

# THE ORION PROJECT



An **innovative e-health tool** to identify high risk of experiencing a drug overdose.



## Why ORION project?

As the European Public Health Alliance reported in 2008, “Drug Overdose Kills One European Per Hour”: an alarming but reasonably accurate reflection of the most recently reported European figures of fatal drug overdoses. This simple headline however does not account for the complex nature of overdoses and the various comorbidities associated with both fatal and non-fatal overdoses.

As such, the ORION project addressed this need by developing an overdose risk assessment tool, which can be used with substance users in a variety of clinical settings.

## What will the project aim to do?

Individuals who experience drug overdoses may, in some cases, receive health care for substance abuse; however, evidence is clear that the treatments themselves do not necessarily change the behaviours which put such persons at higher-risk of fatal overdose. ORION aims to utilise an e-health tool in an innovative approach to raise awareness of the factors which influence overdose risk in part of the European population identified as “high-risk”. By developing and using a decision analysis model, it is possible to identify personalised risks of subsequent overdose and utilise a targeted approach to provide health care that improves awareness and understanding.

## Summary of ORION methodology

- Translation of the current knowledge base of factors which influences overdose risk into a decision analysis model which can calculate overall overdose risk for a given set of variables.
- Development and dissemination of a complete and easy-to-use software package which incorporates the decision analysis model into an e-health intervention that can provide feedback at an individual level to all four research partners in their respective languages (English, German, Danish and Italian).
- Preparation of a pilot implementation of the ORION software in clinical settings within four European countries.
- Assessment of the capacity of the e-health model to increase individual awareness of overdose risk factors.

# THE ORION PROJECT e-TOOL

The ORION project is an innovative e-health risk assessment tool which can be used in a variety of clinical settings to identify individuals who are at a high risk of experiencing a drug overdose. The tool is proposed in a easy-to-use, computerized and interactive format for clinicians and patients to use together.

The aim of the ORION tool is to assess overdose risk and to educate the substance misusers about the impact which their behaviour has on their personal overdose risk.

The tool is available for free on the project website [www.orion-euproject.eu](http://www.orion-euproject.eu)



The ORION Risk Assessment Software

The risk factors included in the ORION software are:

### DEMOGRAPHICS

Age  
Gender

PROTECTIVE FACTORS  
Receiving treatment  
Reducing drug intake

RISK FACTORS  
Injecting  
Mixing drugs  
Recent prison release  
Using drugs alone  
Previous overdose  
Mental health  
Life event

# KEY OBSERVATIONS OF THE PILOT IMPLEMENTATIONS

1) The ORION software was presented to 198 opioid dependent patients in four countries in two clinical settings (inpatient and outpatient).

2) The patient awareness of overdose risk factors increased significantly after using the software.

3) About half of the patients engaged actively with the software, using it to explore how their overdose risk would change if they were to make certain behaviour changes.

4) There is an indication that the software is most useful for younger and less experienced users.

5) 52% of participants said that they learned something about drug overdose risk from the ORION software.

6) 45% of participants said that they would consider changing their drug taking behaviour as a result of using the ORION software.

7) 83% of participants thought that the ORION software was fairly or very useful.

## THE PROJECT TARGET AUDIENCE

The ORION software package has been modelled on a previous decision analysis software program that was developed to NICE (National Institute for Health and Clinical Excellence) guidelines for the treatment of hypertension, which was found to have benefits for both clinicians and patients and has merit in improving health through a more patient-centred and individual treatment plan.

The ORION project transferred the same high standard approach to a different clinical population, in order to offer service and healthcare providers with an opportunity to identify and support patients who are most at risk for suffering a drug overdose and help them. In so doing it is likely to have some impact by patients better understand the overdose risk factors relevant to them and having an impact by making potential changes to their lifestyles.

The project has been developed as part of a pan-European study with four research sites in Scotland (NHS Fife), Germany, Denmark and Italy. Upon initial development of the software and translation into the different languages, the e-health tool has been pilot tested with 198 patients in the four European sites.

### Some quotes from patients after using the ORION software

*“After completing the questionnaire my current situation looks more positive to me”.*

*“I found it helpful as I could understand overdose risks”.*

*“Thank you - it was one of the most interesting things I ever did!”.*

*“It was interesting, a new thing, brief and not boring. I have learned something”.*

The Orion project includes six partners  
from across the European Union:



The University of St. Andrews (UK) comprises 16 academic schools, including the Medical School, which was reformed in October 2002 and includes 60 academic staff, research fellows, and research assistants and a large group of honorary clinical academic staff, who contribute to teaching.

University of St. Andrews is the ORION project coordinator.



Institute of the University of Duisburg-Essen (DE) includes the Department of Addictive Behaviour and Addiction Medicine, LVR-Hospital Essen (formerly The Rhine State Hospital Essen), which was founded in 1974 and is a hospital of the University Duisburg-Essen providing psychiatric inpatient and outpatient care. The University Hospital Essen consists of several departments focusing on basic (theoretical) and practical medicine.



Synergia (IT) is an Italian social research, training, and consulting firm that has operated since 1989 in the field of social and health policy. Synergia has developed hundreds of research projects for the public sector, private companies, and third sector on local, national, and European levels—deploying solid scientific expertise with a strong commitment to operating efficacy and timely delivery.



University of Milano Bicocca (IT) is a young, dynamic and multidisciplinary university, which has created an extensive network including many world-famous universities, research centres, and top corporations. It's Department of Neurosciences and Biomedical Technologies is a partner in the ORION project.



Aarhus University Hospital (DK) consists of four university teaching hospitals, including the Psychiatric Hospital. The hospital includes a 24-hour emergency unit, two psychiatric units, a geronto-psychiatric unit, and a forensic unit, as well as six community psychiatric centres and six units for specialised psychiatry. The Psychiatric Services assume responsibility for graduate and undergraduate medical training and include a research centre (WHO Collaborating Centre) and a staff education and training department.

#### Business Solutions Europa

Business Solutions Europa (UK) is a dynamic European affairs consultancy with offices in UK and Brussels. Its goals are to “bring Europe closer to the needs of Europeans” by facilitating dialogue and the exchange of information with key institutions and actors and helping to develop ideas and European projects.

Business Solutions Europa is involved in a number of European public health communication projects and advises on these matters public and private organizations across Europe.

#### Contacts

[www.orion-euproject.eu](http://www.orion-euproject.eu)

General and technical inquires:

Prof. Gerry Humphris: [gmh4@st-andrews.ac.uk](mailto:gmh4@st-andrews.ac.uk)

Media Inquires:

Luigi Petito: [luigi@bs-europa.eu](mailto:luigi@bs-europa.eu)

The views expressed in this brochure are purely the authors' own  
and do not reflect the views of the European Commission