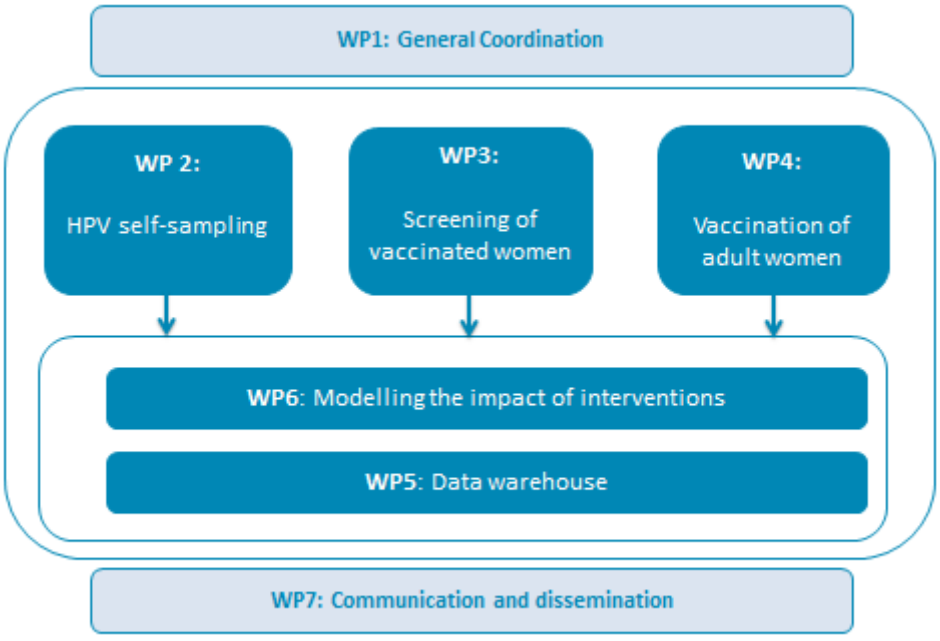
Publishable summary

Summary description of project context and objectives

CoheaHr stands for "comparing health services interventions for the prevention of HPV-related cancer" and is an European Commission-funded multidisciplinary consortium of key researchers in the field of HPV screening and vaccination. CoheaHr aims to provide a strong evidence base which will enable policy makers and other stakeholders to make informed decisions on HPV prevention strategies, thereby contributing to strengthening health systems and health services interventions in Europe. HPV-related cancers include cancers of the anogenital tract and the oropharynx. The consortium focuses explicitly on cervical cancer – for which both primary prevention (HPV vaccination) and secondary prevention methods (screening) are available.

The project is organized in 7 different work packages (WP) – as depicted in the figure below.



The CoheaHr consortium will perform three trials in organised screening settings to determine i) the efficacy and feasibility of self-collection of specimens for HPV testing as an alternative to physician-based sampling (WP2), ii) the safety and quality of life of less frequent screening in women vaccinated at young age (WP3a), and iii) the effectiveness of HPV screening in women vaccinated two years before entering the screening programme (WP3b). In addition, a multi-country study will be performed to assess the acceptability and feasibility of HPV vaccination in screen-eligible women (WP4). In WP5 transmission and

Markov models will be (further) developed, validated and used to provide long-term projections of vaccination and screening on cancer incidence and mortality. The randomized trials will provide (some of) the input parameters for these models. Finally the data will feed a previously established standardised joint European data warehouse and pooled analyses and meta-analyses will be performed (WP6).

Description of the work performed since the beginning of the project and the main results achieved so far

Since its initiation in November 2013, two randomized controlled clinical trials (RCT) have started enrolment, ne vaccinate and screen trial and a multi-country feasibility study are in the final stages of preparations.

The first trial (WP2; IMPROVE) is an RCT comparing hrHPV self-sampling as first screening test versus physician-collected sample. The trial is conducted in the Netherlands and coordinated by the VU University Medical Center (www.hpvzelfafname.nl) Women who accept to participate in the study are randomly assigned to self-collection at home, or physician-collection at the general practitioners office. After approval was obtained from the Dutch Health Council, the first invitations were sent out in April 2015. The researchers aim to enrol half of the total 18,000 women by the end of 2015.

The second trial (WP3a) is an RCT evaluating different screening policies in vaccinated women and is conducted in Finland (University of Tampere). HPV-vaccinated women (birth cohorts 1992-1995) will be randomized to three different arms to receive PAP smear at the age of 22, 25 and 30; at age 25 and 30; or at age 30 only. Arm 1 and 3 will include at least 7,000 women each. In April 2015, 50% of the 1992 birth cohorts was enrolled and the first invitations were sent out to the birth cohort of 1993.

In the third trial (WP3b), the influence of vaccination at age 22-23 will be evaluated on the performance of cervical HPV-based screening. This study will be conducted in both Sweden (Karolinska Institutet) and Italy (Cancer Prevention and Epidemiology Unit, University of Turin). Women entering the screening ages will be vaccinated 1-2 years prior to receiving their first screening invitation. The country-specific protocols have been finalized and are ready for submission to the ethical review committees. These trials plan to initiate enrolment late 2015.

The fourth study aims to assess the acceptability and feasibility of HPV vaccination in screen-eligible 25-45 year old women. In total 11 countries will participate in this study, each enrolling 250-300 participants. It is expected that the first country will start enrolment at the end of 2015 and the study follow-upwill finish by 2018. These results will provide

mathematical modellers with key information to evaluate models considering “screen and vaccinate” strategies in unvaccinated women and form the basis for a possible future large randomised trial aiming at accelerating the reduction of cervical disease and cancer incidence in Europe using a once-in-a-lifetime “screen and vaccinate” strategy.

With respect to the modelling work (WP5) in the first 18 months of the project: the HPV transmission model was finalized and the cancer progression was ready for calibration.

Furthermore, an updated, web-based survey for EU countries is in progress and will collect information on cervical cancer prevention strategies, quality assurance and associated costs.

In WP6 – multiple meta-analyses have been conducted and published and as well as publications using data of the pooled data-set have been published. In addition, assistance was given to public health authorities updating guidelines for cervical cancer prevention.

Description of the expected final results and their potential impacts and use

HPV research and development has delivered to the promise by introducing proprietary technologies and methods such as new HPV vaccines and HPV DNA screening to clinical practice. CoheaHr will take the next crucial step in optimising the delivery of health services by providing a comprehensive evidence base regarding the comparative effectiveness and cost-effectiveness of nation-wide screening and vaccination programmes for HPV related disease. First results of CoheaHr have been disseminated at international conferences and a special session on CoheaHr has been held at EUROGIN2015 (Seville, Spain). A complete list of publications from the CoheaHr consortium, as well as additional information on the project and the consortium partners, can be found at: www.coheahr.eu. The results of CoheaHr will support policy makers and other decision makers at National and EU level, thereby improving public health interventions in relation to HPV prevention and adding to the health of European Citizens.