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Population-based study of the incidence and prevalence of significant handicaps in children (canton of Vaud)

Regionalization of neonatal care has frequently been evaluated in terms of survival improvements for low and very low birth-weight newborns. However, the issue of the frequency of significant handicaps among survivors, both among low and normal birth-weight infants, is still unresolved.

Evaluations of neonatal care are generally limited by selection biases in center-based studies, with admission criteria changing over time or specific to local structure, by the target population, usually restricted to low or very low birth-weight newborns in spite of a large proportion of normal birth-weight users in neonatal intensive care units, and by the selected outcomes, such as mortality or neurodevelopment, while other outcomes may affect the quality of life. These considerations led to the design of a population-based study devoted to the measurement of the incidence and prevalence of significant handicap in the general population of Vaud infants, to be conducted in a collaboration between the University Institute of Social and Preventive Medicine and the Neonatal care unit of the canton de Vaud University Hospital Center, in Lausanne.

The main study purpose are the creation of an epidemiological observatory providing information for the organization of health care and for program evaluation, and to identify risk factors for significant handicap with the study of the evolution of perinatal morbid conditions. It will take place in Vaud in the fall of 1993.

Out of 7000 expected livebirths and after exclusion for practical reasons of births occurring out of Vaud or to residents of border districts, some 5560 births will be included. All low birth-weight newborns, irrespective of their health status (expected to be 360) and a sample of 80 severly handicapped normal birth-weight newborns will be subject to periodic examinations in the Neonatal care unit in Lausanne (Table 1).

For the whole study population, information on handicap at years 0, 2 and 4 will be provided by physicians in charge of the children, and basic information concerning infants with and without handicap will be abstracted from the birth certificate. For severly handicapped infants, detailed information will be recorded by physicians in charge of the children. Examination of low birthweight newborns and of the sample of 80

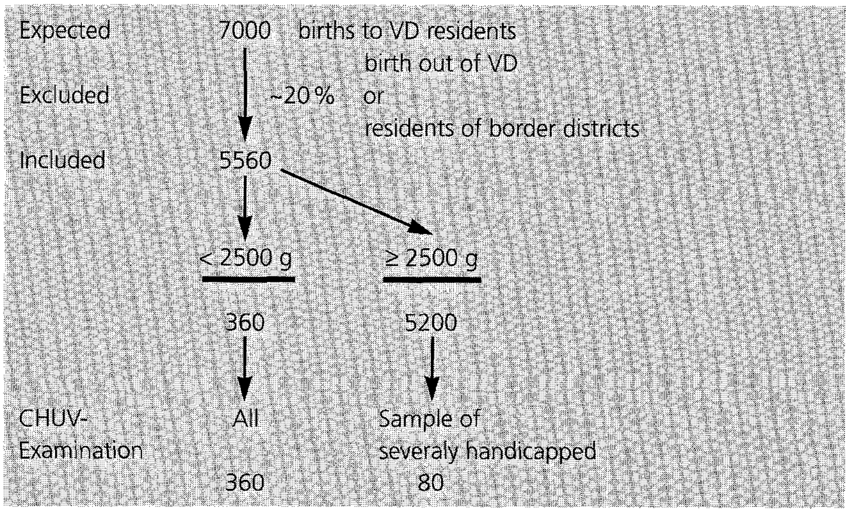

Table 1. *Study population.*

5,560	**included**
→	Severe handicap at age 0, 2, 4 Birth certificate
760	**severely handicapped**
→	Socio-economic environment Perinatal health and risk factors Growth Diagnosis, handicap, mortality Use of health services (Bio-psychometric tests)
440	**CHUV-examination**
→	+ Bio-psychometric tests

Table 2. *Data collection in study population and sample.*

severely handicapped normal birth-weight newborns in Lausanne Neonatal unit at ages 2 and 4 include bio-psychometric tests (Table 2).

This study will rely both on the uniform information provided by the birth certificate and on physicians collaboration. In Switzerland, more than 99 percent of the births take place in maternity services. The systematic provision of basic and uniform information on health care users by maternity services could improve greatly and at low costs our knowledge of needs in neonatal populations. However, if birth certificates provide important baseline information, they cannot be expected to afford a sufficient basis for an extensive evaluation of perinatal health and care in our country. Complementary studies in neonatal units can generate more detailed informations; they often require collaborative efforts. It is our responsibility.