight, dietary intake, exercise, routine bloods for HbA1c, lipid profile, kidney function, injection sites, feet examined, other issues – psychosocial problems, especially depression[3]

- Diabetes consultations are important clinical appointments requiring a high level of expertise on a whole range of diabetes management issues

- Consultation time is short, nurses may not have adequate training, patients may not be suitably empowered to self manage/be depressed

- So the whole clinical encounter can be very informative important meetings but they may be a frustrating experience for both parties. Other conditions may be similarly affected

- The solution as identified by the European Panel of Diabetes Nurses was to have a questionnaire which would facilitate the clinical encounter

# The MyQuest Study – Designing the Tool

### The original questionnaire - objectives

- Provide a practical, structured & time efficient tool to aid consultations
- Give patients an opportunity to take an active role & to discuss key issues
- Support nurses to optimise patient self care
- Identify and support emotional problems
- Sent to me for piloting
- Showing it to patients we gained lots of input and suggestions
- Too long (originally 8 pages)
- Too depressing -"its possible to have good days with diabetes too!"
- Too negative
- "Like being at school"
- A group of 12 patients helped me re-write the tool in 3 pages

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# The Diabetes MyQuest Consultation Tool©

Page 1

- Helpful information about demographics, diabetes management, diabetes duration, medication etc.
- Prompts the nurse AND the patient
- Blood glucose & HbA1c monitoring –Using every opportunity to discuss, educate, empower

Page 2

- 16 statements to determine patient attitudes with regards to certain behaviours such as coping, healthy eating, exercise, medication, blood glucose testing, hypoglycaemia, hyperglycaemia, support, advocacy, education

Page 3

- WHO-5 Well being Scale
- Space to record goals and actions

You have a HbA1c of 12% - that's too high, and you must reduce it!



I don't even know what a HbA1c is!

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# Study Pilot – Aims and Objectives

Pilot Aim:

Determine feasibility of using the tool in primary care

Pilot Objectives:

1. Practicality of using the tool to aid the clinical encounter as seen from both patient and nurses perspectives (pre and post interviews)
2. Effectiveness of the tool to facilitate and improve diabetes knowledge (DKQ)[4], satisfaction with the consultation (DCPNI), and patient self-efficacy (DES SF)[5]
3. Investigate well-being and possible depression, WHO-5 Well-Being Index as part of the tool
4. Compare any change in HbA1c from baseline to 3 months post study

4. Fitzgerald, J.T., Anderson, R.M., Funnell, M.M., Hiss, R.G., Hess, G.E., Davis, W.K., Barr, P.A., (1998) The Reliability and Validity of a Brief Diabetes Knowledge Test Diabetes Care, 1998; 21(5): 706–710.

5. Anderson RM, Funnell MM, Fitzgerald JT, Marrero DG (2000) The diabetes empowerment scale: a measure of psychosocial self-efficacy. Diabetes Care 23:739-743, 2000

6. The WHO-5 Well-Being Index: A Systematic Review of the Literature. Psychother Psychosom. 84:167–176 DOI: 10.1159/000376585

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# Study Methodology

- Pilot RCT 100+ patients using mixed methods – pre and post measures on knowledge (DKQ)[4], satisfaction (DCPNI) and efficacy (DES-SF) and pre and post interviews

- 8 primary care sites in England (Kent and Essex)

- Full ethics and local approvals submission – 12-L0-0100

- Site initiation at each practice, practice nurses consented, trained, interviewed

- Patients invited via their practice – 3 visits, for pre and post measures, pre and post interviews plus the consultation using the questionnaire or routine consultation

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# Table 1. Main Baseline Characteristics and pre-measure scores

| N = 106 | Value |
|---|---|
| Male | 66 |
| Female | 40 |
| Age Range | 40-90 years (m = 67 years) |
| Diabetes duration | m = 9 years |
| BMI | m = 30.7 (weight/height$^2$) |
| Cholesterol | m = 4.2 (mmol/L) |
| HbA1c | m = 55.0 (mmol/L) |
| Diet controlled | 17% (n=8) |
| OHAs | 66% (n=70) |
| Insulin | 3% (n=3) |
| Insulin and OHA | 14% (n=15) |
| Statin Therapy | 71% |
| Diabetes Complications | 80% |
| Macrovascular complications | 68% |
| Microvascular | 44% |
| Other co-morbidities | 80% |
| Diabetes Knowledge (DKQ) score (Maximum Score=22) | m = 12 .7 (range 5-19) |
| Consultation Satisfaction (DCPNI) score (Maximum Score=51) | m = 45.2 (range 20-51) |
| Diabetes Empowerment Scale (DES-SF) score (Maximum Score=40) | m = 31.5 (range17-40) |
| WHO 5 Well Being Index - % of sample scoring below the clinical cut off of 13 or below | 34% (n=36) |

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# Results

**Table 2 Comparison measures between control and intervention groups pre and post study**

| Measure | Control Group Pre-Study (mean) | Control Group Post-Study (mean) | Sig. | Intervention Group Pre-Study (mean) | Intervention Group Post Study (mean) | Sig. |
|---|---|---|---|---|---|---|
| HbA1c | 53.4 | 52.9 | .875 | 56.9 | 56.5 | **0.697** |
| Cholesterol | 4.12 | 4.16 | .658 | 4.27 | 4.12 | **0.123** |
| BMI | 29.7 | 29.6 | .799 | 31.7 | 31.5 | **0.103** |
| DKQ | 12.38 | 13.48 | .001 | 13.04 | 14.45 | **0.000** ← |
| DCPNI | 45.2 | 46.8 | 0.066 | 45.3 | 47.4 | **0.002** ← |
| **DES-SF** | **32.1** | **33.3** | **0.190** | **30.9** | **33.4** | **0.000** ← |

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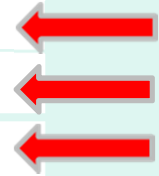
# Qualitative Results

**Table 3. Themes arising from patient interviews**

| Patient comments (pre-study discussion on diabetes consultations generally) | Randomised patient comments After using the DMCT© |
|---|---|
| • Practice nurse easy to talk to<br>• Current high satisfaction with the consultation<br>• Patients value information and reassurance from nurse<br>• More information on diet and exercise needed<br>• Worries about complications<br>• Would like to test own blood glucose (glucometers now not given)<br>• More frequent appointments desired | • Helps patients think about all aspects of diabetes<br>• Reminds patients what they should be doing<br>• Does not take long to complete<br>• Many would use again<br>• Welcome opportunity to discuss concerns<br>• Raises issues not thought about previously<br>• Thought provoking<br>• Some confusion with certain questions (double negative) |

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# Completing the Questionnaire
# Nurse's Perspective

'**I found the tool really, really useful.** … the person with diabetes has the chance to put down **what they want to discuss** so they can **lead the appointment**.

**There was sufficient time to look at it and the important facts,** patients had **the opportunity to ask questions and explore it further**.'

- Empowering patients
- Patients leading the consultation

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# Patient's experience of using the tool in a diabetes consultation

' **It gave the Nurse the opportunity** to **see what I wanted to talk about**, and **she (the nurse) dealt with these issues first** before the things that she obviously wanted to talk about.
It had really helped **me to prepare and be focussed,** and I think the whole discussion was **really centred around what I wanted to talk about.**  It felt that it was really helpful.'

- Patient centred
- Empowered patient
- Patient prepared & focussed

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# Particular aspects that were useful – Person with diabetes

'For me, **the thing about the mental health and mood had really given me a bit of an eye opener** … **I hadn't realised how low I was getting.**
Had I been asked, **I wouldn't have raised any questions about perhaps getting into depression at all.**'

•Aid to empowering patients

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# Nurse's experience of using the tool in a diabetes consultation

'I think **scoring the mood was quite surprising.** She came in smiling and I have noticed before that she always presents in a very positive way. In fact her scores were quite low. …..

It also **gave me the chance to talk about support from the clinical psychologist and the GP** and the fact that it is **quite normal to have a low mood with diabetes**…….

**opened up a really good conversation that I might have missed** and it was really important'.

•Problems identified by both PWD and Nurse
•Patient already thought of some solutions
•Nurse prepared to discuss these, prepare her own agenda
• Nurse gave guidance & suggestions

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# The Diabetes MyQuest Consultation Tool© - Conclusion

- Globally the management of T2D (and other long term conditions) is moving to primary care and more nurses will be managing consultations
- We need time efficient tools to maximise these consultations which support both nurse and patient
- This pilot has indicated the MyQuest Tool© to be feasible for use and we now recommend a full RCT to determine further efficacy
- We also highly recommend using patients to advise on your research
- We thank Bayer Health Care and the Diabetes Research Network for help with funding this study
- We thank all those nurses and patients who helped design the tool and Ms Anne Worthington for conducting the study in primary care
- Primary Healthcare 2016 conference is organized around the theme of Knowledge Exchange to Improve Primary Healthcare Outcomes and we are happy to share our findings and the tool with you – g.hood@qmul.ac.uk

**THANK YOU**                                                                 **SHUKRAN**

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