

Dietitians Strive for Highest Standards of Diabetes Patient Care through Structured Patient Education

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Community Nutrition and Dietetic Service, HSE South, Cork in partnership with X-PERT Health CIC, UK and UCD



Origin of initiative

Diabetes

- Life-threatening condition - epidemic proportions
- Chronic condition & 2-5 fold risk of CVD -> costly condition.
- Person with diabetes is central to looking after own care -> intensive education that supports care.

Education on Diet & Lifestyle = first line of treatment

- All patients should have access to a qualified dietitian**
- Equivalent of 2 Community Dietitian posts in Cork & Kerry - 1/10 GPs had access -> waiting lists & requests

Challenges

- Limited staff
- Large patient numbers
- Limited time
- New ways of service delivery

To meet challenges ...

Ambitions

- Increase service access to GPs & patients
- Increase time with patients
- An integrated multi-disciplinary working approach (GPs / PNs)
- To develop an evidence based dietetic education program for type 2 diabetes (via groups)

Provide Patients:

- All the knowledge, skills & confidence to look after diabetes
- Facilitate & motivate
 - To feel in control & be the leaders in their own care
 - To make the dietary & lifestyle changes
 - To promote optimal diabetes mgmt. all their lives



Evidence Based Guidance

Ireland

2000 ICGP Guidelines for Diabetes Care in the Community

UK

2001 UK National Service Framework for Diabetes: 12 Standards

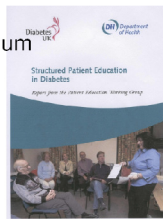
2002 UK NSF Delivery Strategy

2003 NICE Guidance on the use of patient education models for diabetes

2005 Structured Patient Education Report

NICE Key Criteria for SPE

- Philosophy
- A structured, written curriculum
- Trained educators
- Be quality assured
- Be audited



Structured Patient Education in Diabetes, report from the Patient Education Working Party Group, DoH, June 2005



The X-PERT Programme

A Structured Patient Education Programme for People with Diabetes

By Dr. Trudi Deakin





The X-PERT Programme

- **UK RCT (n= 314)**
- Positive Evaluation of Clinical, Lifestyle and Psychosocial Outcomes
 - Five National UK Awards

EXpert Patient Education versus Routine Treatment

- Group-based *structured education programme*: 15-18 people
- 6 week programme – 2.5 hours each week
- **ANY** person with type 2 diabetes
- Patient centred; empowerment & patient activation
- **Aim**: Increase knowledge, skills & confidence

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X-PERT Ireland - Research



- 3 GP Sites: 156 letters - 56 Responders (36%)
- Final sample size = 48 (30%)
- Excellent Attendance, Participation & Feedback (GPs/Pts)
- **88%** attended ≥ 4 of the 6 sessions

Significant statistical differences shown at 6 months for:

Clinical outcomes: ↓ HbA1c (0.8%) ↓ Body weight (2.5kg) ↓ waist size (4.5cm)	Lifestyle outcomes: ↑ Knowledge ↑ Enjoying a Healthier diet (fruit & fat significant)
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Psychosocial outcomes:

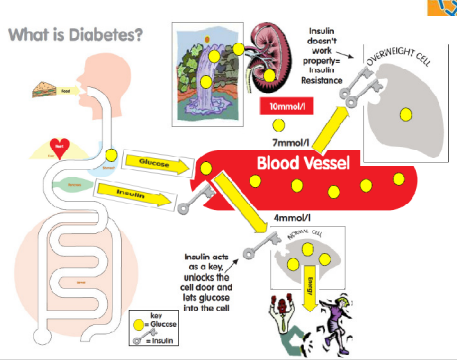
↑ Diabetes Empowerment Scores
 ↑ Perceived Understanding of Diabetes & Treatment

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Week 1 What is Diabetes?

What is Diabetes?



Insulin doesn't work properly → Insulin Resistance


10mmol/l

7mmol/l

4mmol/l


Insulin acts as a key, unlocks this cell door and lets glucose into the cell

Key = Glucose
Lock = Insulin



Diabetes Health Results

	RESULT	NORMAL RANGE
Height (ft, inch) (cm)		
Weight (st, lb) (kg)		
Body Mass Index (BMI) (kg/m ²)	10.0 – 25 = Healthy 25 – 30 = Overweight 30+ = Obese	
Waist Girth (cm)	Healthy – less than 88cm (35in) Increased risk – 88-102cm (35-40in) Greater risk – more than 102cm (40in)	WOMEN Healthy – less than 88cm (35in) Increased risk – 88-102cm (35-40in) Greater risk – more than 102cm (40in)
Blood Glucose (mmol/l)	Before meals – between 4-7 2 hours' after meal – less than 6	
A1c (%) (Average blood glucose)	Less than 6.5% is best control 6.5 – 7.0% is good 7.0 – 7.5% is OK Above 7.5% is poor control	
Blood Pressure (mmHg)	Less than 130/80 is best control Between 140/90 - 160/90 requires medical attention Above 160/90	
Total Cholesterol (mmol/l)	Less than 4.5	
HDL (mmol/l) (good cholesterol)	More than 1.0	
LDL (mmol/l) (bad cholesterol)	Less than 2.5	
Triglycerides (mmol/l)	Less than 2.0 Best control – less than 1.7	
A1CR (Average blood glucose - alternative scales)	Less than 2.5	
Are you taking medication to help control your diabetes? If yes, please provide information on your diabetes medication in the next row or get a printout from your doctor and attach it to this form.		
By Diabetes Medication	Name: _____ Strength of tablet or units of insulin: _____ Timing: _____	



Week 2 Weight Management



Use the **FOOD PYRAMID** to Plan Your Healthy Food Choices



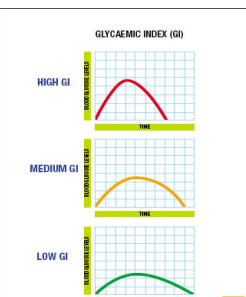
DRINK WATER REGULARLY - AT LEAST 8 CUPS OF FLUID PER DAY

Folic Acid: An essential ingredient in making a baby. If there is any possibility that you could become pregnant, then you should be taking a folic acid tablet (your pharmacist is best)




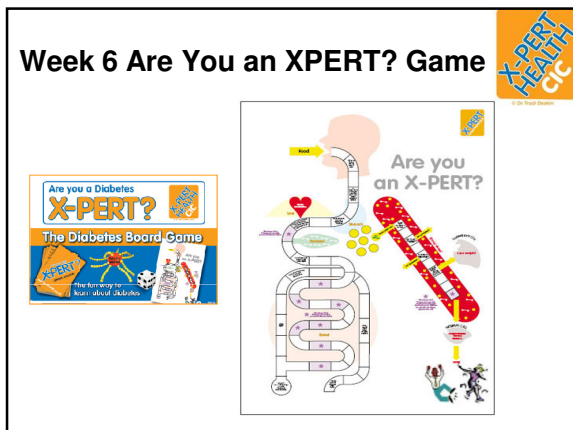
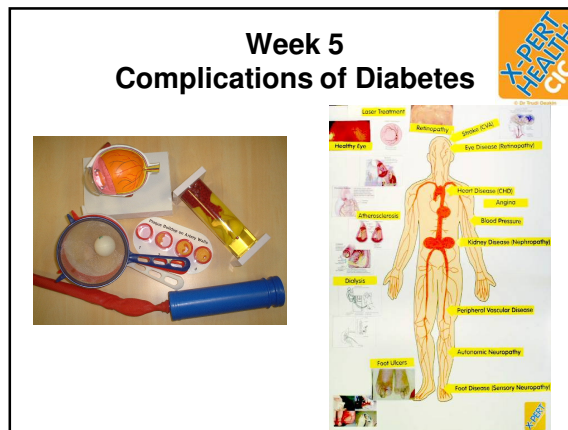
Week 3 Carbohydrate Awareness

Quantity is the key strategy



Quality offers additional benefits





- ### Benefits & Value for Money
- Improves Clinical, Psychosocial, Diet/Lifestyle outcomes
 - Optimises Diabetes Control
 - ↑ Quality of Life
 - ↓ Risk of Complications, CVD risk & Life Expectancy
 - Patient at core of mgmt & supported with Self-care
 - ↓ Requirement for DM medication
 - ↓ Need for blood glucose monitoring
 - Significant Value for Money – staff resources, staff time, medications whilst ↑ quality care & time for patients and prevention in other family members
 - ↓ acute service referral & A&E admissions
 - Contributes to national learning – 1st SPE for type 2

- ### Other Benefits & Value for Money
- Services**
- Supports the aims of the Transformation process
 - Promotion of highest quality diabetes care & investment in same
 - Contributes to learning on best practice for the Irish setting - foundation
 - Supports co-ordinated & integrated management
 - Supports multi-disciplinary diabetes management (GPs/PNs/CD/HSE/ local)
 - Optimises use & demands of diabetes services in PCCC & acute service
 - Supports the chronic disease model of care
 - Supports management type 2 DM, CVD & positive mental health
 - Supports accountability
 - Increases job satisfaction – promotes new skills for GPs, PNs, CDs
 - Supports HPs in 1-1 work as well as group work
 - Promotes a new relationship of equality of expertise between patients & HPs
 - Promotes linking research to clinical practice
 - Established links with leaders in diabetes mgmt. internationally, UK & Ireland
- Patients**
- Supports patients to self-manage
 - Supports education & continued practice of life skills
 - Supports families & carers through informing families & healthier lifestyles
 - Supports involving patients in delivery and design of services

MOVING FORWARD

for national sustainability

Annual Care - Diabetes

Service	Example	Education Time /Year	Dietitian Hours
Current One-one Service	20 patients	1.5 hr/yr (1N, 3 R)	30hrs
Vs. X-PERT Ireland	20 patients	16hrs/yr (W1-6, refresher, annual)	16hrs

Staff Cost: Double staff time **Patient cost:** 1/10 time

Essential to offer both.

Creating Sustainability

2005	2 Community Dietitians – Trained in UK
2006	Research pilot & adaptation for PCCC.
2007	Audit Programme refined
8/2007	Train the Educator Course. N=18
2007	Quality Assurance Programme established
10/2008	Train the Educator Course. N=21
11/2008	Licence Agreement: HSE & X-PERT Health CIC 2008-2011
3/2009	Train the TRAINER Course. N=17

Educators & Trainers - HSE

	South	Dublin M-L	N-E	West	TOTAL
2005	2				2
2007	8	3	4	3	18
2008	10	9	1	1	21
Total Educator	20	12	5	4	41
2009 Trainers	4	8	4	1	17

- IMPACT**
- 41 Community Dietitians - Trained Educators
 - Re-configuration of HSE C.D. Services
 - National roll-out of S.P.E. is taking place
 - 72 courses - 944 people with diabetes
 - Nov '09 –next Train the Educator Course
 - Quality Assurance of Educators – 2 (2009)
 - Integration with MDT – e.g. podiatry, PA, physio.

X-PERT in Ireland

Strategy for sustainability ...

Collaborative working

- Evidence based leaders in Diabetes mgmt. (national & international)
- HSE (PCTs, GPs, PNs, Podiatry, Optomology, PCU, HPD) & Patients
- Local community services
- Relevant organisations (e.g. ICGP, INDI)

Dedication & staff pride to deliver high quality & innovative services to support patients in receiving highest standards of care in diabetes mgmt

Thanks to

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- Sharing of Personal Impact**
- 'For the first time in my life I feel like I am the one in control of my diabetes'
 - 'I am learning new skills every week to help me manage my diabetes and also to manage my foods'
 - 'It really helped me and my family take a better look at our food and portion sizes'
 - 'These sessions have been really good and helpful. I hope to live a healthier lifestyle, thank you'
 - 'Without this programme I would remain ignorant to my diabetes. The instructor is very good and explains it in the greatest of detail'

Cost of Diabetes

(UK figures)



Metformin £31 pp/year	Average bed stay £215 pp /day
Generic gliclazide £168 pp/year	First amputation per patient £6,536
Giltazone £373-£634 pp/year	Dialysis £22,224 pp/year
Insulin £780 pp/year	

VERSUS

The Cost of X-PERT Structured Patient Education

£28-65 for 6 week programme



15 hours of structured patient education that makes a difference...
without the side effects!!

Reference www.xperthealth.org.uk

Irish Audit Results



	Baseline	6 Months	1 Year	2 Years
HbA1c %	<7.3 (n=690)	<6.8 (n=190)	6.9 (n=108)	<6.9 (n=29)
Weight kg	88.8 (n=724)	85 (n=185)	86.6 (n=107)	86 (n=23)
BMI kg/m ²	<31.7 (n=704)	30.6 (n=176)	30.3 (n=107)	<30.2 (n=23)
TCholesterol mmol/l	<4.2 (n=730)	4.1 (n=193)	3.9 (n=112)	<3.8 (n=30)
LDL mmol/l	2.3 (n=666)	2.2 (n=170)	2.1 (n=106)	1.9 (n=27)
HDL mmol/l	1.2 (n=669)	1.2 (n=174)	1.2 (n=108)	1.1 (n=28)
Triglycerides mmol/l	1.7 (n=694)	1.6 (n=186)	1.4 (n=110)	NA
Systolic BP mmHg	134.8 (n=579)	136.4 (n=164)	134.9 (n=99)	131.7 (n=17)
Diastolic BP mmHg	77.5 (n=579)	76.7 (n=164)	76.6 (n=99)	74.4 (n=17)
Empowerment Score	<3.8 Max score = 5	<4.4 Max score = 5	<4.2 Max score = 5	NA