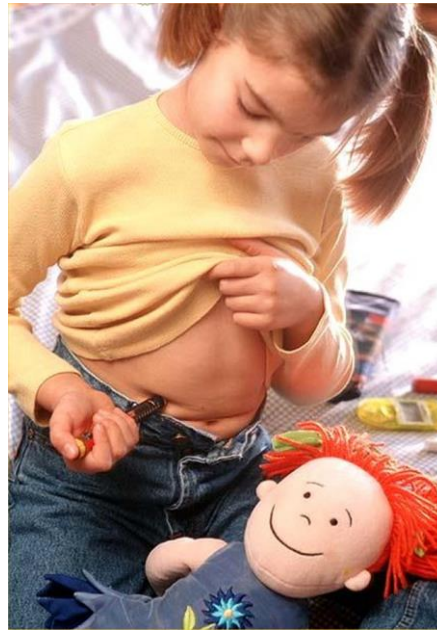


Childhood Diabetes in Malta

Dr John Torpiano MD, FRCP(Lond), FRCPCH

Consultant Paediatric Endocrinologist

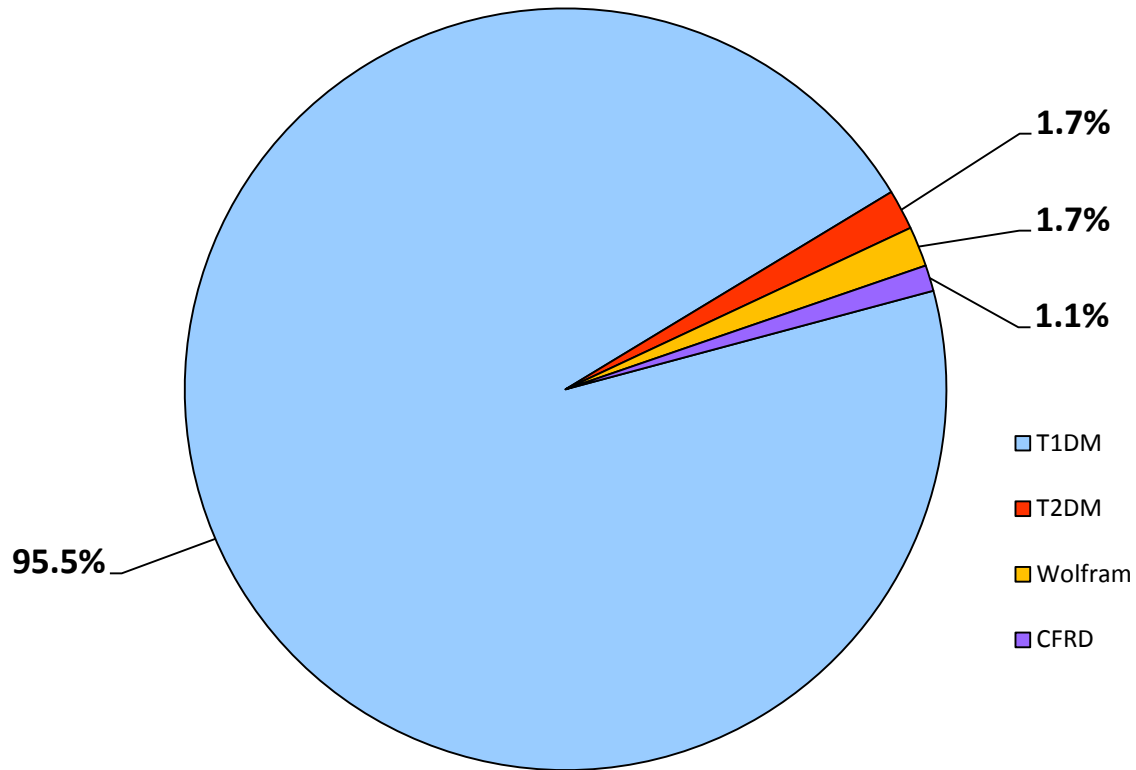
Mater Dei Hospital, Malta



Parliamentary Working Group on Diabetes in Malta

July 2014

Types of diabetes in children in Malta



T1DM patients incur higher mean treatment costs than T2DM patients¹

Childhood type 1 diabetes

Bad News:

- Cannot be cured permanently
- Cannot be prevented

Good news:

- Improvement in health and quality of life can be achieved

....but we need help

Paediatric Diabetes Service: Mater Dei Hospital

Children are NOT small adults

- Run by paediatric endocrinologist since 2006
- Annual case-load:
 - 650 outpatient appointments (2 clinics per week)
 - 250 day-case appointments
 - 25 new patients (on average)
- Detailed education for each new patient (circa 20 hours over 1 week)
- Printed handouts for parents (Maltese & English)
- Point-of-care capillary blood HbA1c (every 2 – 3 months)
- Outreach clinic at Gozo General Hospital

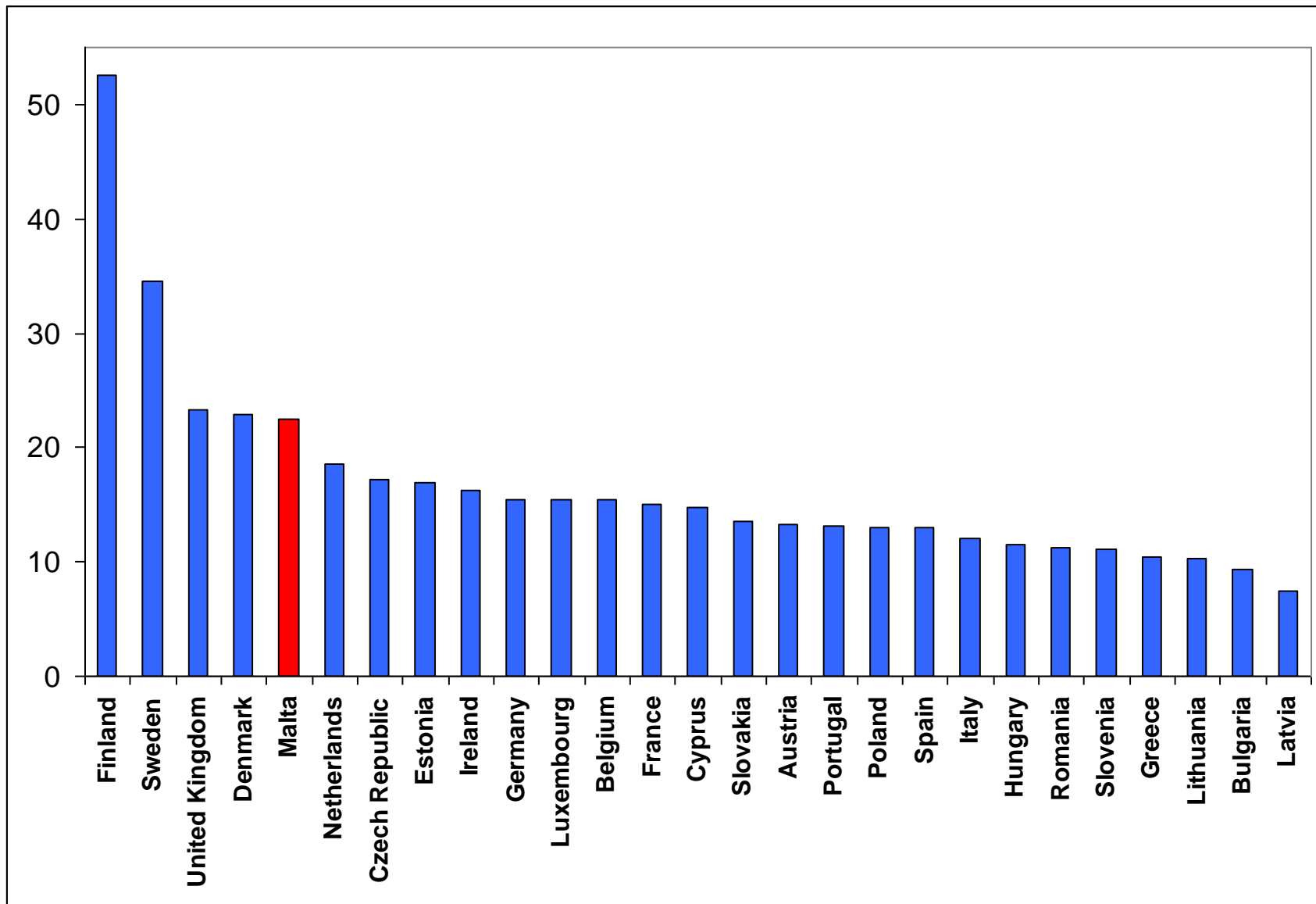
Childhood diabetes statistics in Malta (2006 – 2010)

Age group (years)	Mean incidence (per 100,000 per year)	Annual increase in incidence
0 – 4	21.7	+39% per year (p = 0.04)
5 – 9	30.4	+31% per year (p = 0.026)
10 – 14	16.1	-6.5% per year (p = 0.66)
Total (0 – 14)	21.86	21.8%

Circa 25 new patients (under 16 years) every year

**1 new young patient every 2 weeks
on average**

Childhood type 1 diabetes (0 – 14 years of age) incidence across EU member states (SWEET Project, 2009)

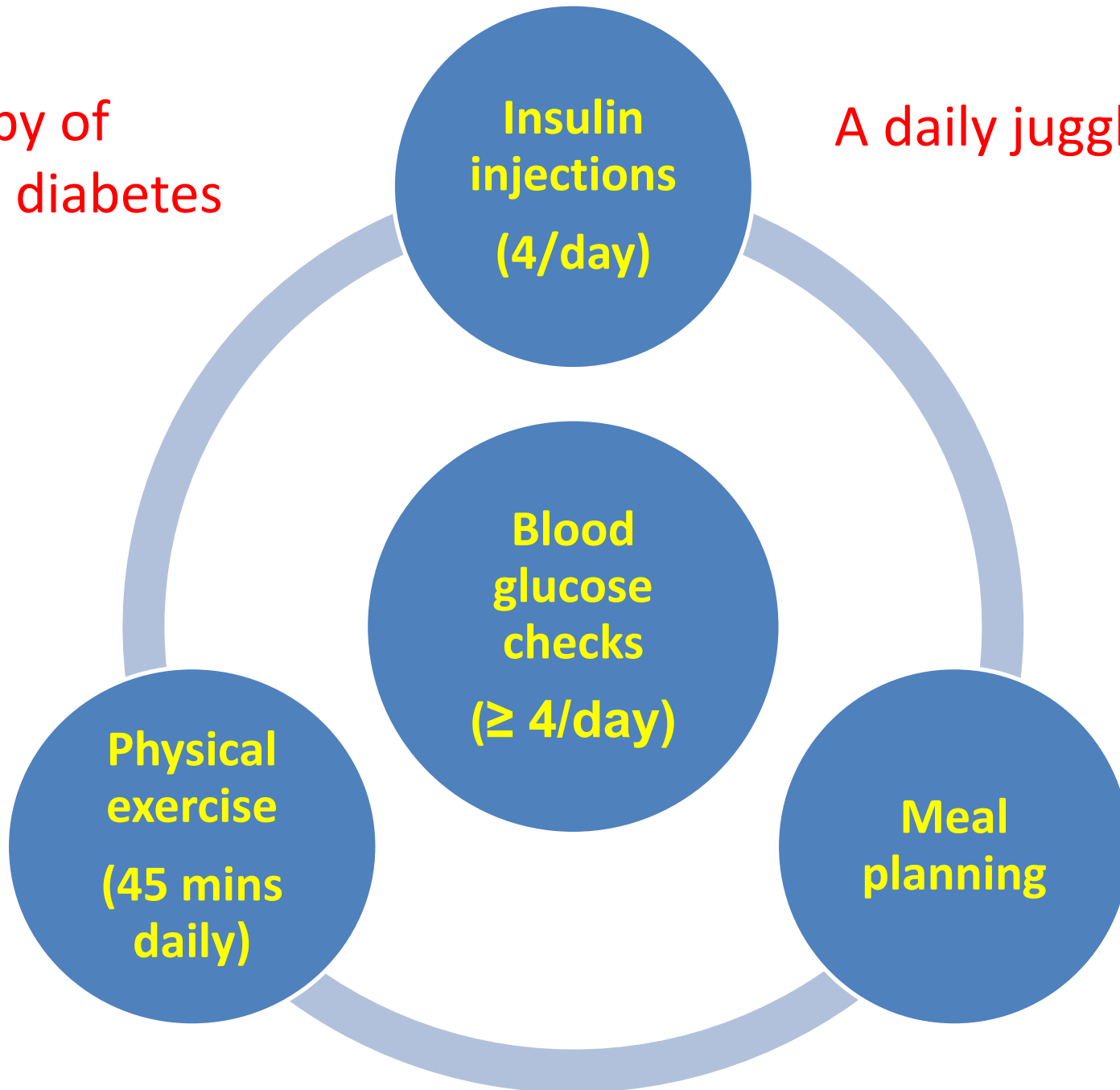


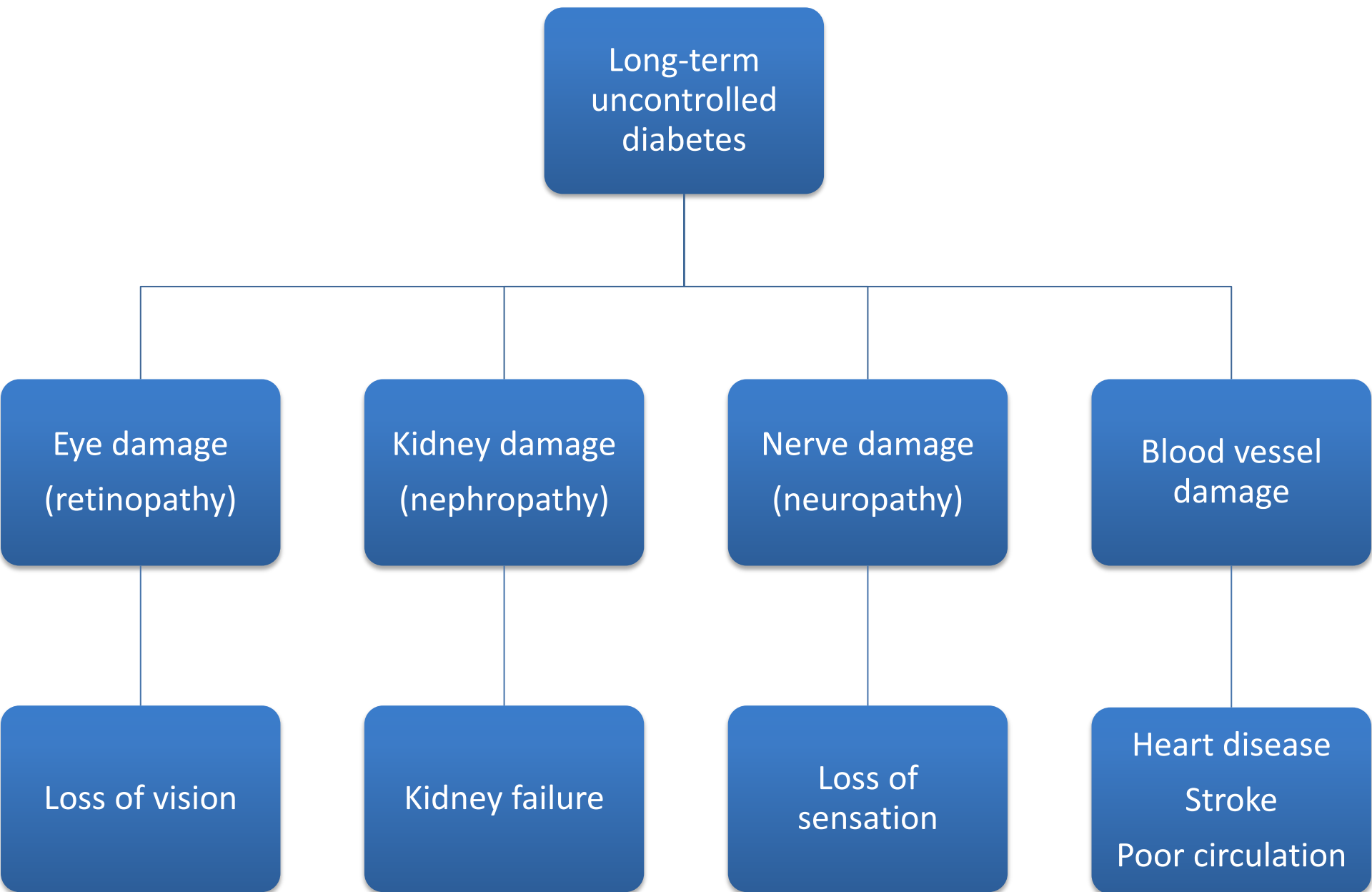
Diabetic children should receive multidisciplinary care

Health care professional	Recommended staff level	Current staff level
Doctor	2 - 3	2
Clinical nurse specialist / educator	1 per 70 children (i.e. 3 for children only)	2 for <u>all</u> diabetics (circa 35,000) in Malta!!
Dietician	1	Ad hoc only
Psychologist	1	Ad hoc only
Social worker	Ad hoc	Nil
Exercise specialist	Ad hoc	Nil

Therapy of
type 1 diabetes

A daily juggling act





Sequelae in Diabetic Children

- Over 50% develop complications 12 years after diagnosis¹
- Life expectancy is reduced (but is improving with time)²
- Better glycaemic control = better quality of life³

¹Danne T et al 2007

²Miller RG et al 2012

³Hoey H et al 2001

Modalities of insulin treatment in childhood type 1 diabetes

CONVENTIONAL THERAPY	INTENSIVE THERAPY	
Twice-daily insulin dosing	Multiple doses of insulin (MDI)	Continuous subcutaneous insulin infusion (CSII)
Insulin injected at 2 times in the day.	Insulin injected at 4 times in the day (basal-bolus regimen).	Insulin pump.
Uses “old-fashioned” isophane insulin.	Only effectively possible with insulin glargine.	Patient selection. MDT care is crucial. Technical backup is crucial.
Least expensive.	Slightly more expensive.	Very expensive.

Comparison of intensive therapy & conventional therapy: much better results with intensive therapy

Complication	Intensive therapy reduces risk by	Intensive therapy slows progression by
Eye disease	76%	54%
Kidney disease	50%	50%
Nerve disease	60%	-

Measuring glycaemic control in diabetes

SMBG

(≥ 4 times/day)

HbA1c

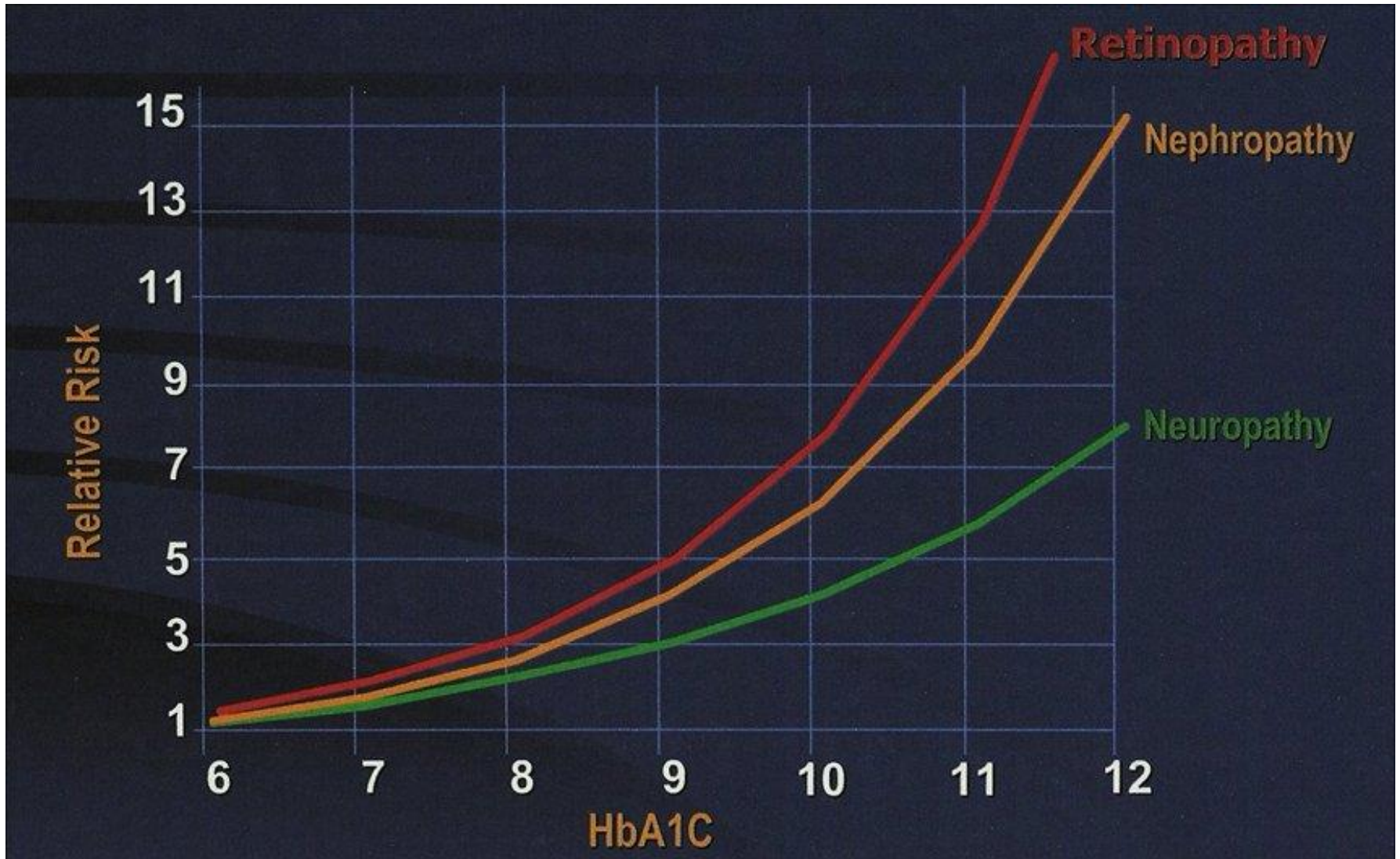
(every 2 - 3 months)



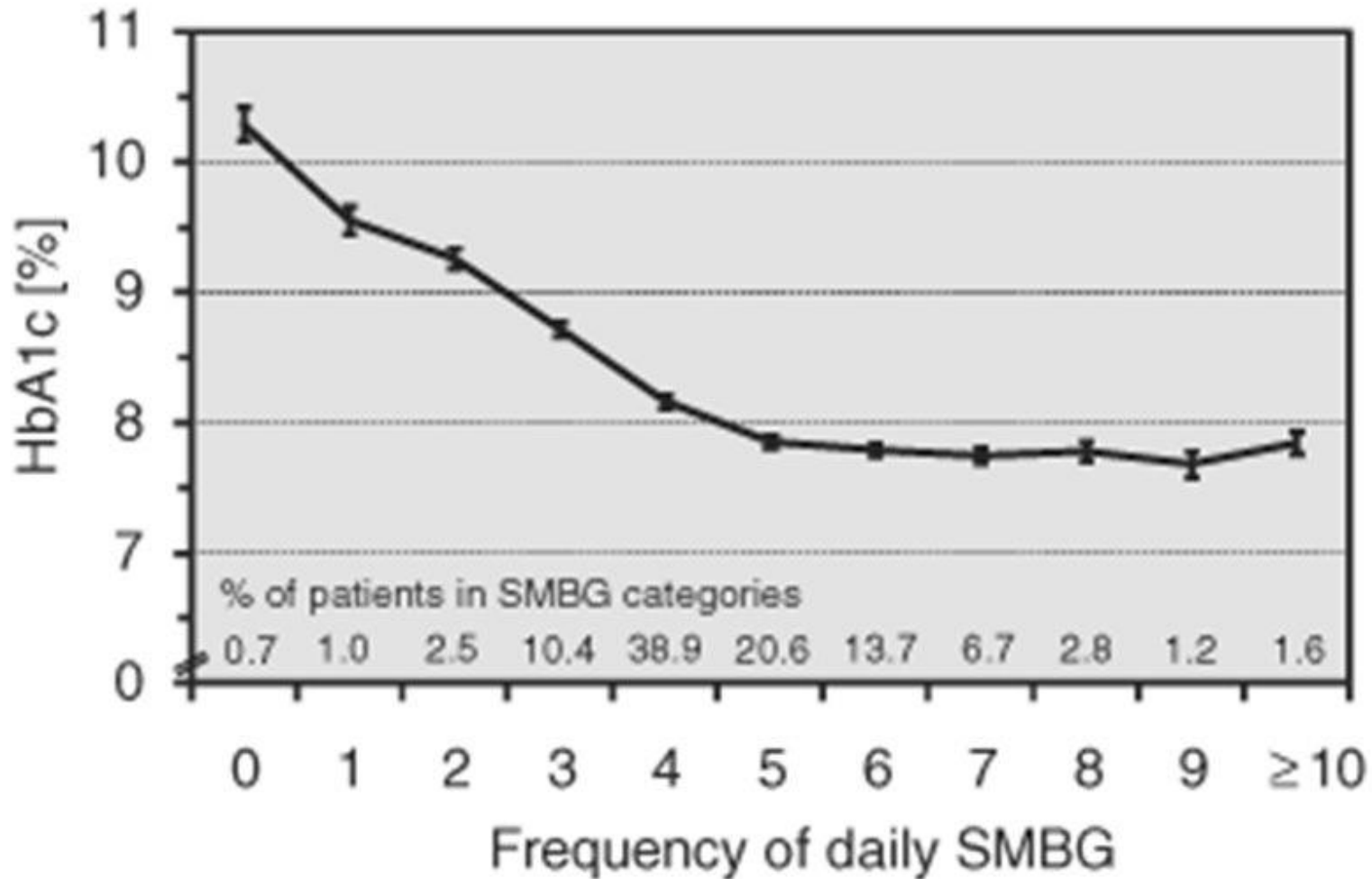
A1c



Higher HbA1c → Increased risk of future complications



More frequent SMBG, by itself, leads to significant improvement in HbA1c



LIVING WITH DIABETES IS LIKE WALKING A TIGHTROPE



HIGH BLOOD SUGAR

May lead to complications
(e.g. blindness, kidney failure,
vascular disease)

LOW BLOOD SUGAR

Rapid drops may lead to
unconsciousness, seizures
and death

Blood sugar test-strips

Free entitlement quota of test-strips

Current	Ideal (minimum)
50 every 4 weeks	112 every 4 weeks
1.7 per day	4 per day

Increased expenditure = €350 per child per year

(1 dialysis patient = €42,000 per year)

Recommendations for improved care of diabetic children

1. Increased quota of free blood sugar test-strips (4 per day)
2. Reduce restriction on insulin analogues (esp. glargine)
3. Many more diabetes nurse specialists
4. Improved support for diabetic children at school
5. Regular reviews by dietician, psychologist & social worker

Diabetes care for children in Malta
can be improved by relatively simple measures



Please help us achieve it

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