

Current Results of Prenatal Diagnosis in the Czech Republic

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Czech Republic



Population: 10 548 527 (in 2011)

Area: 78,866 km²

Regions: 13 regions and the capital Prague; 76 districts in total

Population density: 133/km²

Annual births: approx. 100 000 (119 570 in 2008)

Capitol and largest city: Prague (1 241 000 inhabitants)

Life expectancy (years): Males - 73.54; Females - 80.28

Language: Czech

Ethnicity: Czech 90.4%, Moravian 3.7%, Slovak 1.9%, other 4%

Religions: Roman Catholic 27%, Protestant 2%, unaffiliated 59%

History and Current State I

National Registry of Congenital Anomalies of the Czech Republic (NRCA)

- Unofficial monitoring in former Czechoslovakia started in **1961**
- Official monitoring started on 1st of January **1964**
- **First stage (1964 – 1974)** – only **36** selected diagnoses of congenital anomalies (CA) were registered
- **Second stage (1975 – 1993)** – **60** diagnoses of CA registered
- **Present time: (1994 – now)** – **all cases** in terminations of pregnancies (TOPs), stillbirths and live births are registered (age limit for reporting = **15 years**)

Cooperating centre:



europa
cat
european surveillance of
congenital anomalies

History and Current State II

Registry: population based (whole area of the Czech Republic)

Law: The registration is compulsory, required by the Internal Law of Ministry of Health (nr. 14/2001). The database is run by the Institute of Health Information and Statistics of the Czech Republic

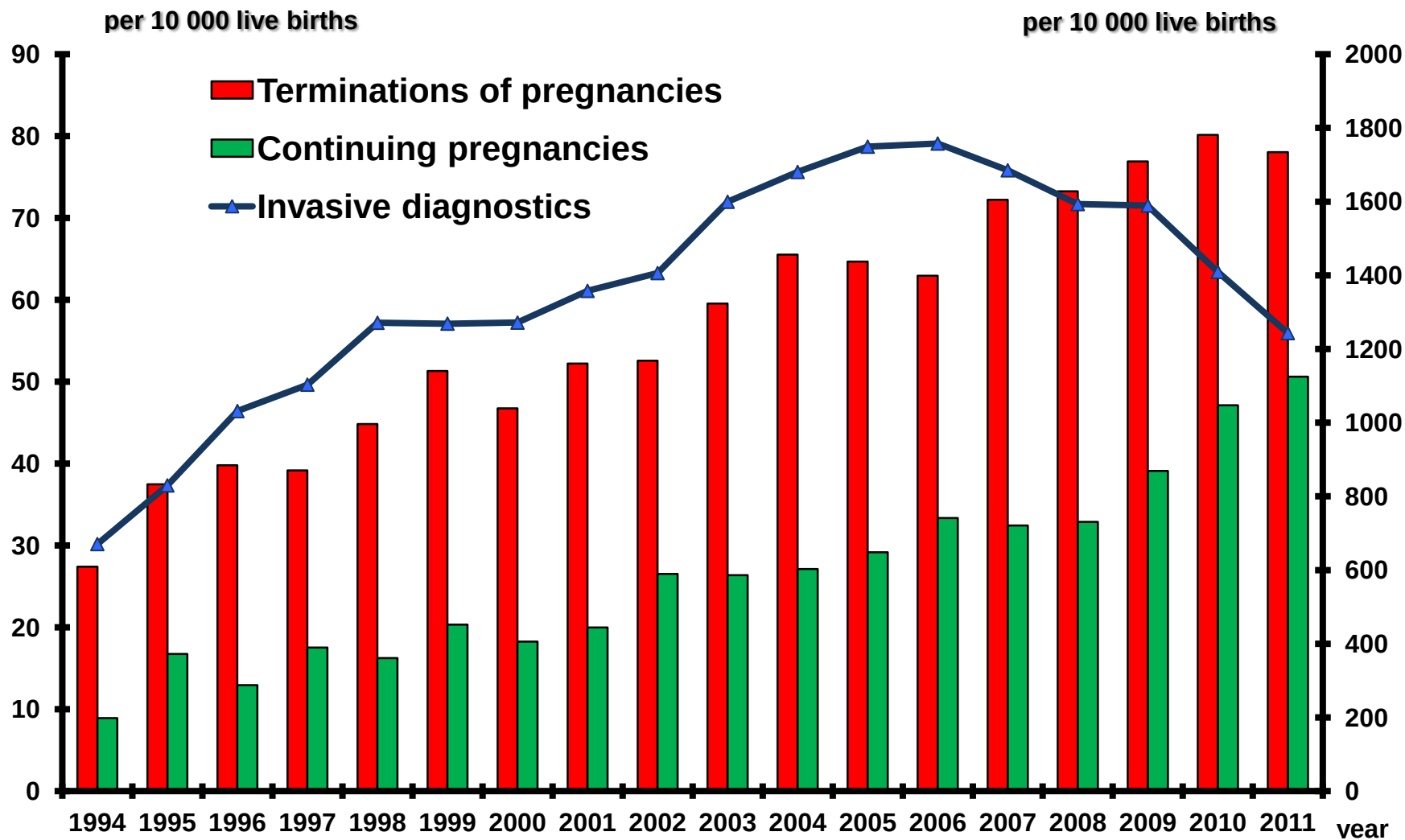
Cases: all cases in TOPs, live births and stillbirths (above 1000g) are reported

Coding: ICD-10 (international), no verbal description

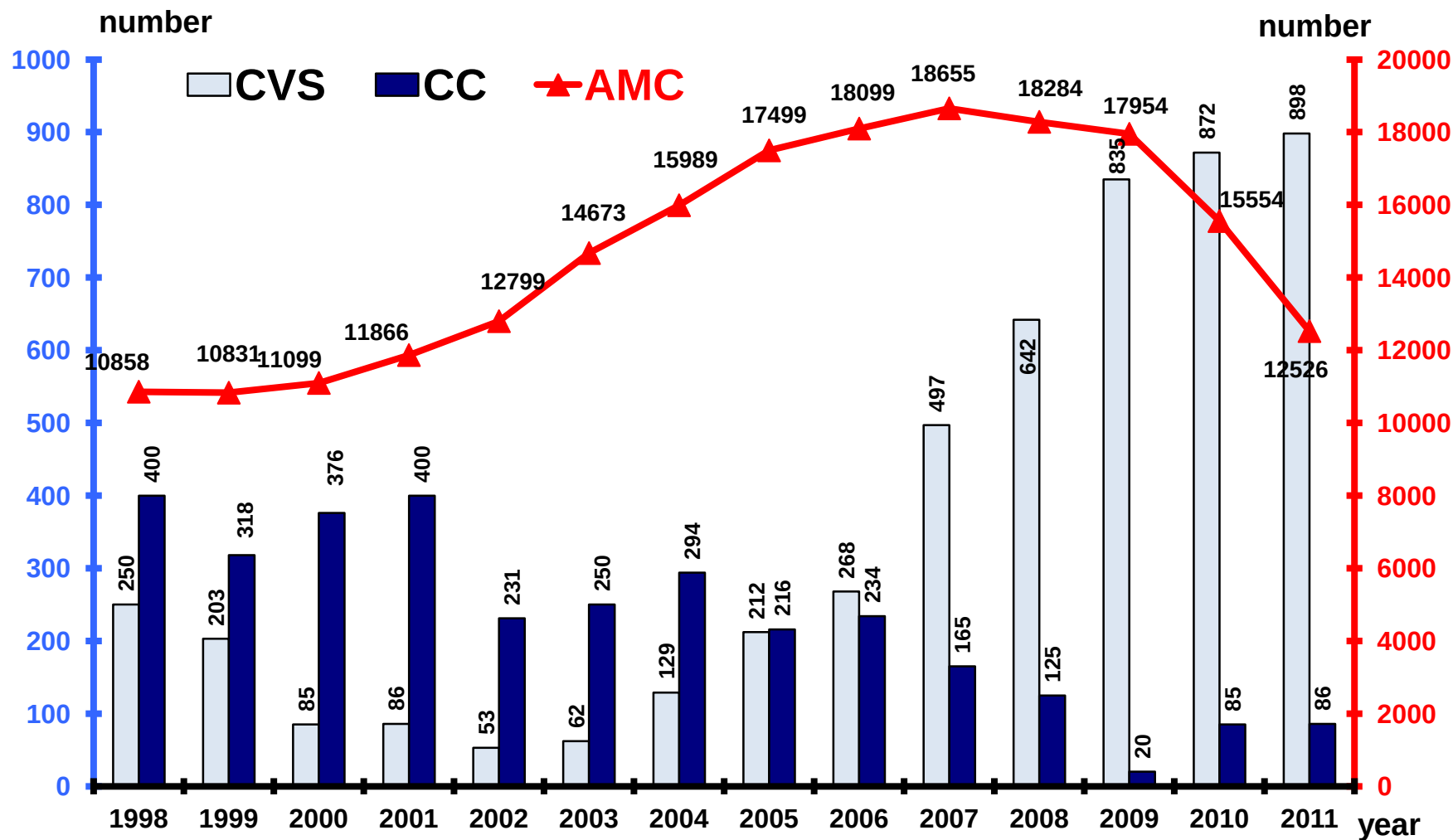
Sources: Multiple sources, including departments of medical genetics, genetic laboratories, pediatric and neonatology departments, delivery units, ultrasound diagnostics departments etc.

Termination of Pregnancy: Legal, up to the 24th week of gestation (from genetic reasons)

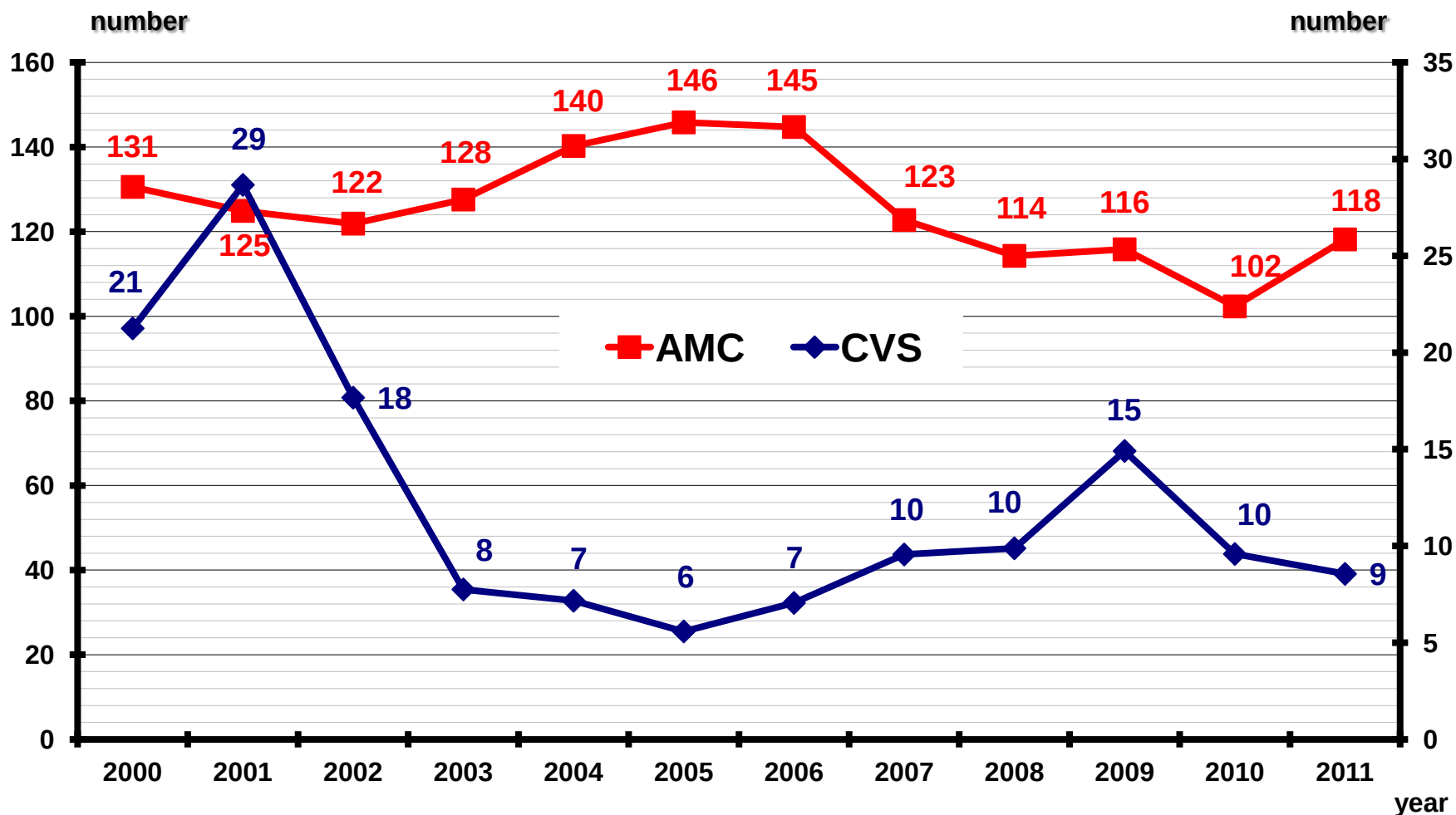
Prenatal diagnosis - Numbers



Invasive prenatal diagnosis

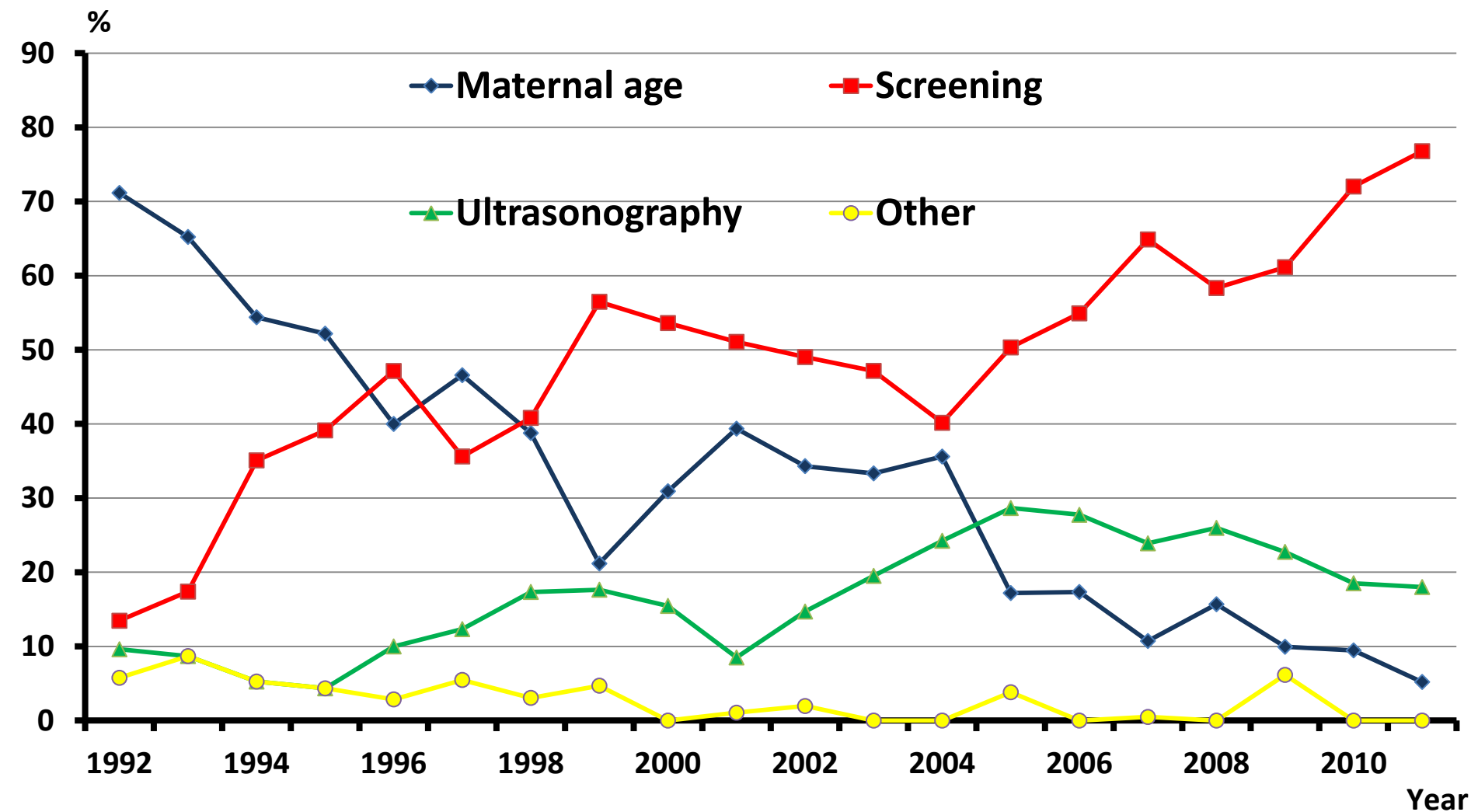


Effectiveness

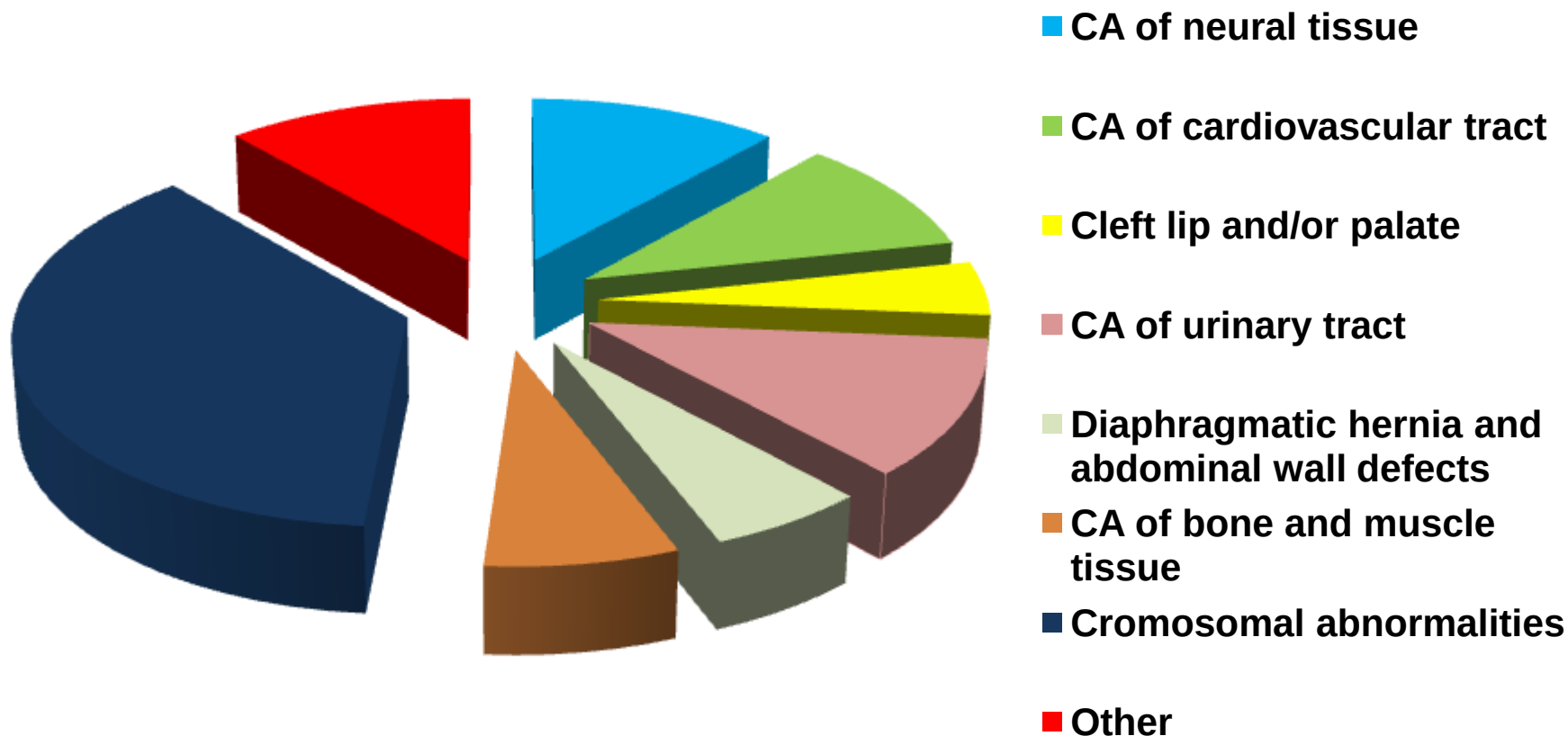


Number of invasive procedures needed for one diagnosis of Down syndrome

Prenatal diagnosis - Indications

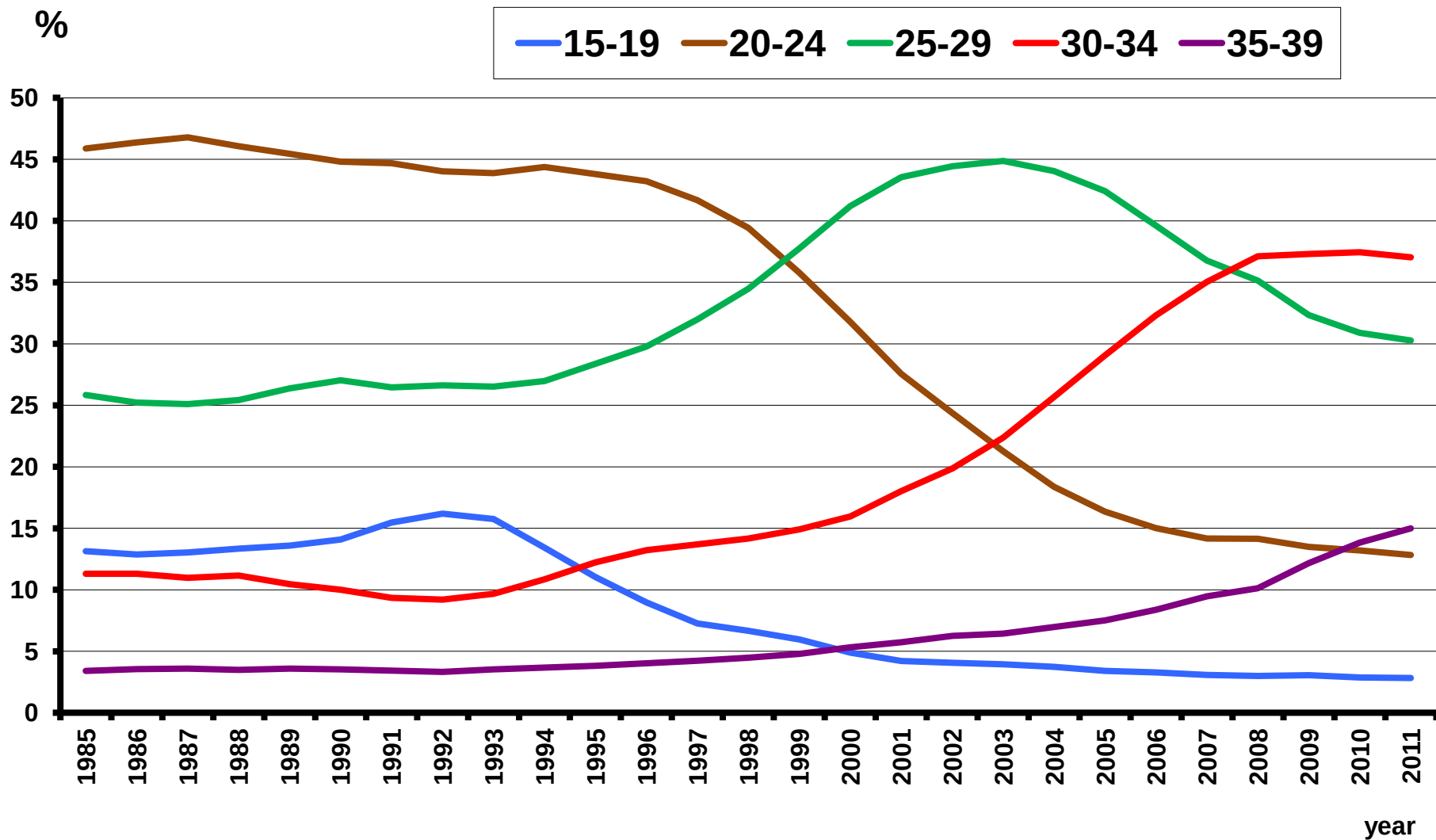


Spectrum of diagnoses



Spectrum of diagnoses – Prenatal diagnosis – All cases

Maternal age – Time trends

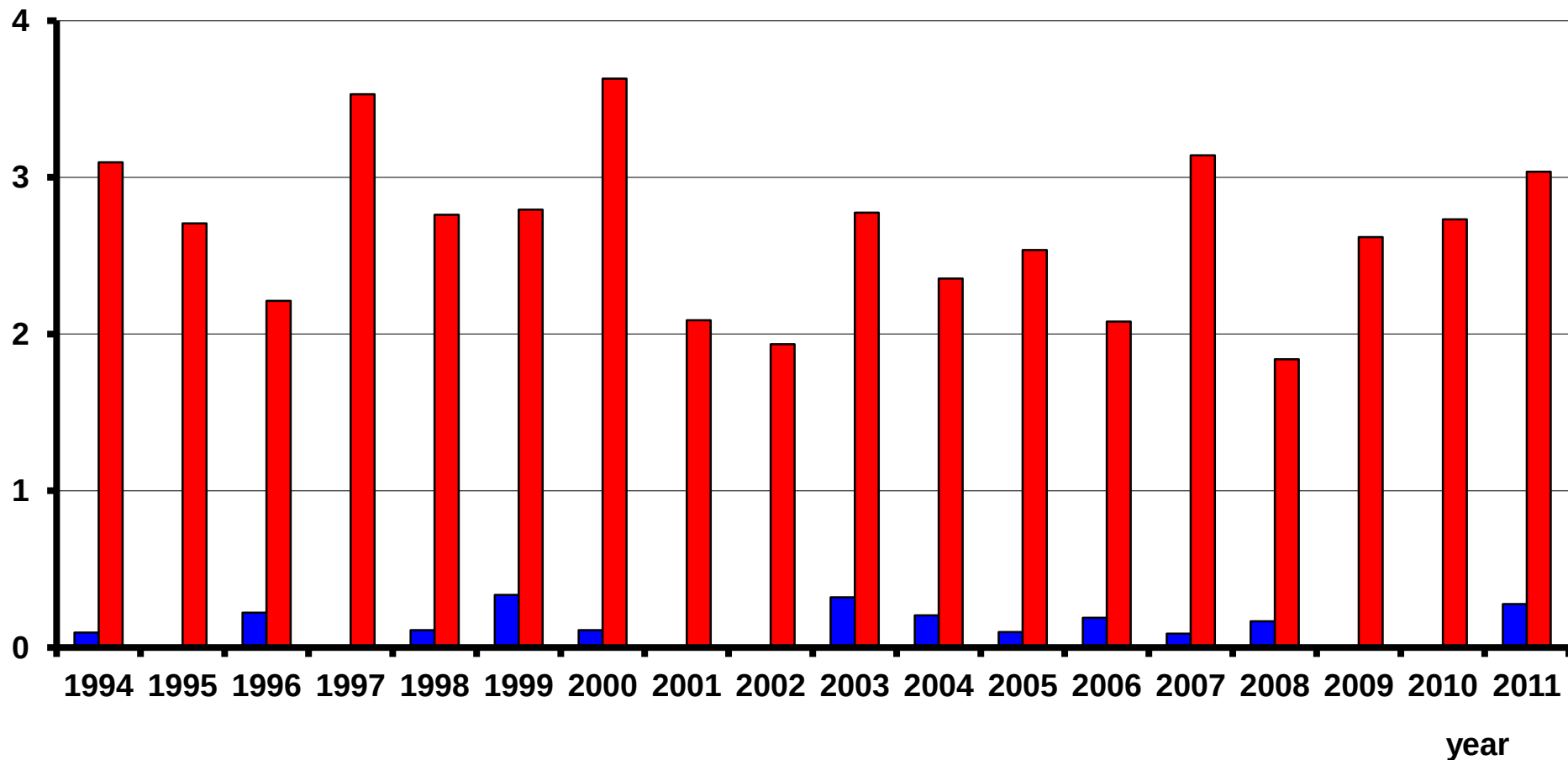


Anencephaly

per 10 000 live births

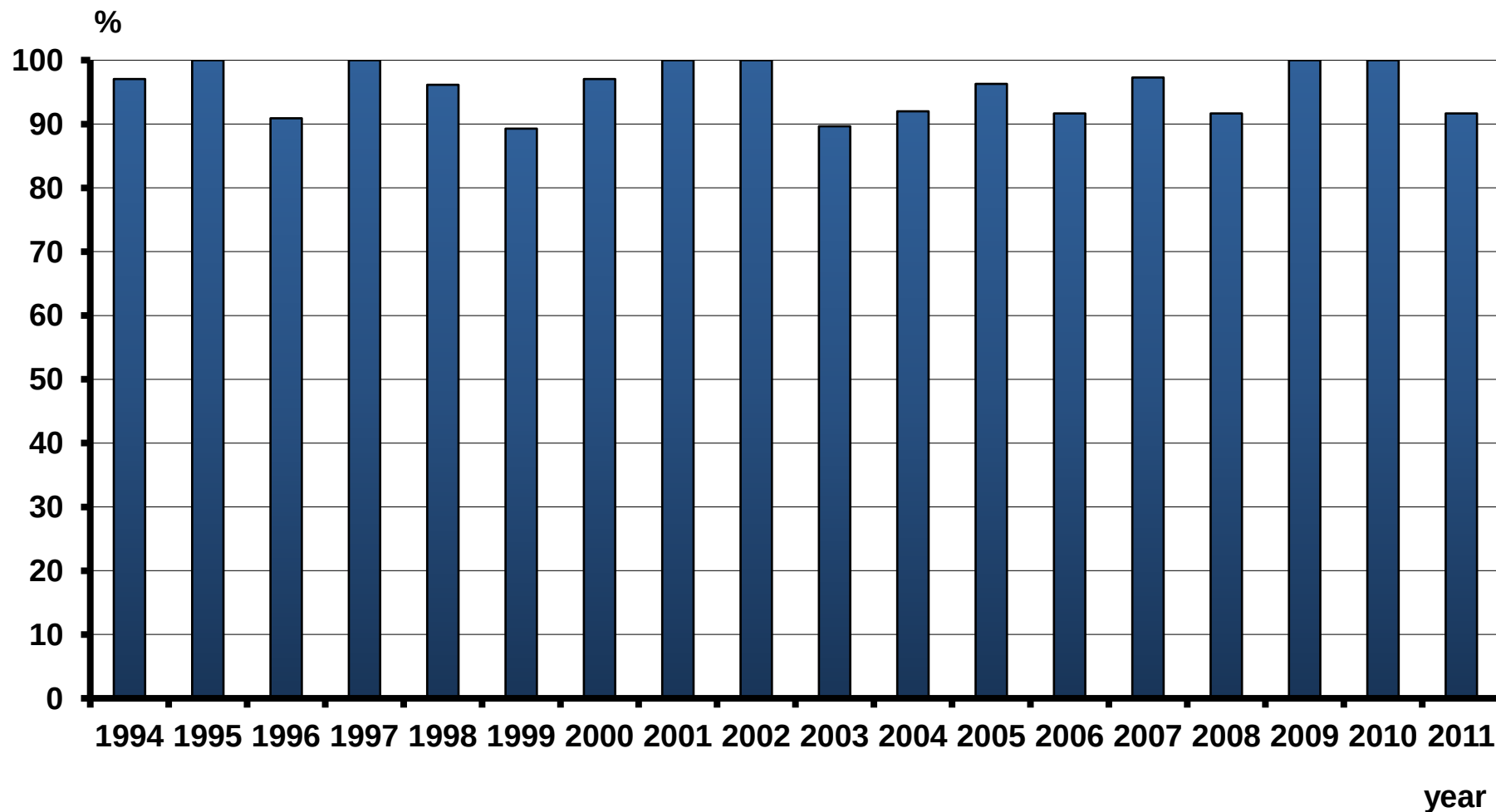
■ Births

■ Prenatal diagnosis



Anencephaly – All cases in live births and prenatal diagnosis

Anencephaly



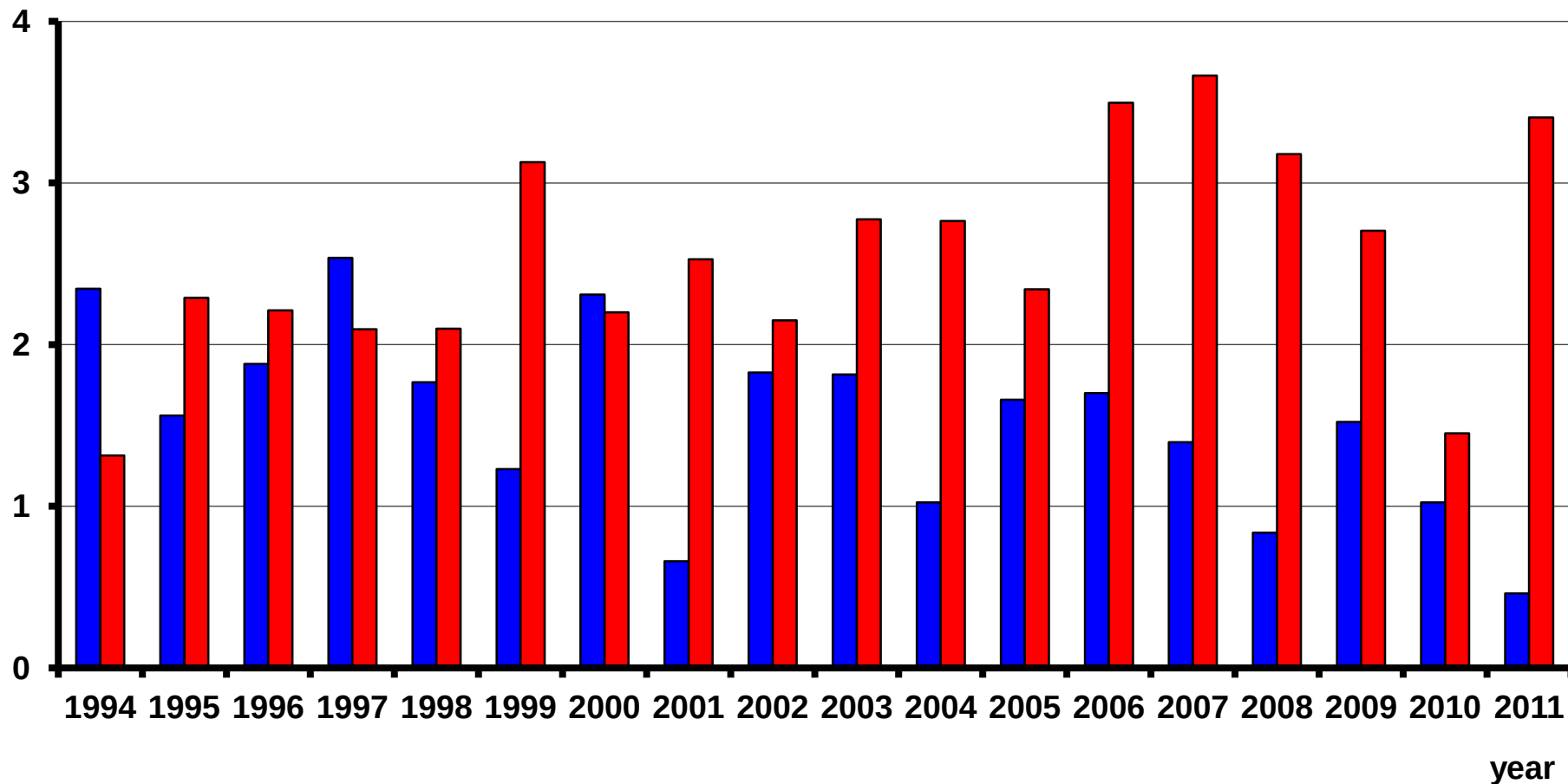
Anencephaly – relative number of prenatally diagnosed cases (%)

Spina bifida

per 10 000 live births

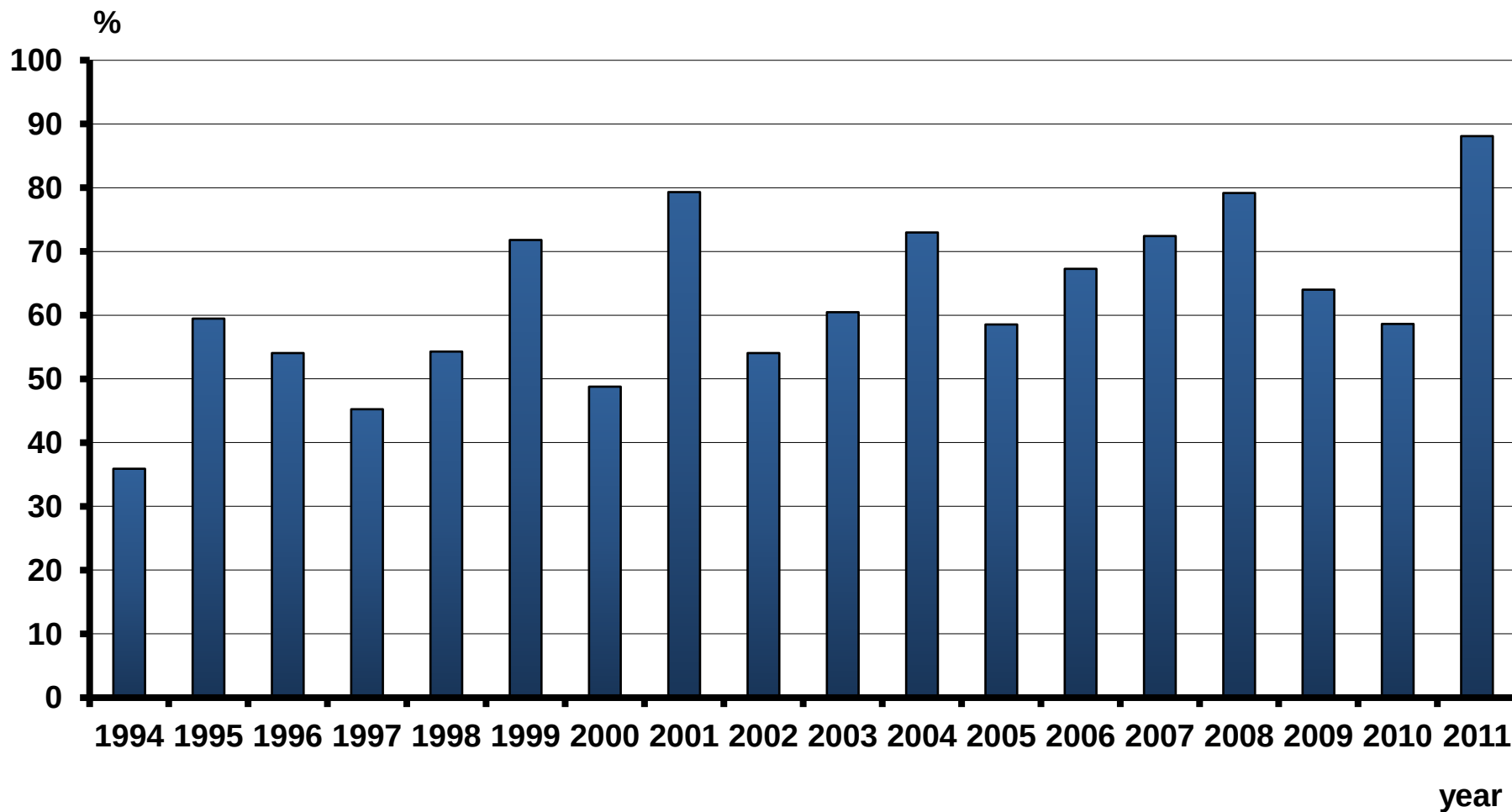
■ Births

■ Prenatal diagnosis



Spina bifida – All cases in live births and prenatal diagnosis

Spina bifida



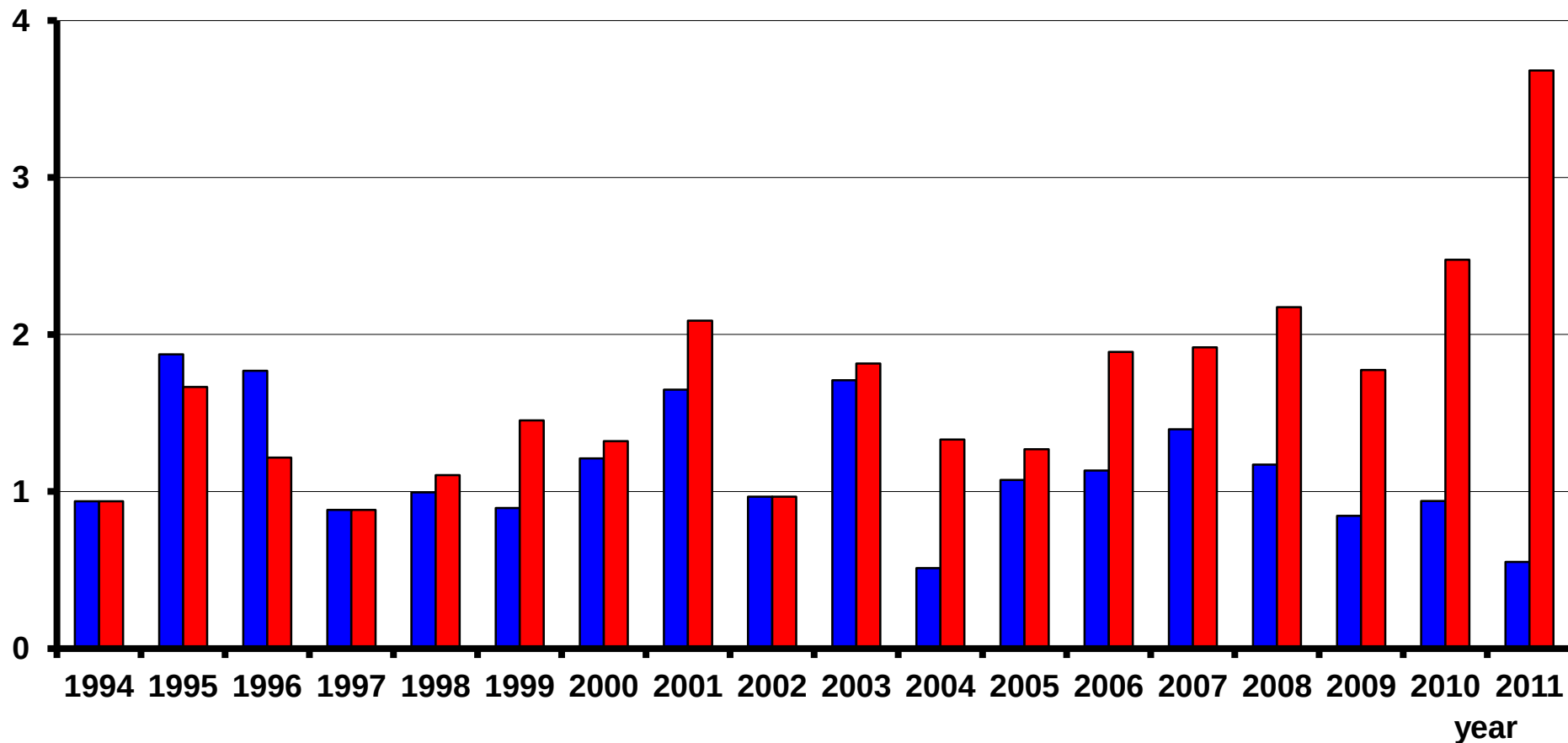
Spina bifida – relative number of prenatally diagnosed cases (%)

Omphalocele

per 10 000 live births

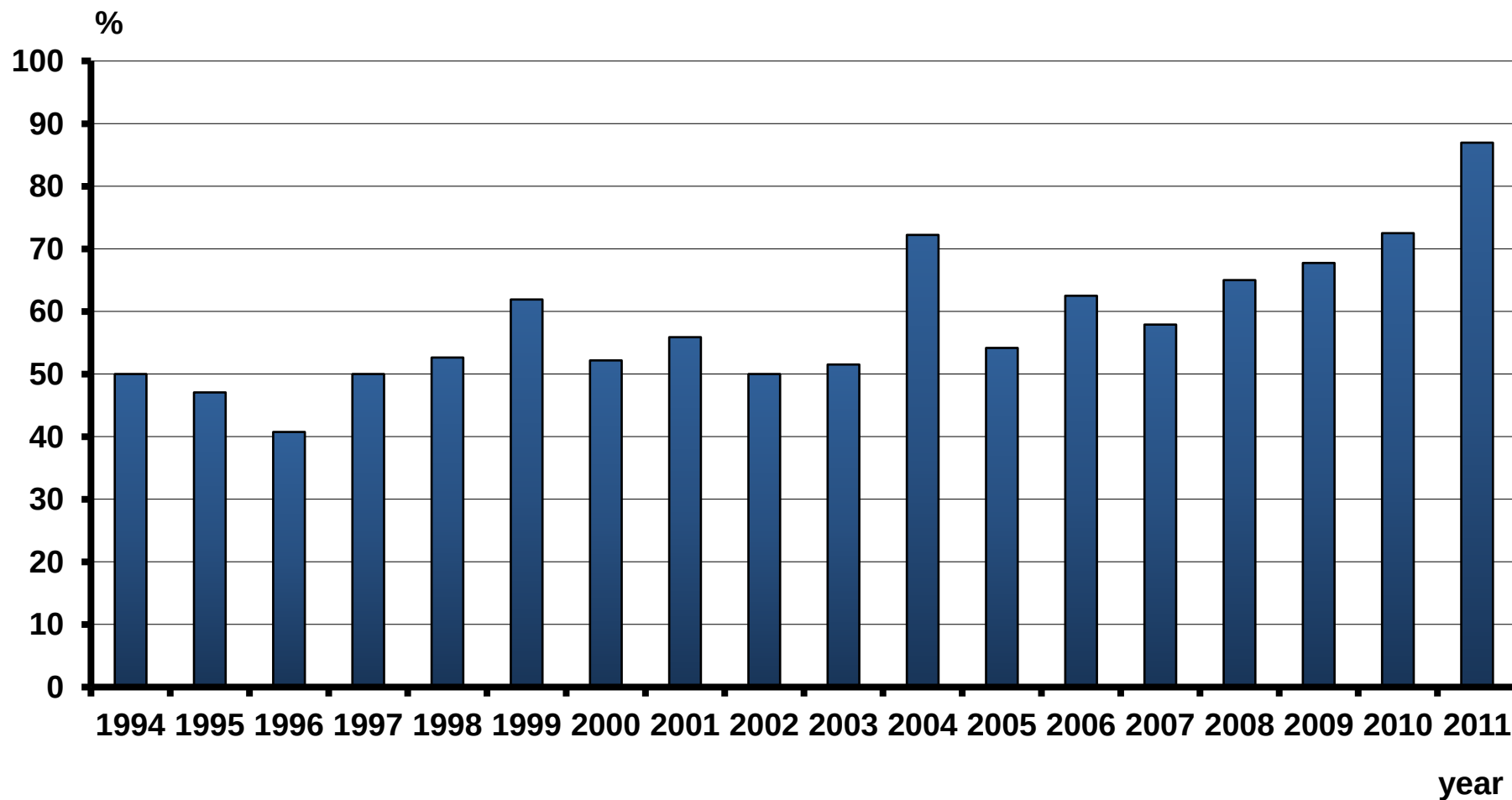
■ Births

■ Prenatal diagnosis



Omphalocele – All cases in live births and prenatal diagnosis

Omphalocele



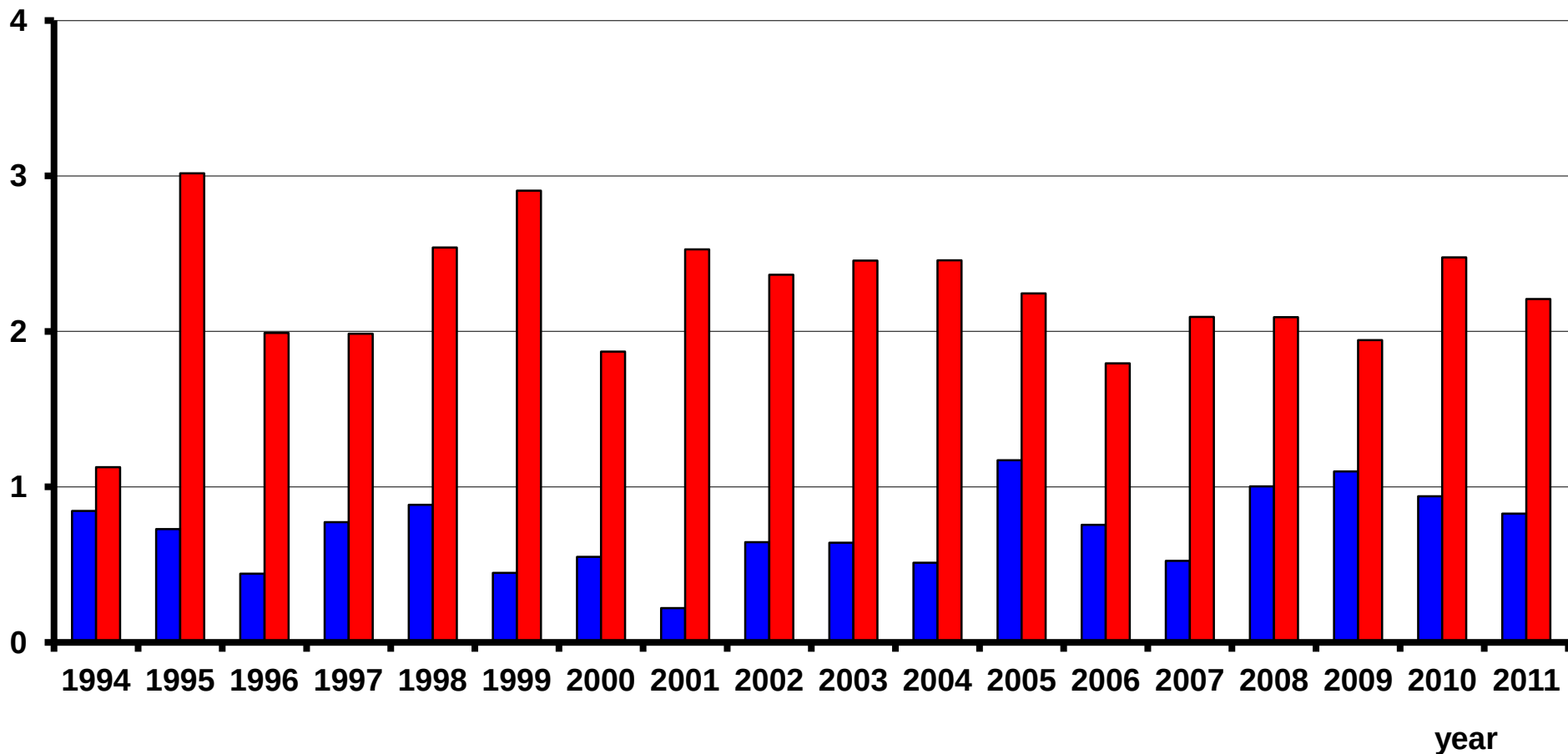
Omphalocele – relative number of prenatally diagnosed cases (%)

Gastroschisis

per 10 000 live births

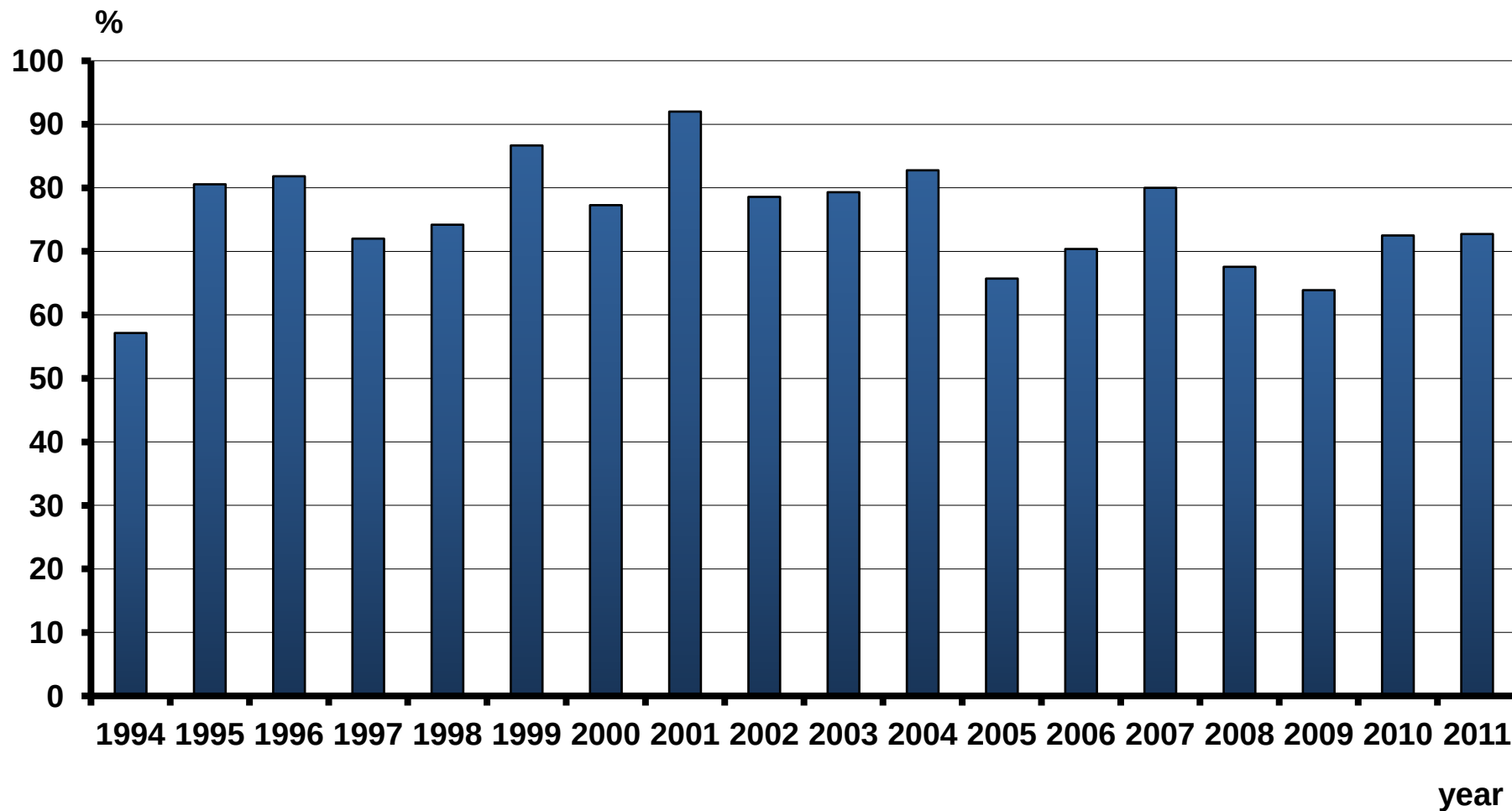
■ Births

■ Prenatal diagnosis



Gastroschisis – All cases in live births and prenatal diagnosis

Gastroschisis



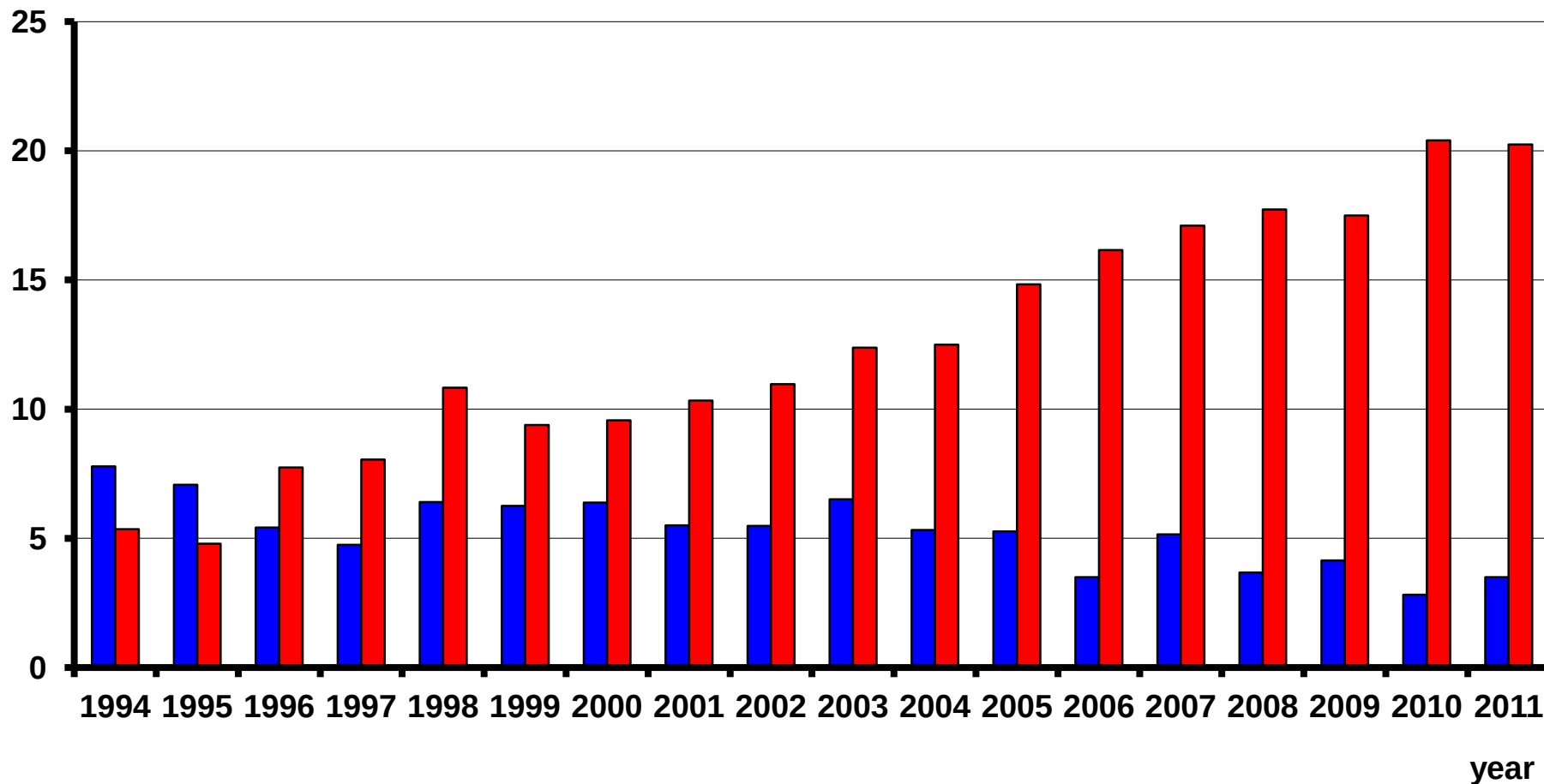
Gastroschisis – relative number of prenatally diagnosed cases (%)

Down syndrome

Per 10 000 live births

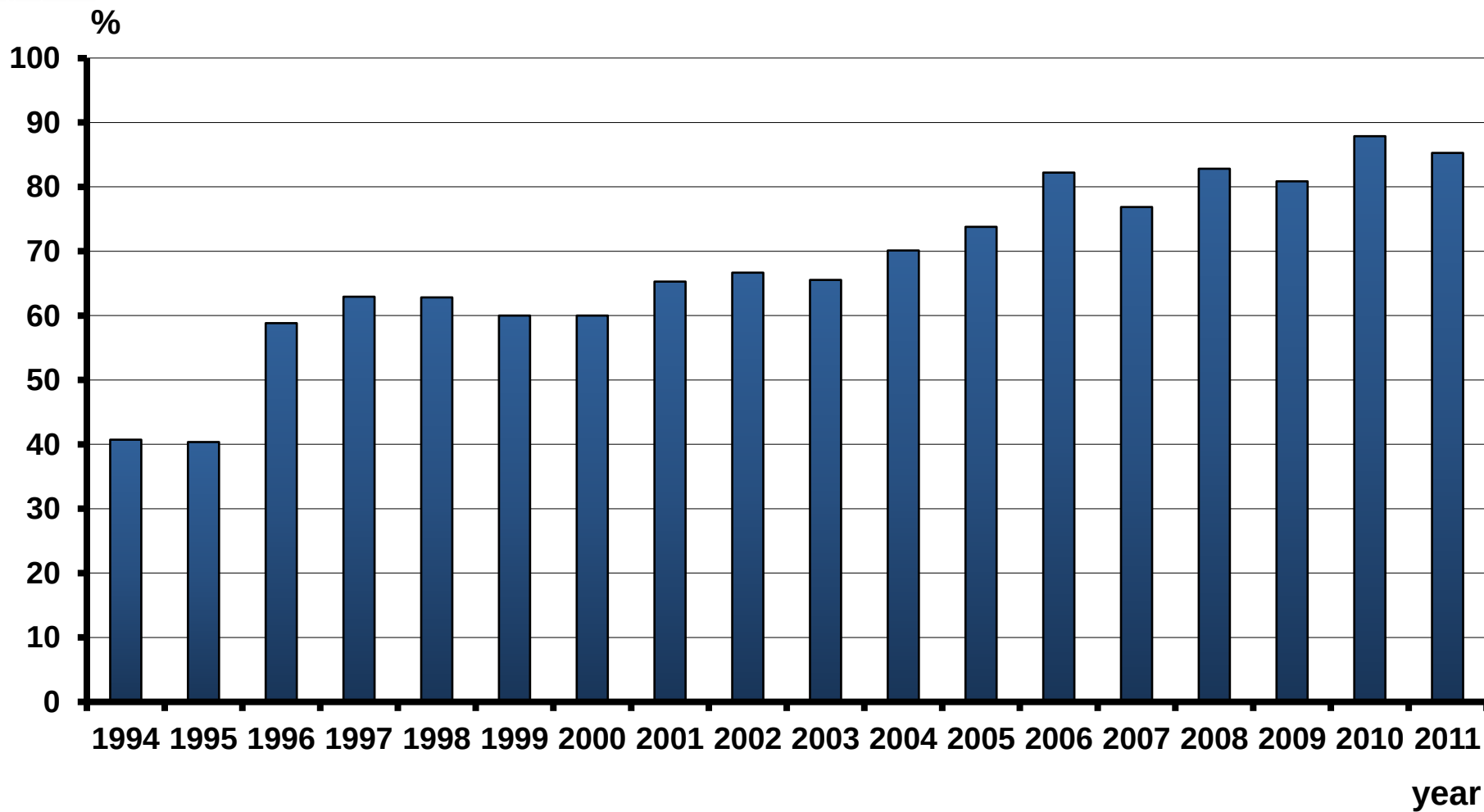
■ Births

■ Prenatal diagnosis



Down syndrome – All cases in live births and prenatal diagnosis

Down syndrome



Down syndrome – relative number of prenatally diagnosed cases (%)

Conclusions

1. *The number of prenatally diagnosed cases of congenital anomalies is increasing*
2. *The number of congenital anomalies in live births is decreasing*
3. *The indication criteria for the invasive prenatal diagnosis are changing during last years*
4. *The average maternal age is notably increasing during last years*
5. *The early prenatal diagnosis (during the first trimester of gravidity) is becoming much more important during last years*

Thank you for your attention!



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