Horizon 2020
MMpredict

— Q&A —

Myeloma Patients Europe (MPE) is involved in a Horizon 2020 project called MMpredict. The project consortium is aiming to develop a personalised medicine tool that can predict the most effective treatment strategy for myeloma patients.

This is a Q&A explaining MMpredict and the role of the project consortium in further detail.

WHAT IS HORIZON 2020?

Horizon 2020 is a large-scale EU Research and Innovation programme which has around €80 billion of funding available over 7 years (2014-2020). It funds a wide-range of different projects relating to science, innovation and tackling societal challenges. To receive funding through the programme, multi-stakeholder consortiums work in partnership to develop a project proposal, which is reviewed by the European Commission. MMpredict was approved by the European Commission and started in November 2016. Over the duration of 42 months, the consortium will distribute the allocated funding proportionately to consortium members to carry out their assigned tasks.

WHAT IS THE MMPREDICT PROJECT?

The MMpredict project is working towards the development of a tool which can help myeloma doctors predict the most effective treatment for their patients. The aim is to ensure that each patient receives the most suitable treatment regimen with the highest effectiveness and the least number of side-effects, right from the start of the treatment.

HOW WILL THIS TOOL BE DEVELOPED?

SkylineDx, a member of the project consortium, has already developed and validated a diagnostic device called the MMprofiler™ which can determine the level of risk of a myeloma patient by classifying them into "high" or "standard" risk groups. Patients with "high" risk myeloma do not normally respond as well to treatment and are likely to relapse more quickly than patients who have "standard" risk myeloma. This classification is done using gene expression profiling (GEP), a technology in which the activity (or "expression") of specific genes is measured in tissue samples – creating a patient specific picture. The GEP of an individual patient, represents their biology and can give important clues on response to drugs.

The aim of the project consortium is to build upon this approach by developing a tool which can help myeloma doctors predict the most effective treatment for patients. This will be done through using predictive biomarkers, which are measurable indicators of response to treatment and disease progression. Assessing this within patient tissue samples should give researchers information on the treatment or treatment combinations which are most effective in each individual patient based on their own myeloma subtype. Correlations between predictive biomarkers and the effect of treatment or treatment combinations, will then be processed into a treatment decision matrix, which should enable myeloma doctors to determine personalised medicine strategies.

WHAT IS THE RATIONALE BEHIND THE PROJECT?

Being able to predict myeloma patient responses to treatment would be beneficial to patient outcomes. Whilst outcomes in myeloma are gradually improving, there remains largely a one-size-fits-all approach to the treatment and care of patients. High-risk myeloma patients are typically associated with poorer outcomes; however, treatment

approaches do not yet differ to patients who have standard risk myeloma. MMpredict should enable a more personalised treatment approach in distinct groups of patients.

In addition to this, myeloma treatment pathways in some European countries are becoming increasingly complicated and expensive. Individualised approaches to treatment will increase value-for-money of medicines as you should be able to predict when a patient will respond. Predictive approaches such as the one being explored by the MMpredict project consortium are therefore important to healthcare systems across Europe.

WHAT IS THE MMPREDICT PROJECT CONSORTIUM?

The project consortium is the partnership of organisations that are involved in delivering the work of MMpredict. This partnership ensures that a range of complementary skills and expertise is involved in the project.
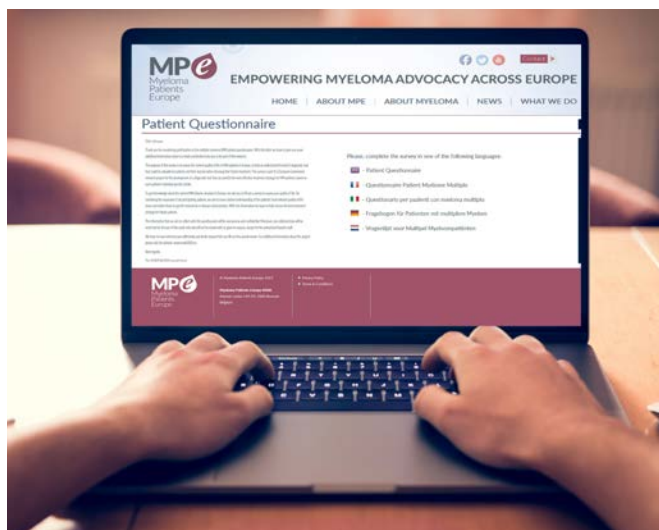
The consortium partners are:

- SkylineDx B.V. (Netherlands)

- University of Turin (Italy)

- Erasmus University Medical Center (Netherlands)

- Erasmus School of Health Policy & Management (Netherlands)

- Myeloma Patients Europe AISBL (Belgium)

The work of the project consortium is coordinated by SkylineDx, who have appointed a project officer for the duration of the grant.

WHAT IS MPE INVOLVEMENT IN THE STUDY?

To inform the project, MPE is running a survey in five differente languages with myeloma patients across Europe to understand their quality of life and how this is impacted by treatment side-effects. The survey also asks about

patients' attitudes towards genetic testing and risk stratification (e.g. understanding whether a patient has "high" or "standard" risk myeloma). The results of the survey will be used to develop the outcomes of MMPredict. By combining the responses of all participating patients, the aim is to have a better understanding of the most relevant quality of life issues for patients and relate these to specific treatments or disease characteristics.

For more information about this survey, please visit the website www.mpeurope.org/horizon-2020-patient-questionnaire, www.mmh2020.eu.In addition to the survey, MPE will also be communicating about the project with to members and other external audiences.

ARE THERE ANY SIMILAR STUDIES IN PROGRESS?

Yes. Given the importance of this research area, there are several other studies looking into predictive tests for treatment response in myeloma and predictive models for individual treatments. Below are examples of other organisations undertaking work in this area.

- The Medical Prognosis Institute, Denmark, created a tool called the Drug Response Predictor (DRP®) which has been shown to have the potential to provide a personalised medicines tool in myeloma and other cancers

- Quest Diagnostics has developed a range of diagnostic tools in myeloma including a tool to help doctors better understand a patient's response to daratumumab (Darzalex®) treatment

- The University of Arkansas Medical School (UAMS), developed tools to effectively predict the prognosis of myeloma patients related to their risk profile – these are known as MyPRS™ and MyPRS Plus™. These tools were bought by Quest Diagnostics in 2016 to explore further

- Cellworks and the University of Florida, Gainesville alongside other partners highlighted the utility of computer modelling and digital drug simulations in the prediction of treatment responses in myeloma patients

WHERE CAN I FIND FURTHER INFORMATION?

For further information on MMpredict or the quality of survey, please email Kate Morgan at morgan@mpeurope.org. You can also find further information at the following websites: www.mpeurope.org and www.mmh2020.eu.