ESPT

European Society of Pharmacogenomics and Personalised Therapy

*A Scientific Society for Individualised Medicine*

# European Society of Pharmacogenomics and personalised Therapy

www.ESPTnet.eu

# ESPT creation & development

**5th Santorini Conference October 2010: first plans**

Prof Dr Gerard Siest
*First ESPT President*
*(2011 – 2016)*

## ESPT board - 2011

*Gerard Siest (FRA) (president)*
*Janja Marc (SLO) (secretary)*
*Adriano Henney (UK) (treasurer)*
*Sophia Siest (FRA)*
*Ron van Schaik (NL)*
*Vangelis Manolopoulos (GRE)*
*Adrian Llerena (ESP)*
*George Patrinos (GRE)*
*Peter Jacobs (BEL)*

"It was proposed that a scientific European organization be developed to realize independent studies and clinical trials and to participate in educational efforts"

*Vangelis G Manolopoulos, Bryan Dechairo, Alain Huriez, Alexander Kühn, Adrián LLerena, Ron H van Schaik, Kiang-Teck J Yeo, Georgia Ragia & Gerard Siest*. Pharmacogenomics and Personalised medicine in clinical practice *Pharmacogenomics* (2011) **12**(5)

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# ESPT creation & development

*Prof Dr Ron van Schaik*
*Second ESPT President*
*(2016 – 2020)*

## ESPT board - 2017

*Ron van Schaik (NL) - president*
*Vangelis Manolopoulos (GRE) - VP*
*Sanja Stankovic (SER) - secretary*
*Ingolf Cascobi (GER) - treasurer*
*Sophia Siest (FRA)*
*Maurizio Simmaco (ITA)*
*Csilla Sipekey (FIN)*
*Adrian Llerena (ESP)*
*Janja Marc (SLO)*
*Marc Ansari (CH)*

# Aims of ESPT

**To extend knowledge and facilitate the clinical implementation of Pharmacogenomics and Personalised Medicine in Europe**

- To improve understanding of **clinicians and patients** on use of PGx
- To promote, inform and offer an independent view of PGx and Personalised medicine to **regulators**.
- To be a partner for **industry** in strategical discussions related to the clinically implementation of Personalised Medicine
- To offer a platform for **researchers** on PGx for interaction, exchange of ideas, sharing research outcomes and facilitating formation of relevant research consortia and research proposals

# ESPT Organisation

European Society of Pharmacogenomics and Personalised Therapy
*A Scientific Society for Individualised Medicine*

## Members

- 12 Research Groups
- Corporate Members
- 13 National Societies
- Pharmacologists
- Laboratory medicine
- Clinicians
- Geneticists
- Hospital pharmacists
- Patients
- Molecular biologists
- Epidemiologists
- Economists
- Public Health

## General Assembly

- Scientific Advisory Board
- European & International Institutions

## Executive Board

- Scientific and Clinical Implementation Division
- Communication and External Relations Division
- Education and Course Division
- Congress and Meetings Division

- Office
- Committees

# National PGx Societies linked to ESPT

| Country | Name of the Society | Contact |
|---|---|---|
| **Italy** | SIMeP – Italian Society of Personalised Medicine | Maurizio Simmaco |
| **Turkey** | Turkish Pharmacogenetics Society | Belgin Susleyici |
| **Greece** | Greek Pharmacogenomics and Personalised Society | Drakoulis / Haliassos |
| **Hungary** | Hungarian Society of Personalised Medicine | Gyorgy Németh |
| **Spain** | Spanish Society of Pharmacogenetics and Pharmacogenomics | Adrian LLerena |
| **Serbia** | Serbian Society of Pharmacogenomics and Theranostics | Sanja Stankovic |
| **Israel** | Israel Society of Clinical Pharmacology | Mati Berkovich |
| **France** | Personalised Therapy and Pharmacogenomics Group | Frederic Libert |
| **Netherlands** | Dutch Clinical Pharmacogenetics Network | Ron van Schaik |
| **Finland** | Finnish Phamacogenetics Society | Mikko Niemi |
| **Switzerland** | Swiss Network Pharmacogenomics and Personalised Medicine | Marc Ansari |
| **Denmark** | Danish Network Pharmacogenomics and Personalised Medicine | Ivan Brandslund |

# ESPT Advisory Board

Philippe Beaune, France
Juergen Brockmöller, Germany
Roland Bühlmann, Switzerland
Pierre Chambon, France
Anne K.Daly , UK
Panos Deloukas, UK
Maurizio Ferrari, Italy
Paolo Fortina, USA
Magnus Ingelman Sundberg, Sweden
Federico Innocenti, USA
Klaus Lindpaintner, USA
Angela Brand, Netherlands

Paolo Marchetti, Italy
Peter Meier Abt, Switzerland
Urs Meyer, Switzerland
Michael Oellerich, Germany
Markus Paulmich, Austria
Munir Pirmohamed , UK
Mary V. Relling, USA
Wolfgang Sadee, USA
Julia Stingl, Germany
Giulio Superti Furga, Austria
Roland Wolf, UK
Ulrich Zanger, Germany

# ESPT international activities

6 international congresses (200-350 participants)
3 international summerschools (80- 120 participants)

**2011:** 1st ESPT conference in Bled – Slovenia

**2012:** 1st summerschool in Ljubljana - Slovenia (August)
1st ESPT/Santorini combined meeting Thira – Greece (Oct)

**2013:** 2nd ESPT conference in Lisbon – Portugal

**2014:** 2nd ESPT summerschool Rome – Italy (August)
2nd ESPT/Santorini combined meeting Thira – Greece (Oct)

**2015:** 3rd ESPT conference in Budapest - Hungary (Oct 7 – 10)

**2016:** 3rd ESPT Summerschool Belgrade – Serbia (Aug)
3rd ESPT/Santorini combined meeting Thira – Greece (Oct)

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# ESPT - Divisions

ESPT Organisation
European Society of Pharmacogenomics and Personalised Therapy
A Scientific Society for Individualised Medicine

**Clinical Implementation**
Ron van Schaik (NL)

**Scientific Research**
Marc Ansari (CH)

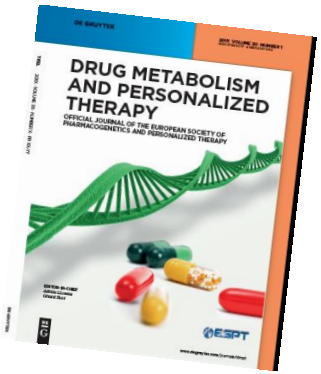
**Education**
Janja Marc (SLO)
Vangelis Manolopoulos

**Communications & External relations**
Maurizio Simmaco (ITA)

**Congress & Meetings**
Sofia Siest (FRA)

Eu-PIC
www.eu-pic.net
HORIZON2020

**Working groups:**
Pediatric Oncology
Drug Transporters
Transcription Factors
Drug interactions
PGx for Generic drugs



# www.eu-pic.net

Eu-PIC
www.eu-pic.net

*European Pharmacogenetics Implementation Consortium*

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## Mission

**Our mission**
To improve patient care in Europe by integrating Pharmacogenetic information in existing health care, personalising drug therapy.

## Events

**4th ESPT Conference**
Catania, Italy
October 4-5-6-7 (2017)

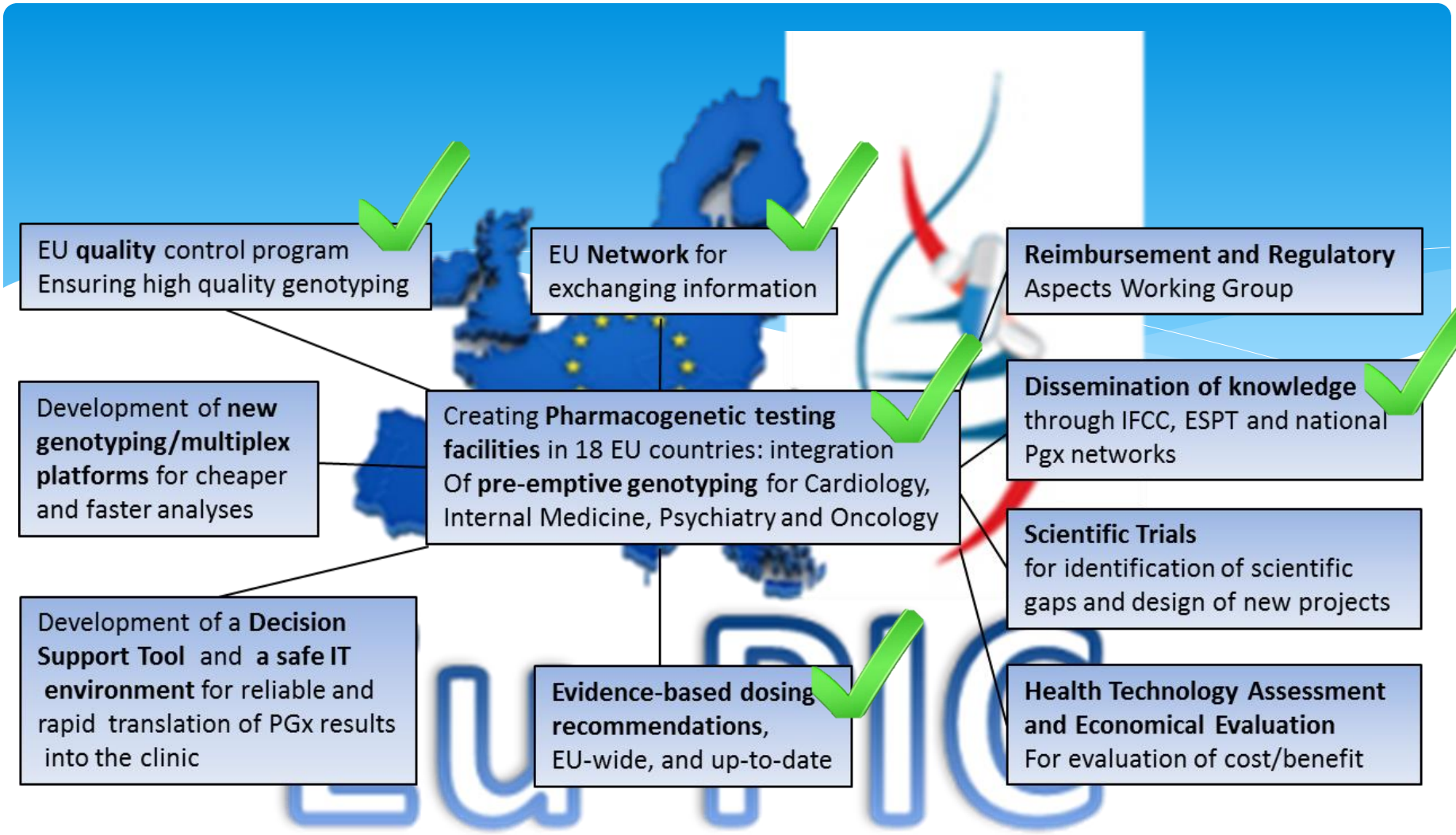
More info

## News


**Eu-PIC symposium May 27, Rotterdam**
Eu-PIC successfully organized, together with Golden Helix Foundation, Erasmus MC Rotterdam and the CMBD/NVKC, the 17th Golden Helix Pharmacogenomics Day in Rotterdam, the Netherlands.

## Horizon2020


**Personalised medicine**
has the potential to respond to, amongst others, the increasing burden of chronic disease and the complexity of co-morbidities and in doing so contribute to the sustainability of health and care systems. More info




# www.eu-pic.net

IFCC International Federation of Clinical Chemistry and Laboratory Medicine

EFLM European Federation of Clinical Chemistry and Laboratory Medicine

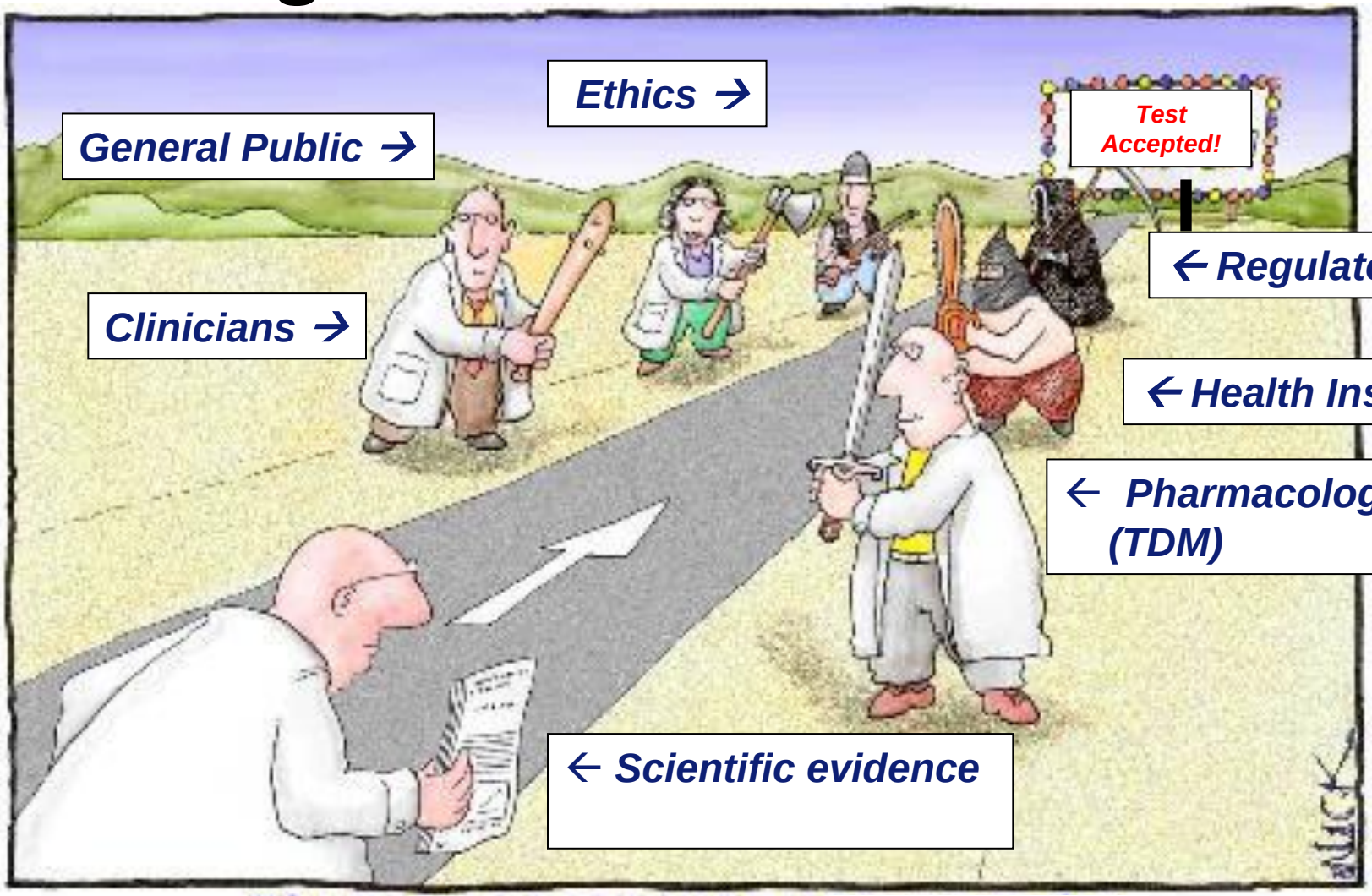
PGRN

IUPHAR International Union of Basic and Clinical Pharmacology

International Association of Therapeutic Drug Monitoring and Clinical Toxicology

European Medicines Agency

# Challenges


Ethics →
General Public →
Test Accepted!
← Regulators
Clinicians →
← Health Insurers
← Pharmacologists (TDM)
← Scientific evidence
Pharmacogenomics
Can We Make It Happen?

# Clopidogrel (Plavix): needs activation by CYP2C19

N ENGL J MED 360;4 NEJM.ORG JANUARY 22, 2009

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Genetic Determinants of Response to Clopidogrel and Cardiovascular Events

Tabassome Simon, M.D., Ph.D., Céline Verstuyft, Pharm.D., Ph.D., Murielle Mary-Krause, Ph.D., Lina Quteineh, M.D., Elodie Drouet, M.Sc., Nicolas Méneveau, M.D., P. Gabriel Steg, M.D., Ph.D., Jean Ferrières, M.D., Nicolas Danchin, M.D., Ph.D., and Laurent Becquemont, M.D., Ph.D., for the French Registry of Acute ST-Elevation and Non–ST-Elevation Myocardial Infarction (FAST-MI) Investigators

**CONCLUSIONS**

Among patients with an acute myocardial infarction who were receiving clopidogrel, those carrying *CYP2C19* loss-of-function alleles had a higher rate of subsequent cardiovascular events than those who were not. This effect was particularly marked among the patients undergoing percutaneous coronary intervention. (ClinicalTrials.gov number, NCT00673036.)

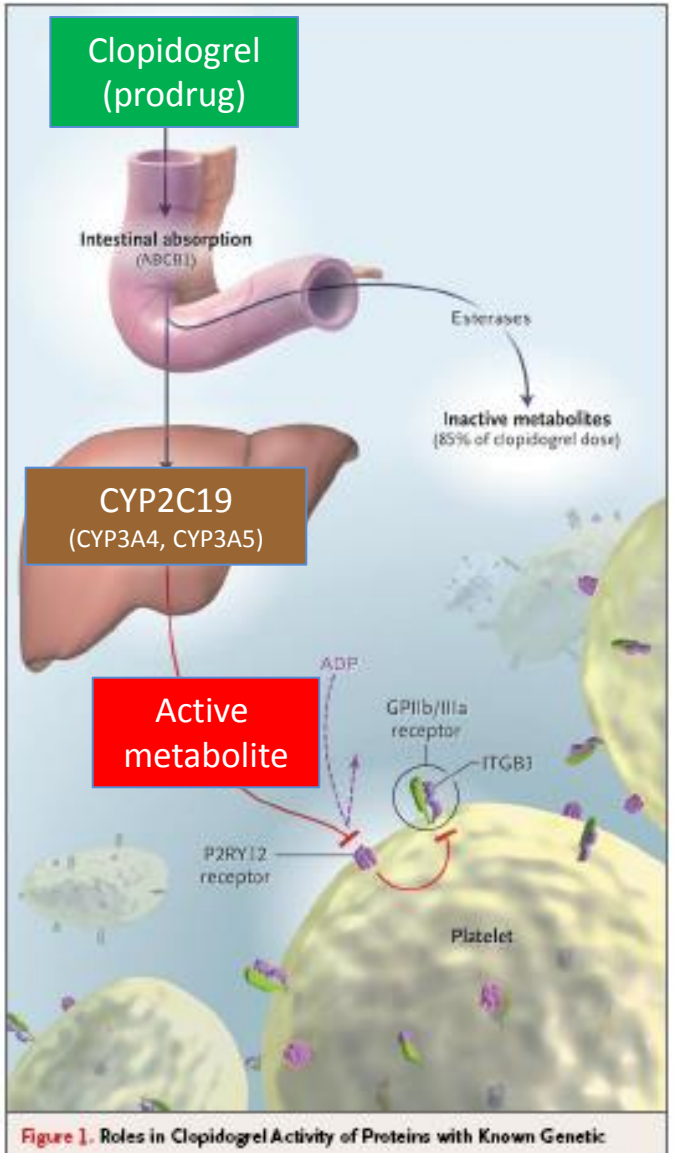


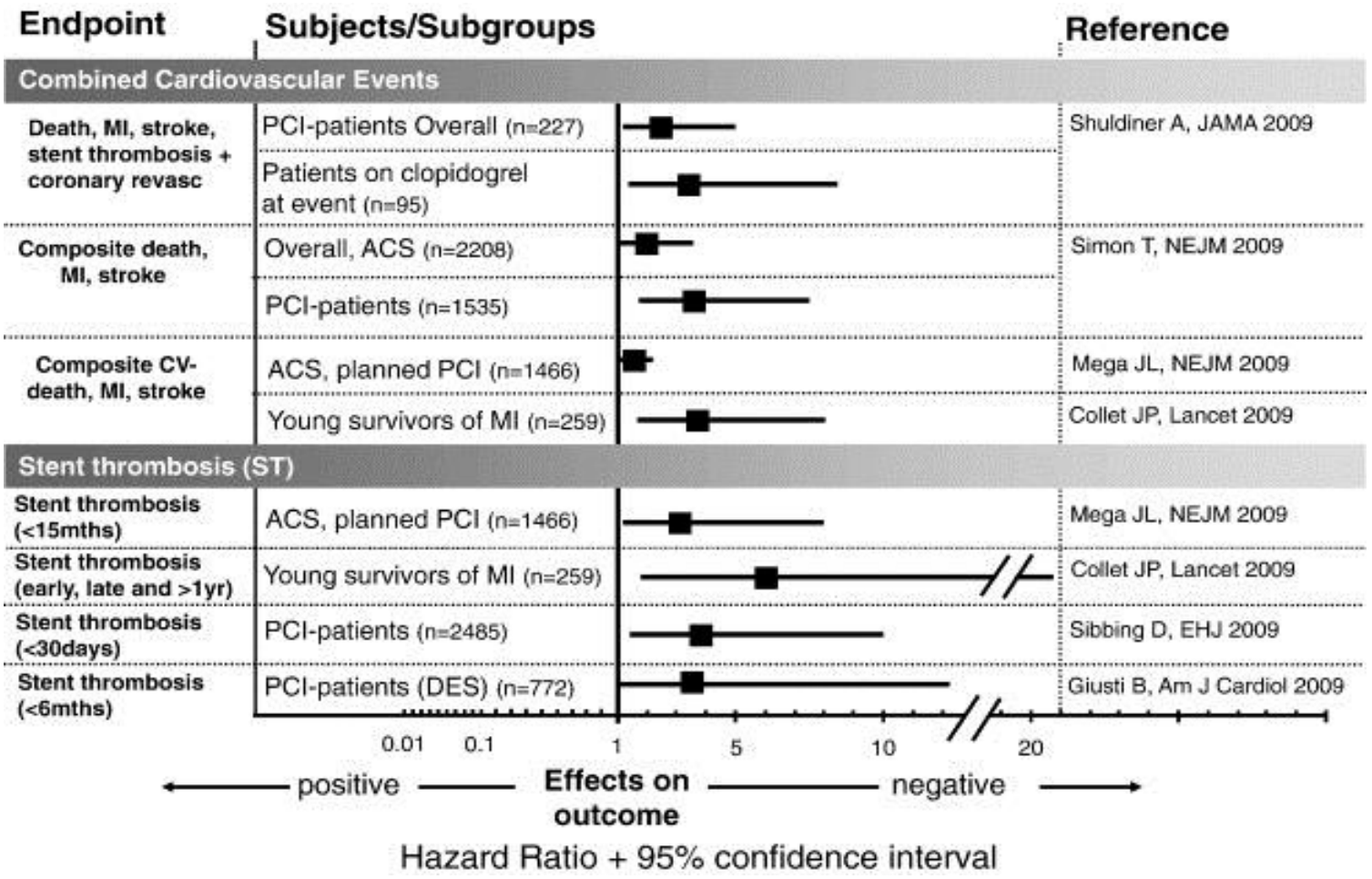

Figure 1. Roles in Clopidogrel Activity of Proteins with Known Genetic

# Clopidogrel (Plavix): needs activation by CYP2C19

Caucasians: 3% PMs, 26% IMs; Asian: 30% PM, 50% IM

Test for CYP2C19 variants: Negative → clopidogrel (€)
Positive → prasugrel/ticagrelor (€€€)

**CY2C19*2 carriers are at risk**



## FDA Boxed Warning on Clopidogrel

*Warning: Diminished Effectiveness in Poo Metabolizers*

- Effectiveness of clopidogrel depends on activati metabolite by the cytochrome P450 (CYP) syst CYP2C19
- Poor metabolizers treated with clopidogrel at r exhibit higher cardiovascular event rates follo syndrome (ACS) or percutaneous coronary ir patients with normal CYP2C19 function
- Tests are available to identify a patient's CY be used as an aid in determining therapeuti
- Consider alternative treatment or treatmen identified as CYP2C19 poor metabolizers

European Heart Journal
doi:10.1093/eurheartj/ehv320

August 2015

ESC GUIDE

## 2015 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation – Web Addenda

**Task Force for the Management of Acute Coronary Syndromes in Patients Presenting without Persistent ST-Segment Elevation of th European Society of Cardiology (ESC)**

Authors/Task Force Members: Marco Roffi* (Chai Carlo Patrono* (co-Chairperson) Christian M

Storey (UK), Julinda Mehilli (Germany), Debabrata Mukherjee (USA), and Stephan Windecker (Switzerland)

Document Reviewers: Helmut Baumgartner (CPG Review Coordinator) (Germany), Oliver Gaemperli (CPG Review Coordinator) (Switzerland), Stephan Achenbach (Germany), Stefan Agewall (Norway), Lina Badimon (Spain), Colin Baigent (UK), Hector Bueno (Spain), Raffaele Bugiardini (Italy), Scipione Carerj (Italy), Filip Casselman (Belgium), Thomas Cuisset (France), Çetin Erol (Turkey), Donna Fitzsimons (UK), Martin Halle (Germany), Christian Hamm (Germany), David Hildick-Smith (UK), Kurt Huber (Austria), Efstathios Iliodromitis (Greece), Stefan James (Sweden), Basil S. Lewis (Israel), Gregory Y. H. Lip (UK), Massimo F. Piepoli (Italy),

action.[175] At present, genetic testing cannot be recommended in routine clinical practice due to insufficient prospective data. In con-


“Here is my genotype…”

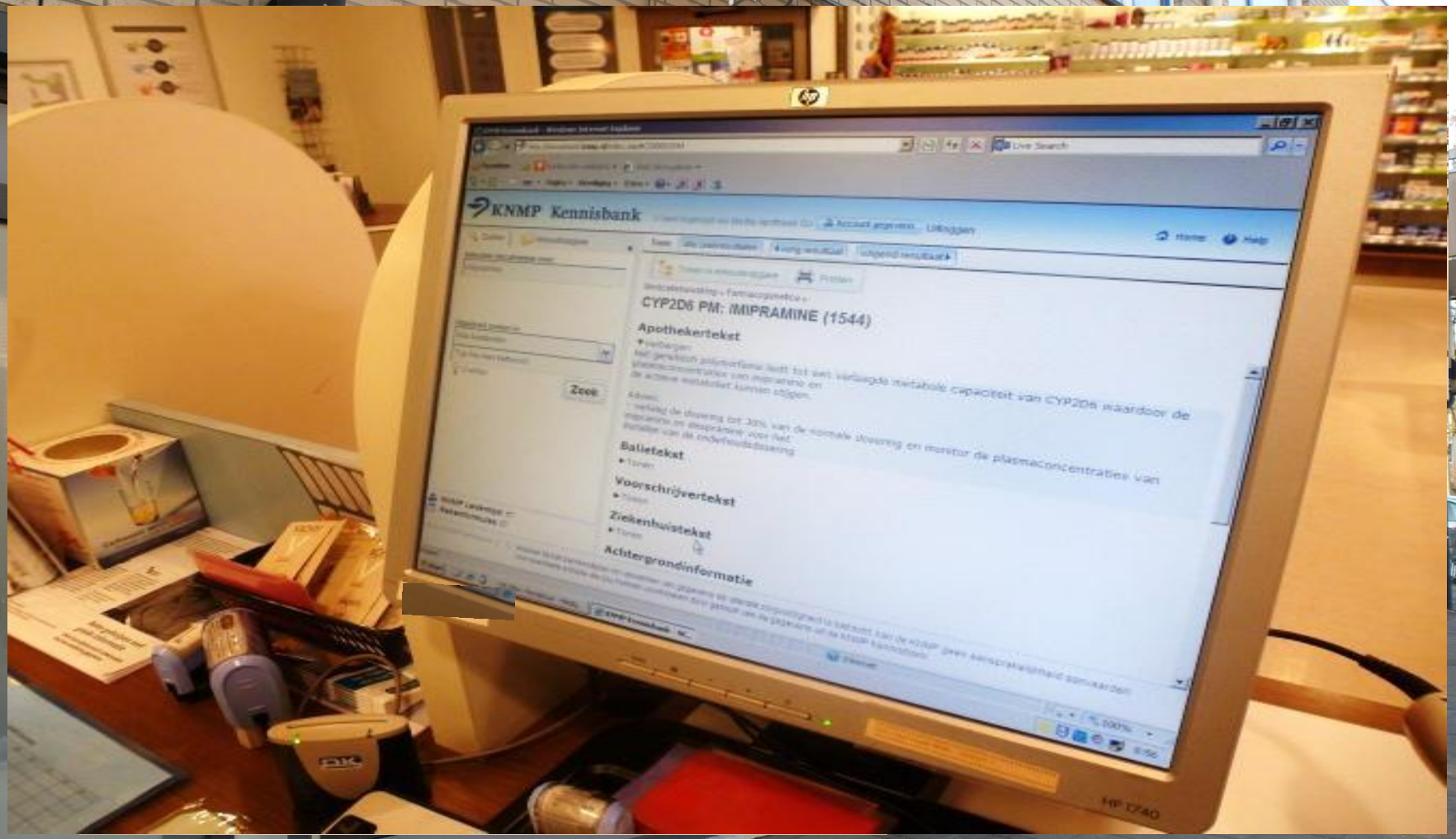
(The New Yorker (2000))

Dutch Pharmacogenetics Working Group (DPWG):

Evidence based guidelines for dosing on genotype for > 80 drugs

www.pharmgkb.org

# Daily practice…



Erasmus MC
Universitair Medisch Centrum Rotterdam

Nederlands Expertisecentrum Farmacogenetica
Afd. Klinische Chemie
Erasmus MC Rotterdam

# Farmacogenetica Profiel

Contact: farmacogenetica@erasmusmc.nl
Telefoon: 010-7033119
www.erasmusmc.nl/farmacogenetica
www.farmacogenetica.nl

**l geneesmiddelen mogelijk een**
**uitsluitend ter beoordeling van**
**or uw apotheker te vinden in de**

**Naam: Test Erasmus MC/RvS** **Geb. datum: 01/01/1980**

**BSN: 12345678** **Uitgifte kaart: 14/07/2014**

| Gen: | Uitslag: | Metabolisme | Prev.:[1] | Getest op: |
|---|---|---|---|---|
| CYP1A2 | *1/*1 | Normaal | 45% | *1C, *1F, *1K |
| CYP2B6 | *4/*6 | Intermediair | 25% | *4, 5, 6, 7, 8, 9, 13, 16, 18 |
| CYP2C9 | *1/*2 | Intermediair | 17% | *2, 3 |
| CYP2C19 | *1/*1 | Normaal | 80% | *2, 3, 17 |
| CYP2D6 | *1/*2xN | Ultrasnel | 3% | 25 varianten (AmpliChip) |
| CYP3A4 | *1/*1 | Normaal | 80% | *1B,1G,3-6,10,12,17,18,20,22 |
| CYP3A5 | *3/*3 | Nonexpressor | 80% | *3, *6 |
| BChE | U/S | Normaal | 99% | A, K, F1, F2, H, J, Sc, Silent |
| DPYD | *1/*2A | Intermediair | 2% | *2A |
| HLA-B*5701 | NEG | Normaal | 96% | |
| TPMT | *1/*1 | Normaal | 89% | *2, 3A, 3B, 3C |
| VKORC1 | AA | Gevoelig | 20% | -1639G>A |

[1] *In blanke bevolking. Kan afwijken bij andere etniciteiten*


18 countries
37 institutes
106 participants
Helsinki
Niemi
Stockholm
Dahl
Vejle
Brandslund
Kiel
Cascorbi
Liverpool
Pirmohamed
Rotterdam
Van Schaik
Brussels
Haufroid
Luxemburg
Schonfeld
Paris
Beaunne
Geneva
Ansari
Milan
Ferrari
Limoges
Marquet
Porto
Meideros
Pisa
Danesi
Cracow
Wybranska
Salzburg
Paulmichl
Budapest
Molnar
Ljubljana
Marc
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Stankovic
Istanbul
Belgin
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1. Netherlands
2. Austria
3. Belgium
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5. Finland
6. France
7. Germany
8. Greece
9. Hungary
10. Italy
11. Luxemburg
12. Portugal
13. Serbia
14. Slovenia
15. Sweden
16. Switserland
17. Turkey
18. United Kingdom

ESPT

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# ESPT 2017

## FOURTH CONFERENCE

**OCTOBER 4-5-6-7**

**CATANIA, ITALY,** Monastero dei Benedettini

## Pharmacogenomics and Personalised Medicine: research progress and clinical implementation

www.2017ESPTcongress.eu