

# First nationwide survey on cardiovascular risk factors in Grand-Duchy of Luxembourg (ORISCAV-LUX)

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## Background

In Grand-Duchy of Luxembourg, cardiovascular disease is the leading cause of mortality and one of the major reasons for hospital admission, constituting therefore an important challenge to public health authorities. Early detection of individuals with modifiable and treatable cardiovascular risk factors may result in saving lives and reducing the burden on healthcare resources. In the absence of relevant national baseline statistics, the observation of cardiovascular risk factors by national periodic surveys is an essential tool to formulate coherent and effective strategies of prevention.

## Material & Methods

The "Observation of Cardiovascular Risk Factors in Luxembourg" (ORISCAV-LUX) survey is the first national large-scale, epidemiological survey with a representative sample of 1432 subjects, stratified by gender, age categories and district, drawn from the national insurance registry of 18-69 years aged Luxembourg residents (Figure 1). The cardiovascular health status was assessed by means of a self-administered questionnaire, clinical and anthropometric measures, as well as by blood, urine and hair examinations (Figure 2).

ORISCAV-LUX study was conducted between November 2007 and January 2009 under the auspices of the Ministry of Health and co-financed by the Ministry of Research. It was designed as a nationwide cross-sectional cardiovascular monitoring survey aimed to establish baseline information on the prevalence of potentially modifiable and preventable cardiovascular risk factors, including smoking, alcohol intake, hypertension, dyslipidaemia, diabetes mellitus, obesity, physical activity and dietary habits.

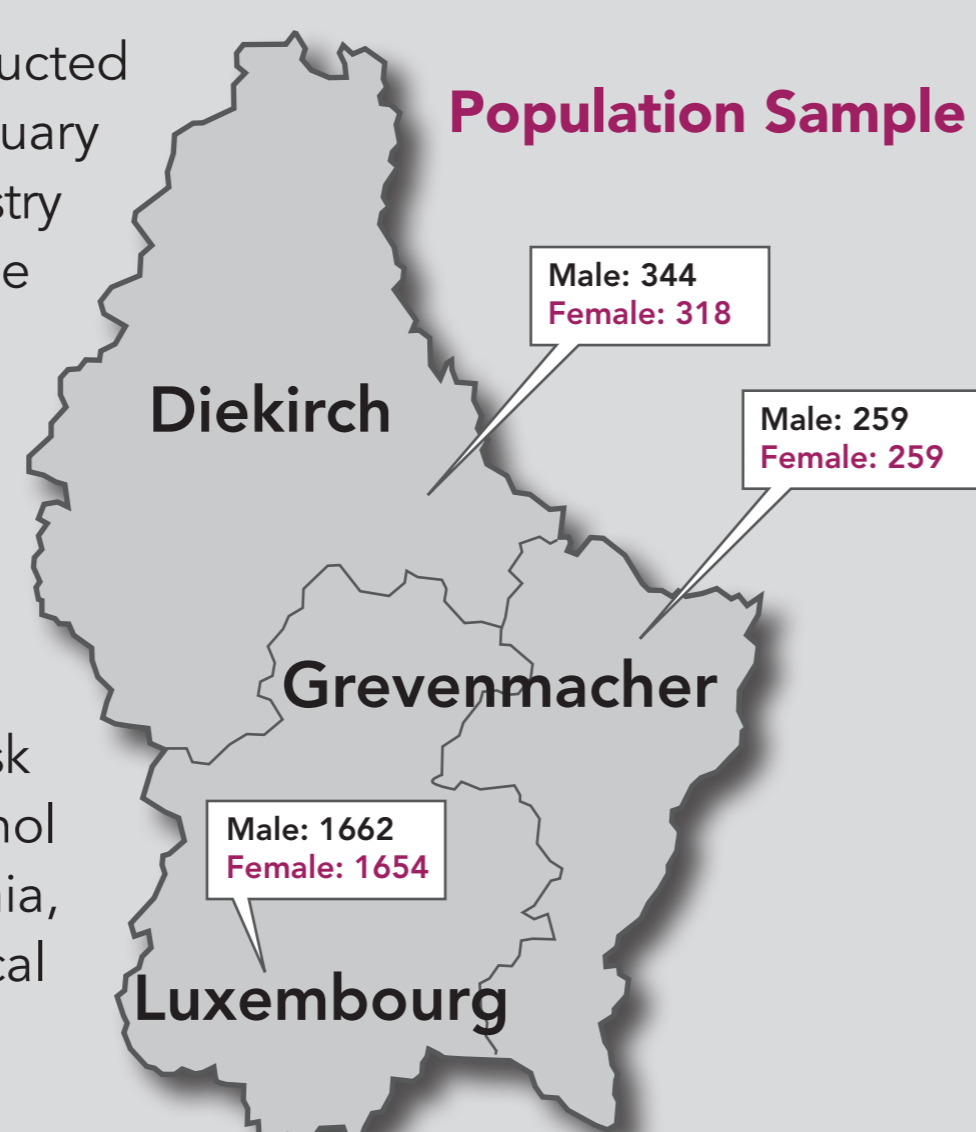


Figure 1 ORISCAV-LUX population sample

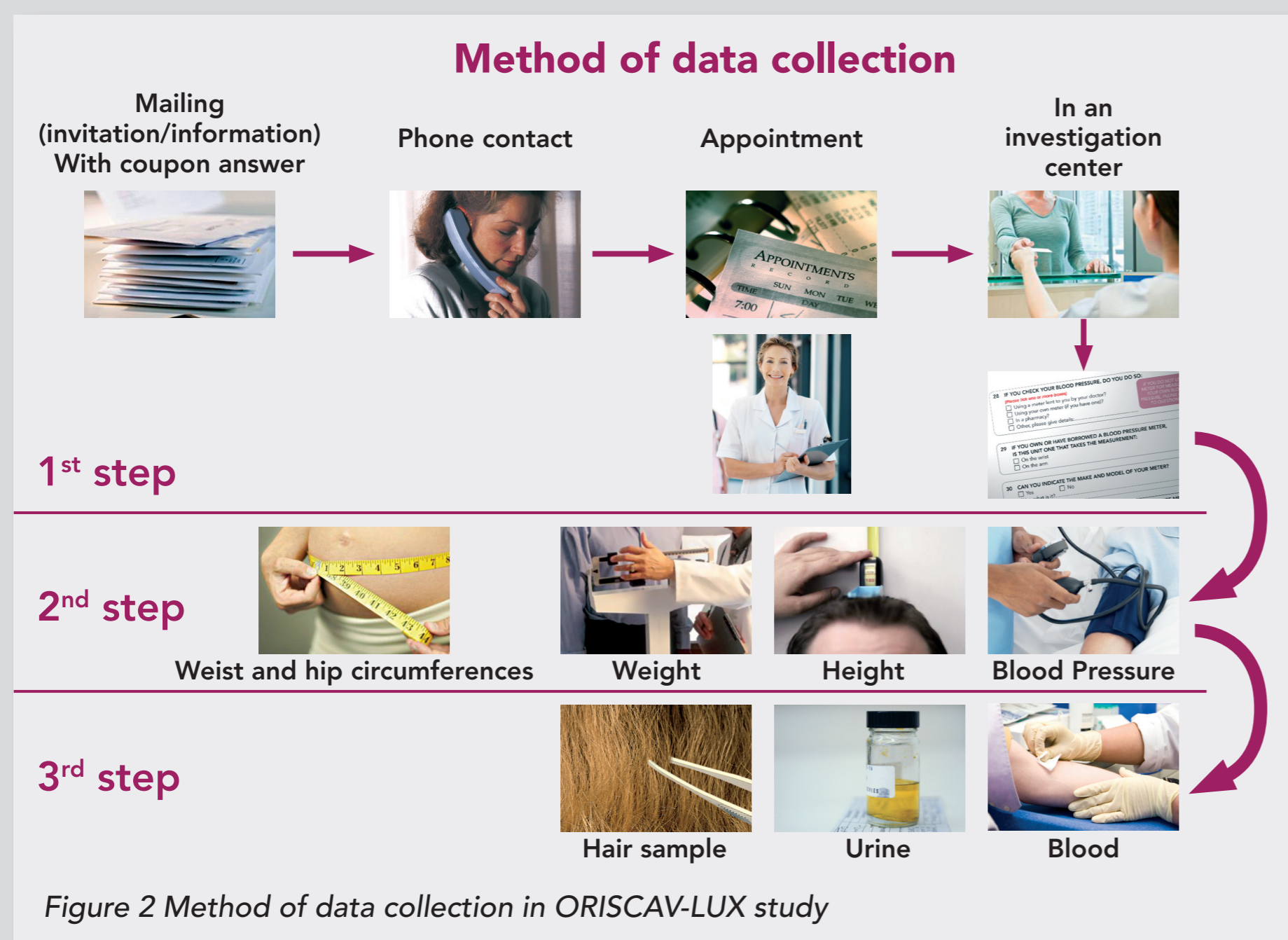


Figure 2 Method of data collection in ORISCAV-LUX study

## Preliminary results

The most predominant cardiovascular risk factors were dyslipidemia (69.9%), hypertension (34.5%), smoking (22.3%), and obesity (20.9%), while diabetes amounted 4.4%. All prevalence rates increased with age (except smoking) with marked gender differences (except diabetes). The proportion of subjects cumulating two or more cardiovascular risk factors increased remarkably with age and was more predominant in men than in women ( $P < 0.0001$ ) (Figure 3). Only 14.7% of men and 23.1% of women were free of any cardiovascular risk factor. High prevalence of non-treated CVRF, notably for hypertension and dyslipidaemia, were observed in the study population (Figure 4).

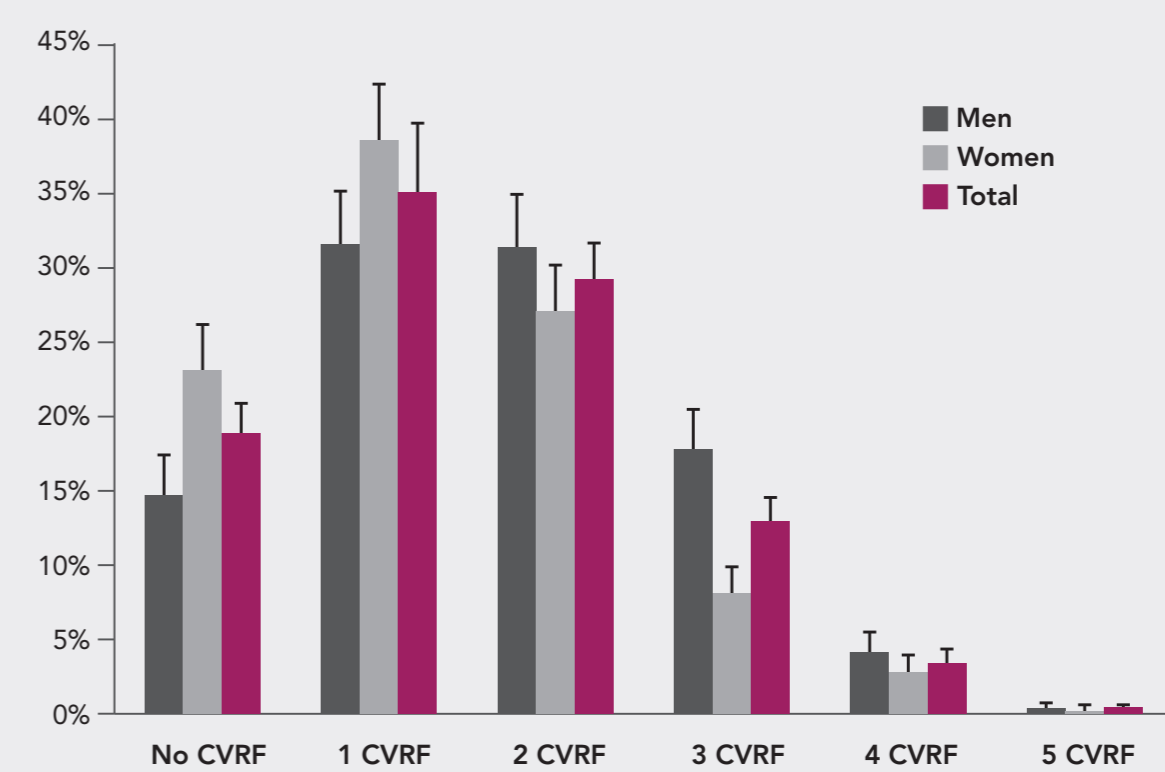


Figure 3 - Distribution of the number of CVRF per subject globally and by gender in the ORISCAV-LUX study

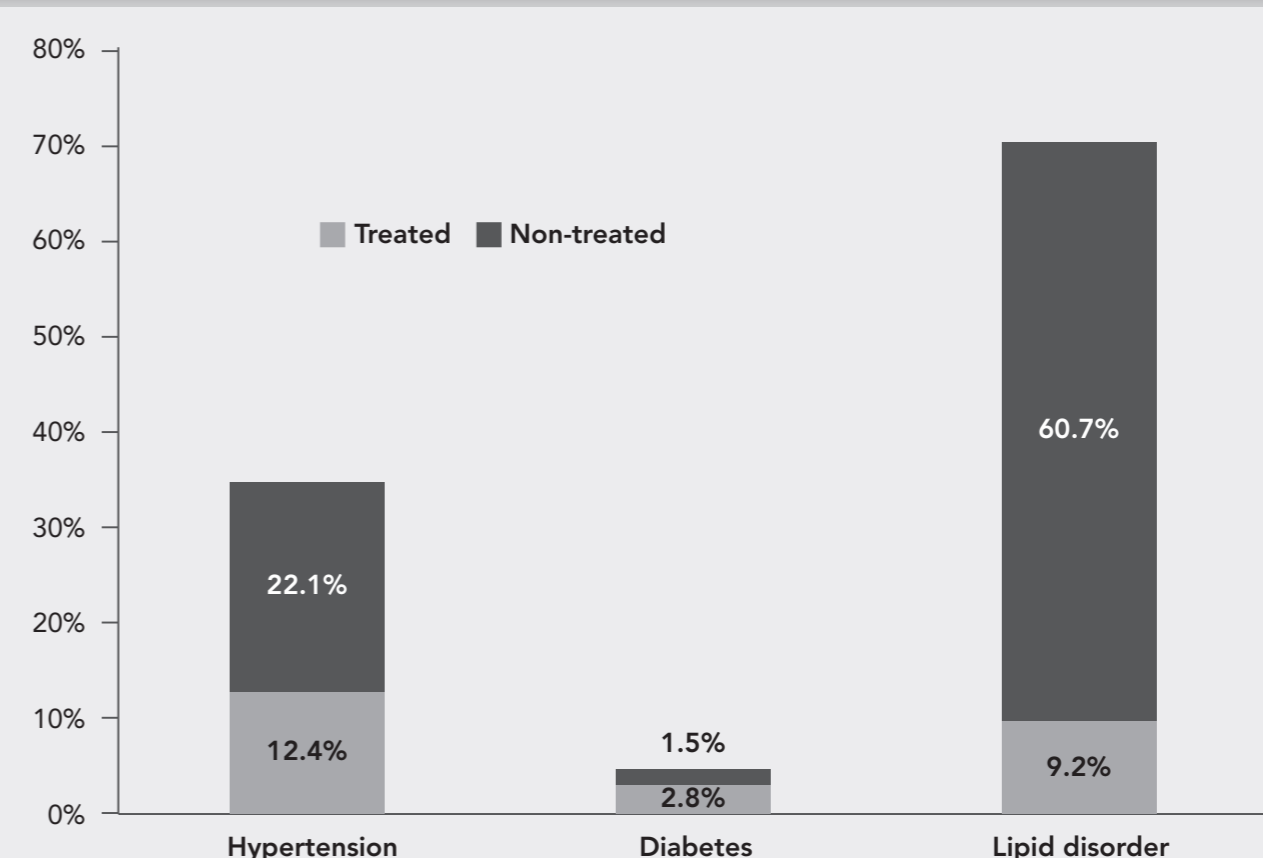


Figure 4 - Prevalence of treated and non-treated participants with hypertension, diabetes and lipid disorder in the ORISCAV-LUX study

## Conclusion

From a public health perspective, these preliminary findings stress the urgent need for early routine health examinations, preventive interventions and lifestyle behavioural changes, even in young asymptomatic adults, to decrease cardiovascular morbidity and mortality in Luxembourg.

## Perspective

The ORISCAV-LUX study is integrated into a cross-border survey, entitled "Nutrition, Environment and Cardiovascular Health NESCAV", joining together 4 neighbour regions: Grand-Duchy of Luxembourg, Wallonia, Lorraine and Saarland. This survey based on a standardised monitoring method, and collection tools that enable a relevant comparison between the 4 regions, in terms of observation of cardiovascular health and the risk factors related to lifestyles in the population of the Grand region.