

Transforming cervical screening

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Credit: AI-generated image ([disclaimer](#))

(Medical Xpress)—There is nothing like a big celebrity name to create global attention to a big health concern. As a result we now have the 'Jolie effect' to describe the influence actress Angelina Jolie has had on people now going for breast cancer checks, which have reportedly doubled.

This is good news concerning the most common cancer in women

worldwide.

Indeed, the disease accounts for nearly one-quarter of deaths in the developed world. It is also preventable with early diagnosis, but further improvement of screening techniques for cancer is still needed.

This is what the AUTOCASST ('Automatic Cancer Screening Based on Real-time PCR') has been able to address thanks to EU-funding of EUR 3 million. Their primary focus, however, has been on developing new technologies and approaches to target the second most common cancer in women and its associated Human Papilloma Virus (HPV).

Screening programmes to detect the disease are vital but there can be long time delays in obtaining results and, subsequently in starting treatment. AUTOCASST has worked on ways to improve the way patients are screened for cervical screening.

They have designed a unique, automated [polymerase chain reaction](#) (PCR) technology, which is able to detect multiple HPV genotypes and cervical [cancer biomarkers](#) in parallel within a single [smear test](#). The concept of point-of-care cervical [cancer screening](#) will help to improve pre-cancer and [cancer detection](#). The doctor would be able to take a smear sample and immediately test for the presence of HPV and biomarkers, and the risk of developing cervical cancer.

In addition, the test could reliably distinguish between high and low-grade cervical pre-cancer, which is important for the management of women with abnormal smear results. Previously, this would have meant delays as samples would be sent to a central laboratory for pap-smear testing (usually a manual, microscope-based evaluation).

Dr Csaba Jeney from GenoID in Hungary says: 'As the coordinator of the project, I found the focused and diligent work to improve one of the

oldest medical fields a really exciting experience. Our company and the Irish group of John O'Leary and Cara Martin worked on the biomarker discovery, which brought out a leading biomarker panel in the field, giving the hope of transforming cervical screening.'

Obstacles emerged, the project coordinator reveals, but this is the nature of scientific work. 'The consortium members from top German, Austrian, Hungarian and Irish institutes and companies did their best. So now, we start the exploitation of the results with great expectations,' he notes.

The system can be applied to other cancers or disease states as well as other fields, such as food safety, environmental monitoring or homeland security, if a suitable biomarker panel is adopted, thereby providing scope for advanced research and significant social and economic benefits in the future.

Dr Cara Martin of Irish partner Trinity College Dublin says: 'This alliance has opened up numerous other opportunities for us researchers in Ireland and Europe, both in the [cervical cancer](#) screening space but also other cancers and clinical entities.'

Through the course of the project, she explains, the research team has established an excellent rapport and has, through various other initiatives, combined forces and applied for EU and national funding for several projects not only in the area of [cervical screening](#), but also other cancers and using different technology approaches.

More information: cordis.europa.eu/projects/rcn/87611_en.html

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