President’s Season Greetings

by Sverre Sandberg, on behalf of the EFLM Executive Board and the EFLM Office

It is with great gratitude I have served as President for EFLM in 2017. Gratitude because I have met so many clever, intelligent and professionally devoted people – who really care for laboratory medicine. Thanks to you, EFLM is moving rapidly forward. The visibility and importance of EFLM is increasing, directly with a new logo, new website and this new newsletter, indirectly with the publication of numerous papers as well as contributions on meetings and conferences. EFLM has a strong engagement with the regulatory bodies and is working with energy to take forward and to promote the profession. It is three years since we had the successful 1st Strategic Conference on Defining analytical performance specifications. The 5 Task and Finish Groups established after this conference have now fulfilled their tasks and have been closed. Some of the projects will be further developed within the structure of EFLM. In 2018 EFLM will organize the 2nd Strategic conference, “The End of Laboratory Medicine as we know it?” is the thought provoking banner of the 2nd EFLM Strategic Conference to held at the upcoming EFLM meeting in Mannheim in June, 2018. Christa Cobbaert, WG-TE Chair introduces the EFLM-AACB Test Evaluation Course on “Assessing the Value of Biomarkers” to be held at Sydney at the end of February, 2018. MariaStella Graziani, Chair of the EFLM Communications Committee presents recent additions to the EFLM publications list. As a regular column of the EuroLabNews, news from National Societies of Spain, Italy and Turkey give us an insight into their activities. Colleagues may mark their calendars to attend stimulating meetings as mentioned in the Calendar of Events.

We will rest a little bit during the seasonal celebrations and then we will hurry forwards into 2018 with energy and a lot of new tasks and opportunities. Thank you for working so hard for EFLM and for the profession.

Foreword

by Harjit Pal Bhattoa, Editor EFLM EuroLabNews

With the festive season around the corner, this issue is inaugurated with the Season’s Greetings by the EFLM President Sverre Sandberg, on behalf of the EFLM Executive Board and the EFLM Office. Ian Watson is presenting an overview celebrating the 10th Anniversary of the EFLM. Mario Plebani writes on the evergreen topic of Patient Safety and Laboratory-related errors in the regular section of Laboratory Hot Topics. “The end of Laboratory Medicine as we know it?” is the thought provoking banner of the 2nd EFLM Strategic Conference to held at the upcoming EFLM meeting in Mannheim in June, 2018. Christa Cobbaert, WG-TE Chair introduces the EFLM-AACB Course on “Assessing the Value of Biomarkers” to be held at Sydney at the end of February, 2018. MariaStella Graziani, Chair of the EFLM Communications Committee presents recent additions to the EFLM publications list. As a regular column of the EuroLabNews, news from National Societies of Spain, Italy and Turkey give us an insight into their activities. Colleagues may mark their calendars to attend stimulating meetings as mentioned in the Calendar of Events.

On behalf of the EuroLabNews team, I wish all our readers a joyful festive season and a prosperous new year.
It is 10 years since the creation of the European Federation of Clinical Chemistry and Laboratory Medicine at EuroMedLab 2007. Putting together the responses of the first 5 Presidents recollections of their time in office provides a useful reflection over what has been and continues to be the dynamic development of EFLM.

The history of the progenitors of EFLM is given on the EFLM web-site (click here). The merger recognised the converging interests of the Federation of European Societies of Clinical Chemistry (FESCC) and the European Community Confederation of Clinical Chemistry (EC4) to form the European Confederation of Clinical Chemistry and Laboratory Medicine (EFCC). Following formation FESCC President the late Prof Vic Blaton held office as President for the first year of the two-year Presidential term and was then followed by the ex-EC4 President Mike Hallworth; thereafter Presidents held office for two years: Rita Horvath 2009-11, Ian Watson 2011-13, Mauro Panteghini 2014-15, Sverre Sandberg 2015-17.

As Mike Hallworth says “the initial main challenge was the breadth of the agenda – to ensure that EFCC/EFLM was properly constituted, financially viable, structured in a way that could achieve its objectives and retained the strengths and goodwill of the founding organizations in an efficient and forward-looking new body.”

Maturation of EFCC/EFLM through it’s ‘childhood’ was ably addressed by Rita Horvath who claims ‘motherhood’ helping the ‘baby’ develop into now becoming a mature ‘adult’. Building on the initial work of Vic and Mike, Rita says she saw “my key task and possibly achievement was at the initial stages of EFCC’s/EFLM’s birth to basically establish the organisational structure and to develop and deliver the first more elaborated strategic and activity plans of this organisation, that were based on a survey of National Society needs. There was a lot of basic founding work to build up not only the organisation but also to formalize its relationship with many European and international sister organisations, including positioning us in IFCC stronger, and to make EFCC/EFLM an entity that is both legally and professionally recognised and viable”. Of course these new relationships led to opportunities and challenges and a greater ‘political awareness’ of identity as well as responsibilities. As well as consolidating the previous efforts consultation with the National Societies led to EFLM replacing EFCC as a clearer descriptor and the adoption of Specialist in Laboratory Medicine as the formal terminology when communicating with the EU, governments and other organisations; describing members who met the Registration standard. EFLM as a not-for-profit European organisation became an AISBL registered in Belgium, this protected officers’ liabilities and laid strict compliance procedures on our conduct of business and financial transparency, achieving this complex registration process was finalised in 2013. Ian Watson said “AISBL status while time-consuming ensured that we have a legal framework for our activities through the Articles of Association we adopted, these inform all rule changes and procedures going forward”.

When Mauro Panteghini became President he initiated the concept of the Strategic Conference, designed to meet a broad, significant and clear professional need, the first was ‘Defining analytical performance goals 15 years after the Stockholm Conference’ He also grasped other nettles by consolidating the EFLM Procedure Manual, initiated a Corporate Member policy and the inclusion of the EC4 Register within the purview of EFLM. The journal Clinical Chemistry and Laboratory Medicine (CCLM) had been the preferred journal for EFLM publication and with the adoption of CCLM as the journal of EFLM under Mauro’s presidency this trend has been consolidated. As EFLM has matured there has been a concomitant explosion of scientific activity with significant meeting cycles being developed in addition to the pre-existing EuroMedLab jointly with IFCC. Pre-analytics has been a particularly successful development, where EFLM is a global leader, there has been a series of successful bi-annual meetings with UEMS as well as others niche topic areas. There is now a successful webinar programme highlighting the activities of Working Groups. The most important output from the Science Committee working groups has been an increasing number of high quality peer-reviewed scientific papers on a wide range of topics; all these papers as well as presentations given at international meetings are accessible through the EFLM home page.

Presidents and their Executive Board members have actively consulted member National Societies and have made efforts to actively participate in regional and national meetings strengthening the relationships between EFLM and its members.

Of course the nature of a Presidency is leadership of a team, building on the efforts of predecessors and stewardship of the organizations values for the future. One is working with your predecessors and successors from appointment to demitting office, hence there is a continuity to policies which may be initiated under one leader, but come to fruition under another, these transitions have been very successful in ensuring the strength and vigour of EFLM which has ensured it’s place as a significant contributor to the scientific, educational and professional activities encompassing laboratory medicine.
The hourglass model of laboratory-related diagnostic errors.

and utilization. Patient-practitioner encounter breakdowns were request appropriate test as well as failure in result interpretation to laboratory and radiology tests, and in particular failure to performance and interpretation of diagnostic tests (14%). In some clinical encounter (79%), followed by referral problems (20%), care, poor communication and insufficient access to specialists. to diagnostic errors as a result of problems with coordination of to use test data appropriately. System flaws may also contribute as failure to synthesize the available evidence correctly or failure involved in each case. Causes may include cognitive errors, such as cognitive errors are common and are a leading cause of patient dissatisfaction and malpractice suits. Inpatient and outpatient diagnosis-related malpractice not only are common but are more often associated with disability and death than other claim types (1). As a result of a series of recently performed studies, we should conclude that diagnostic errors are common, costly and morbid, and that the economic burden associated with diagnostic errors is substantial. A diagnostic error emerges when a diagnosis is missed, inappropriately delayed or is wrong (2). As recently highlighted, diagnostic errors should be better defined as a failure to provide an accurate and timely explanation of the patient’s health problems or communicate that explanation to the patient (3). All aspects of the diagnostic process are vulnerable to errors and usually a number of root causes are involved in each case. Causes may include cognitive errors, such as failure to synthesize the available evidence correctly or failure to use test data appropriately. System flaws may also contribute to diagnostic errors as a result of problems with coordination of care, poor communication and insufficient access to specialists. Process breakdowns most frequently involved patient-practitioner clinical encounter (79%), followed by referral problems (20%), follow-up and tracking of diagnostic information (15%) and performance and interpretation of diagnostic tests (14%). In some studies, about 46% of diagnostic errors were found to be related to laboratory and radiology tests, and in particular failure to request appropriate test as well as failure in result interpretation and utilization. Patient-practitioner encounter breakdowns were primarily related to problems with ordering diagnostic tests for further workup (57%), history-taking (56%) and examination (47%). Access to diagnostic test, namely laboratory tests, could significantly reduce diagnostic errors, and interventions for improving diagnostic services are considered a high priority. Laboratory-associated errors have a completely different meaning today than it did a half century ago. A dramatic change in addressing the issue of laboratory-associated errors started at the end of the 1990’s, when a body of evidence began to accumulate demonstrating vulnerability in the pre- and post-analytic phases. By that time, the data collected and reported in the literature showed that analytical error rates had decreased from 162,116 per million laboratory tests (part per million, ppm) to 447 ppm. This dramatic and impressive reduction in errors, by about 300 fold, derived from automation, improved laboratory technology, assay standardization, well-defined rules for internal quality control, effective quality assurance schemes and better trained staff. In particular, the definition and setting of intra-analytical quality indicators (analytical performance specifications) did play a fundamental role in documenting and reducing analytical errors. Recent studies have led to a better understanding of the frequency and nature laboratory testing error: data on errors in the pre-pre analytical phase (initial procedures performed neither in the clinical laboratory nor, at least in part, under the control of laboratory personnel) underline that failures to order appropriate diagnostic tests, including laboratory tests, accounted for 55% of observed breakdowns in missed and delayed diagnosis in the ambulatory setting and 58% of errors in the Emergency department. In the final steps of the TTP loop, the incorrect interpretation of diagnostic or laboratory tests was found to be responsible for a high percentage of errors in the ambulatory setting as well as in Emergency departments (4). The search for valuable quality indicators (QIs) for extra-analytical phases of the testing process and for harmonizing all steps, including test ordering and data interpretation, represents a fundamental issue in projects aiming to improve quality and patient safety. The Model of Quality Indicators (MQI) launched by the IFCC Working Group of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) and the work done by the European Federation of Laboratory medicine (EFLM) Task Force on Performance Specifications for the extra-analytical phases are essential tools for improving the ultimate quality of laboratory information (5). In fact, only through a harmonized list of QIs and a common reporting system it should be possible the definition of appropriate performance specifications in all phases of the testing process which, in turn, may allow improvement actions to reduce laboratory-associated errors and risks for patient safety.

References

Figure 1.
The hourglass model of laboratory-related diagnostic errors.
EFLM is proud to officially announce the 2nd EFLM Strategic Conference “The end of laboratory medicine as we know it?” that will take place in Mannheim (DE) on June 18-19, 2018 at the Congress Center Rosengarten.

The conference will consider the impact that the on-going digitalization of technologies and a digitalized society will have on the medical laboratory in future health care. We contend that such changes enable Digital Health that will be disruptive for Laboratory Medicine as we know it, because they will change our capabilities to compile, integrate and visualize complex diagnostic data as well as providing the opportunity for radical changes to diagnostic health strategies.

With the digital revolution spreading into every realm of modern medicine, we will experience a democratisation of health care, i.e. a comprehensive data usage not just being in the hands of health care professionals, but also in the patients’. Indeed, a central concept of digital health medicine is patient empowerment as demonstrated by key words like “electronic health record”, “patient access”, “health apps”, “wearable health tech” etc. In this rapidly changing health care environment, Laboratory Medicine must redefine its positions, not only acting in its classical role as provider of laboratory results, but also adopting new roles and responsibilities in the clinical dialogue.

Mark this event in your agenda and be part of the change!

For EFLM National Society Members: the annual EFLM General Meeting will take place at end of the Strategic Conference on June 19 from h. 16.00 to h. 19.00

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EFLM-AACB COURSE ON “ASSESSING THE VALUE OF BIOMARKERS”

EFLM-AACB Course on “Assessing the Value of Biomarkers”

by Christa Cobbaert, EFLM Chair WG-Test Evaluation

The Test Evaluation Working Group, a joint activity of the EFLM and AACB, is hosting a 2-day course on “Assessing the Value of Biomarkers” in Sydney in February 28 - March 1, 2018. Throughout healthcare there is an increasing focus on demonstrating the value of any intervention including medical or laboratory tests. This course will address that challenge by providing an introduction to the principles of biomarker research for the development and evaluation of biomarkers to improve healthcare as well as address regulatory and health technology assessment issues. The program can be found at https://www.eflm.eu/site/events/
The needs and interests of the diverse group of professionals involved in the test development process from biomarker discovery to implementation in clinical practice will be covered. To get an idea of other activities of the EFLM WG on Test Evaluation, [click here.](#)

Assessing the Value of Biomarkers: an interactive workshop
February 28 – March 1, 2018
Mercure Hotel, Sidney Central
EFLM can count on four more papers by EFLM functional units: the scientific relevance of these papers demonstrates the continuous commitment of the Working Groups and Task Forces to the advancement of our profession.

**The European Biological Variation Study (EuBiVAS): delivery of updated biological variation estimates, a project by the Working Group on Biological Variation in the European Federation of Clinical Chemistry and Laboratory Medicine**

Carobene A.
On behalf of the EFLM Working Group on Biological Variation
J Lab Precis Med doi: 10.21037/jlpm.2017.08.13

This Letter to the Editor is a reply of a comment written by CG Fraser on a previous paper by the same group published in Clinical Chemistry, also included in the EFLM publication list. Thanking prof Fraser for his kind words of appreciation, the Author describes in more details the EuBiVAS project emphasizing the design of the study that allows the collection of robust data on biological variation (both within and between subjects). These data could be used to define sounder analytical quality specifications that are the basis for the evaluation of new analytical systems and for setting criteria of acceptability of internal quality control results and proficiency testing.

**Strategies to define performance specifications in laboratory medicine: 3 years on from the Milan Strategic Conference**

Panteghini M, Ceriotti F, Jones G, Oosterhuis W, Plebani M, Sandberg S. On behalf of the Task Force on Performance Specifications in Laboratory Medicine of the European Federation of Clinical Chemistry and Laboratory Medicine

This paper describes the deliverables from the five EFLM Task & Finishing groups established after the 1st Strategic Conference that was aimed to address the definition of different models to set performance specifications (PS) for analytical quality. The deliverables are related to concepts about PS for EQAS, how to set PS for the extra-analytical phases, the need for more quality data on biological variation and the use of the “total error” concept. These concepts help the definition of what quality is needed and what measurement errors can be tolerated without jeopardizing patient safety and should therefore be defined for each analyte having clinical use. It is expected that this work will now be taken forward, possibly by consolidating some of these activities in a permanent structure within EFLM.

**The EFLM strategy for harmonization of the preanalytical phase**

Lippi G, Simundic AM.
On behalf of the European Federation for Clinical Chemistry and Laboratory Medicine (EFLM) Working Group for Preanalytical Phase (WG-PRE).

The EFLM Working Group on preanalytical phase (WG-PRE) was established four years ago with the aim to promote harmonization in the preanalytical phase. This article describes the achievements of the group and illustrates future projects. Among the completed projects: harmonizing the definition of fasting status, patient and blood tubes identification, colour coding of blood collection tubes, sequence of tubes during blood drawing and development of suitable preanalytical quality indicators. The WG-PRE has also provided guidance on local validation of blood collection tubes, and has organized four European meetings to promote the importance of quality in the preanalytical phase. The future activities include development of an external quality assessment scheme on preanalytical variables, dissemination of a survey about the local management of unsuitable samples in clinical laboratories, as well as release of EFLM phlebotomy guidelines.

**Pre- and post-test probabilities of venous thromboembolism and diagnostic accuracy of D-dimer, estimated by clinicians working in emergency departments**

Thromb Res 2017;159:19-23

This letter to the Editor has been written on behalf of the joint Working Group on Postanalytical Phase (WG-POST) of EFLM and the European Organisation for External Quality Assurance Providers in Laboratory Medicine (EQALM). It follows a paper published in the same Journal in 2016 (also included in the EFLM publication list) describing the results of a questionnaire sent to clinicians working in Emergency Departments in Europe. The present study illustrates the results of questions about pre- and post-test probability before and after receiving D-dimer results that were not included in the previous report. The conclusions are that the clinicians estimated the diagnostic accuracy (LR) of the D-dimer test for venous thromboembolism in line with what is found in the literature, but they estimated a too high pre-test probability which also resulted in a too high post-test probability.

The list of the EFLM publications is available on www.eflm.eu under EFLM Publications, where the available papers can be downloaded.

**NEWS FROM NATIONAL SOCIETIES**

**NEWS FROM THE SPANISH SOCIETY OF LABORATORY MEDICINE (SEQC)**

Experts produce a Spanish consensus on recommended values for the lipid profile

by dr Jordi Ordóñez Llanos, Spanish Society of Laboratory Medicine (SEQC)

Currently, there is variability in lipid values considered to be advisable by clinical laboratories, which may generate confusion and pose a barrier to the correct treatment of dyslipidemia. The document’s aim is to recommend to all clinical laboratories the adoption of homogeneous recommended values for the variables that make up the lipid profile.

This consensus includes wide-reaching and documented information, such as epidemiological data for our country, existing barriers to achieving control of dyslipidemia and strategies to avoid them, and recommendations on which values of lipid constituents should be reported as altered. In Spain, it is estimated that 48% of men and 52% of women over 18 years of age have high total cholesterol levels, while 23% of men and 12% of women have hypertriglyceridemia.
High prevalence
Different studies estimate that in our country, 48% of men and 52% of women older than 18 years of age have total cholesterol levels above 200 mg/dL, while hypertriglyceridemia (triglycerides >150 mg/dL, 1.67 mmol/L) occurs in 23% of men and 12% of women.

The SEQCML
The Spanish Society of Laboratory Medicine (SEQCML), founded in 1976, currently comprises more than 2,000 professionals and has as its main objective to bring together all scientists interested in the Clinical Laboratory field, to promote the diffusion of scientific and technical publications, to organize meetings, courses and congresses of national and international character, and to cooperate with other Scientific Societies. Likewise, the Society wants to contribute to the study and recommendation of standardized methods, and to establish guidelines and recommendations for training in the field of Laboratory Medicine. For more information: www.seqc.es.

Presentation of the SEQCML POCT Online Database

by Dr. Paloma Oliver Sáez, Chairman of the Point-of-Care Testing (POCT) Commission, Spanish Society of Laboratory Medicine (SEQCML)

In 2005, interest arose within the Spanish Society of Laboratory Medicine (SEQCML) in creating a working group focused on Point-of-Care Testing (POCT). This group created a “Guide for the implementation of laboratory tests at the point of patient care”, published in 2006.

Subsequently, in 2012, the SEQCML promoted the incorporation of new professionals, which ultimately led to the creation of the current Point-of-Care Testing Commission.

During its first few years, the Commission developed many activities, such as the creation of documents, surveys, and publications, the organization of courses and seminars, and also participated in research and development projects related to POCT. All of this was done in collaboration with other SEQCML Commissions as well as other scientific societies, such as the Spanish Diabetes Society, which granted to this Commission the interdisciplinary role so important in this type of tests.

One of the latest activities of the Commission has been the creation of a database on POCT equipment, called POCT ONLINE. Within both the Commission itself and our different work environments, we have always shared the view of the great difficulty that existed in quickly and easily finding the POCT equipment and/or devices for measuring a specific test. The development and growth of this technology is exponential, which is why we began to see the crucial need to create a consultation tool that would resolve all of these observed limitations.

The SEQCML supported this idea from the beginning through its later development and incorporation into the website. The POCT Commission began conversations with different in vitro diagnostic companies, with the aim of inviting them to freely

Madrid, October 2017. Alterations in circulating lipid concentrations (total cholesterol and its high (HDL) and low (LDL) density and triglycerides fractions), commonly referred to as dyslipemias, correlate with the development of cardiovascular diseases of ischemic origin. Thus, numerous studies have shown that interventions that "normalize" circulating lipid concentrations protect against these diseases. However, in Spain, there is no unanimous agreement on circulating lipid concentrations that can be considered as "baseline" or "recommended" and, therefore, used to define dyslipidemia when they are altered.

In addition, the recommendations in international literature are based on population studies that are not universally applicable. For this reason, the reference or recommended values that accompany analytical laboratory reports may vary between different clinical laboratories.

This variability can create confusion among clinicians who receive laboratory results and may be a barrier to the correct treatment of lipid abnormalities (or dyslipemias) and reduction of ischemic cardiovascular disease.

Recently, the European Society of Arteriosclerosis (EAS) and Cardiology (ESC) have developed a recommendation for the control of dyslipidemia, which includes several novel aspects. One of them is the non-need for fasting to obtain the lipid profile, which requires the varying of concentrations of triglycerides that are considered desirable.

Faced with this situation, a group of professionals has developed the consensus document ‘Homogenization of lipid profile values’, under the auspices of the five scientific societies of which they are part: Spanish Society of Arteriosclerosis, Spanish Society of Primary Care Physicians, Spanish Society of Cardiology, Spanish Society of Family and Community Medicine, and Spanish Society of Laboratory Medicine.

“The objective of creating this consensus is to recommend to all laboratories the adoption of homogeneous values, considered as recommended, for the variables that make up the lipid profile,” says Dr. Jordi Ordóñez Llanos, one of the authors of the work and member of the Spanish Society of Laboratory Medicine (SEQCML).

According to this expert, this consensus not only reflects the recommendations of the EAS-ESC, but also includes epidemiological information for our country, and the details of the pre-analytical, analytical and post-analytical sources of variation that may influence lipid concentrations or their evaluation; it also identifies the barriers that exist to achieving control of dyslipidemia, and recommends strategies to avoid them. “In addition,” he adds, “it establishes a recommendation for the lipid constituents that the lipid profile should include and, very importantly, what values of the same should be reported as altered in the analytical report provided by clinical laboratories. In addition, it establishes values for blood tests obtained both with and without fasting”.

The consensus is directed particularly at clinical laboratory specialists and recommends, in particular, the adoption by the laboratories of limit values to consider the concentrations of circulating lipids as altered. “Although it is also useful for any medical professional who has responsibility in the diagnosis, treatment, and treatment monitoring of dyslipemias,” concludes Dr. Ordóñez.
InnovaSIBioC: A Laboratory of Ideas for Laboratory Medicine

by Giuseppe Lippi, National Representative and Rossella Tomaiuolo, Coordinator of the project

What is InnovaSIBioC
It is a training and communication program aimed to convert innovative ideas in laboratory medicine into concrete entrepreneurial initiatives.

Why InnovaSIBioC
Italy has an excellent worldwide position in terms of total number of publications in journals with high impact factor, but modest performance pertaining patent activity. The transformation of research data into marketable products is plagued by economic (capital focuses on patent research), organizational (fragmented and complex frameworks) and behavioural (little entrepreneurial culture of researchers) barriers. A tighter collaboration among the world of science, enterprise and investors can support entrepreneurial culture and help making biomedical sector a driving force for growth and development. SIBioC, always focused on innovation, is willing to face a new challenge that is creating a network between research and enterprise that can spread, share and enhance Italian excellence in Laboratory Medicine. For this purpose, the Society has propelled the launch of InnovaSIBioC.

Aims
Through InnovaSIBioC, SIBioC intends to stimulate, validate and assist youth entrepreneurship in Laboratory Medicine, since the Society trusts in the great potential of young people. Supporting cultural renewal means giving shape to talent, skill and leadership of younger members.

Features
The project, funded by Roche, is divided into several stages (i.e., scouting, presenting, evaluating and awarding entrepreneurial ideas), in which training sessions and business development activities will be alternated. The project has started June 2017 and the best “ideas” will be awarded throughout 2018.

Insulin Resistance Symposium in Turkey

Turkish Biochemical Society İzmir Branch organized the “Insulin Resistance Symposium – How do the research in recent years reflect to the laboratory and clinic?” in Izmir-Turkey on March 22, 2017. The symposium focused on one of the most important health problems of today, insulin resistance and related diseases thus drew great attention. Over 220 participants attended the symposium and shared the existing knowledge on this important health problem and listened to the recent developments from the specialists in the field. Laboratory and endocrine specialists as well as assistants, lecturers and university students in the field of health and many people from all walks of life who are interested in the issue showed great interest in the symposium organized with the valuable support of Ege University and the Municipality of Bornova.

The main goals of the symposium included:
• Having the scientists and specialists working in the field of laboratory and clinic come together and share the recent developments.
• Taking the steps with the representatives of the related administrative and scientific institutions for an action plan directed towards community health care in preventing the occurrence or progression of insulin resistance.
• Increasing the awareness about the issue by informing the public with the light of the scientific developments about the preventive measures that could be taken in daily life.
Within this framework, the symposium included 2 plenaries, poster and oral presentations as well as a panel and a Public Conference. The first plenary was given by Prof. Dr. Aytekin Oğuz (the Founding and the current President of the Metabolic Syndrome Association) who with his humorous and vibrant speech, clarified the recent clinical approach to the problem.

The second plenary titled "The tests used in the diagnosis and follow-up of insulin resistance" was given by Assoc. Prof. Dr. Özlem Gülbaşar who compared the up-to-date analyses commonly required in the medical biochemistry laboratories for metabolic syndrome and insulin resistance cases. Her informative and awareness rising talk on the necessity of questioning the reliability of the insulin level measurement methods in particular led to a fruitful discussion among the participants.

During the Public Conference within the symposium, the dietician Taylan Kümeli who has given conferences on diet on many international platforms gave tips on diet in order to maintain a healthy life against insulin resistance and metabolic syndrome. Kümeli also answered a number of questions from the audience and established an important and warm interaction in terms of public health.

An encouraging surprise of the public conference was the energetic and the moving performance of the Ege University Medical Doctors Zumba group who performed to emphasize the preventive importance of active life against insulin resistance. The performance was welcomed immensely by the audience and attracted great attention.

All the papers selected by the Symposium Scientific Program Committee to be presented as a poster or oral presentation in the symposium will be published in the special supplement of Turkish Journal of Biochemistry indexed within the scope of SCI-Expanded.

As a gratifying outcome of the Insulin Resistance Symposium, all presentations, discussions, opinions and suggestions were taken into consideration for creating a health strategy and policy against insulin resistance and related health problems in Turkey.
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<th>Date</th>
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<td>12 December 2017</td>
<td>7th International Conference on Quality of Medical Laboratories</td>
<td>Brdo pri Kranju, Slovenia</td>
<td><a href="http://www.szkklm.si">www.szkklm.si</a></td>
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<td>19 December 2017</td>
<td>Laboratory hemostasis EFLM webinar online</td>
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<td>19-21 December 2017</td>
<td>The First International Congress on Biomedicine</td>
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<td>23 January 2018</td>
<td>Faecal haemoglobin: newer approaches to screening and diagnosis of colorectal disease</td>
<td>EFLM webinar online</td>
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<td>EFLM WG-PRE venous blood sampling project EFLM webinar online</td>
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<td>28 February – 1 March 2018</td>
<td>EFLM-AACB Course on Test Evaluation Assessing the value of biomarkers: an interactive workshop</td>
<td>Sidney, Australia</td>
<td><a href="https://www.aacb.asn.au">https://www.aacb.asn.au</a></td>
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<td>28 February – 2 March 2018</td>
<td>3rd Turkish in vitro Diagnostic (IVD) Symposium: “Endocrine Disorders and Metabolic Diseases; Biomarkers for Diagnosis and Treatment”</td>
<td>Izmir, Turkey</td>
<td><a href="http://www.ivd2018.org">http://www.ivd2018.org</a></td>
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<td>March 2018</td>
<td>How to perform tube validation? EFLM webinar online</td>
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<td>Reliable estimates of biological variation – the way forward EFLM webinar online</td>
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<td>20-23 April 2018</td>
<td>11th International &amp; 16th National Congress on Quality Improvement in Clinical Laboratories</td>
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