

Table 1 Proposed EUDIP Indicators

Core indicators (1)

RISK FACTORS FOR TYPE 2 DIABETES

Obesity

BMI - % of general population ≥ 30 kg/m²

EPIDEMIOLOGY OF DIABETES

Annual incidence of Type 1 diabetes by age/100,000 population 0-14 yrs,

Prevalence of diabetes mellitus /1000 population

Prevalence of persons with impaired glucose tolerance and or, diet only

RISK FACTORS FOR COMPLICATIONS (IN PEOPLE WITH DIABETES)

HbA1c:

Percent tested in last 12 months

Percent $>7.5\%$ in last 12 months

Lipids:

Percent with lipid profile in last 12 months*

Percent of those tested with total cholesterol >5 mmol/l

Percent with LDL >2.6 mmol/l (>3 mmol/l)

Percent with HDL <1.15 mmol/l (<1.0 mmol/l)

Percent with triglycerides >2.3 mmol/l (>2.0 mmol/l)

Microalbuminuria:

Percent tested in last 12 m*

Percent with microalbuminuria in last 12 m

Blood pressure:

Percent tested in last 12 m

Percent with BP $>140/90$ in last 12 m

Percent of the persons with diabetes who are smoking

Percent with BMI ≥ 25 kg/m²,

≥ 30 kg/m²

Age at diagnosis by 10 year age bands

EPIDEMIOLOGY OF COMPLICATIONS

Retinopathy

Percent with fundus inspection in last 12m

Percent with proliferate retinopathy in last 12m

Percent who received laser treatment <3 months after diagnosis

c Annual incidence of blindness due to diabetic retinopathy/total annual incidence of blindness

Nephropathy:

Percent with serum creatinine tested in last 12 m*

Percent with ESRF - serum creatinine ≥ 400 μ mol/ (WHO definition) - in last 12 m

c Annual incidence of dialysis and or transplantation (renal replacement therapy) in patients with diabetes/1,000,000 general population

c Prevalence (stock) of dialysis/ transplantation (renal replacement therapy) in patients with diabetes/1,000,000 general population

c Mortality

Annual death rate in patients who have as primary or any cause of death

diabetes mellitus/100,000 general population, adjusted for European Standard Population

c Annual death rate in the general population from all causes/100,000 general population, adjusted for European Standard Population

Diabetes indicators in Luxembourg

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Introduction The pandemic of diabetes worldwide necessitates an intensified approach in order to identify possible contributing environmental factors, to evaluate possible impact of interventions and to document optimal quality of care. These actions can only be evaluated if reliable data are available prior to these interventions. Through EUDIP, the EU Diabetes Indicator project, core and secondary indicators have been identified (Table 1). These have been proposed to monitor Diabetes mellitus and its complications in EU/EFTA countries. (1)

Table 1 here

Methodology The incidence of type 1 diabetes mellitus in children in Luxembourg is studied since end eighties applying the EURODIAB Ace methods (2). In order to obtain more information in Luxembourg on the other core and secondary indicators, a collaborative action was undertaken, financially supported by the Ministry of Health, Luxembourg and coordinated by the CRP santé. Data were collected using two different sources. The medical administrative source, the UCM, (reimbursement structure) provided data for several outcome and process indicators. No clinical data were accessible through this source. A questionnaire based data collection was proposed to all doctors, involved in diabetes treatment in Luxembourg. Questionnaires, (based on DIABCARE) were filled out by the doctors, on all patients with diabetes, seen in their outpatient clinic over a 6 months period of time. Where possible, available data were used for the EU Core Indicators of Diabetes project.

Results Eurodiab based incidence data in children 0-14 yrs of age (2001- 2006) are shown in table 2. Prevalence in the total population is summarised in table 3 (UCM).

Table 2 Incidence of type 1 diabetes in children 0-14 yrs (Eurodiab)

Age	boys	girls	0-4	5-9	10-14	0-14	stand rate
Inc. rate /10⁵							
2001-2003			7,18	14,98	28,28	16,69	16,78
2004			14,35	3,45	32,20	16,51	16,91
2005			10,84	6,92	10,52	9,40	9,45
2006			10,96	13,73	34,61	19,91	19,77

Data, registered by the UCM, have provided information on different indicators, such as prevalence, prescribed medication, medical acts and some of the complications. Only prevalence data on diabetes have been provided on this poster due to lack of space. (table 3) No information is available through this source on the outcome of clinical parameters (HbA1c, lipids, BP, smoking etc)

Table 3 Prevalence of diabetes mellitus in Luxembourg 2000 à 2005 (UCM)

Year	Prevalence (%)	n
2000	3,44	14.396
2001	3,55	15.058
2002	3,69	15.801
2003	3,79	16.410
2004	3,95	17.390
2005	4,12	18.307

No data are available on blindness. Renal replacement therapy incidence nor prevalence is available yet (transplant registry started recently).

Although several meetings have been organised and mails have been circulated, only 6.8 % of the doctors have been able to fill out questionnaires. The collection included information on 15 % type 1 diabetes children, clearly demonstrating a major bias and rendering interpretation difficult.

Discussion Over the last 20 years a huge increase in incidence in type 1 diabetes in children has been observed (from 12/ 10⁵ towards 19 /10⁵). Prevalence of all persons treated with either oral hypoglycemics or insulin increased as well. Although information on different process and outcome indicators can be obtained through medical administrative sources, clinical data are not available and will need a different approach, and complementary action.

Obesity in the adult population was evaluated by autoquestionnaires in 2005 (through the CEPS.INSTEAD) About 17 % from the population had a BMI ≥ 30%. Self reported weight and height data are known to be often incorrect. This information should be obtained through a Health Examination Survey. Different other indicators can be obtained through this data collection in an optimal way, provided a representative sample of the population is included.

Annual death rate due to diabetes is estimated as 7.42/100.000. (death registry.) Underestimation is possible due to under reporting on the death certificates of other diseases.

Conclusion : Through an administrative source, valid and reproducible data can be collected on diabetes mellitus and its complications. Further improvement of the availability of all core indicators as well as secondary outcome indicators may be obtained through HES and possible other data sources.

References

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