



# The EASL International Liver Foundation: A growing pup with missions that are distinct yet integrated with those of its mother

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Since 2014, the Governing Board of the European Association for the Study of Liver (EASL) has thoroughly explored the opportunities of setting up a foundation that could complement EASL's mission and increase its outreach in various arenas. In 2017, the EASL International Liver Foundation (EILF) was formally launched at the International Liver Congress, constituting a complementary entity to serve increasing demands and allowing for productive synergies between EASL and its foundation arm in order to fundraise to reach complementary, yet common, objectives (Fig. 1). In particular, strong partnership opportunities were seen for complex project undertakings in the public health domain, as well as for the increasing scientific and educational activities that EASL was running beyond the borders of Europe. With this in mind, EILF was built with the ambition of pursuing missions that currently represent the constitutive pillars of its daily activity: fostering complex research undertakings, promoting education to an audience beyond the traditional EASL target groups, including the general public, whilst at the same time flanking the World Health Organization (WHO) in the campaign to eliminate viral hepatitis globally.<sup>1,2</sup> Instrumental to these objectives was the selection of a group of leaders in the field of medical science, law and economy who have enthusiastically responded to the call and who have contributed to make the first deliverables happen. The delivery of EILF comes in a special period, when EASL has initiated a process of remodelling its focusses including a reform of its operational structures, and will allow EASL to focus its mission on its role as a scientific medical association.<sup>3</sup>

## The pillar of research

A fundamental objective of EASL is to foster and promote research concerning the liver. As such EASL has over the years provided diverse platforms for the dissemination of science (including the International Liver Congress and a range of monothematic conferences) as well as an increasing number of individual fellowships (ranging from travel grants or support for registries to comprehensive PhD or post-doc funding

programmes) available to EASL members. However, the current fellowship scheme of EASL has not allowed for the provision of financial support to larger projects with long-term commitment involving multiple institutions, leaving a gap for the foundation to fill by supporting longer term research projects, either through standalone programmes, or by supporting relevant fellowship schemes provided by EASL.

Despite understanding and management of most liver diseases having been revolutionised by a wealth of outstanding scientific breakthroughs, patients with end-stage liver disease still face a dismal prognosis, with the only curative therapy being represented by liver transplantation. With the increasing prevalence of cirrhosis and liver cancer, a surge in fatty liver disease, and a build-up of environmental toxins, the shortfall of liver organs for transplantation is predicted to rise in the coming decades, with an estimate that the demand for liver organs specifically will increase by 10% in 10 years and by 23% in 20 years, meaning that liver organ demand worldwide will exceed supply by the tens of thousands.<sup>4</sup> Combatting the growing liver organ shortage has therefore emerged as a key priority for reducing mortality of patients with end-stage liver disease, an approach that the Foundation elected to fully endorse. To develop a strategy, EILF held a consultative meeting in late 2017 at the Institut Pasteur in Paris bringing together key experts from Europe and the USA in the field of regenerative medicine and hepatology to share their expertise and guidance on how to turn an EILF vision of an bioartificial liver into reality.

As no one research centre, lab or specialty would be able to solve the many scientific challenges in the area of hepatic regenerative medicine on their own, collaboration between centres of excellence and research teams involving a wide range of specialties (e.g., engineers, biomaterial researchers, liver stem/progenitor biologists, immunologists, vascular biologists and hepatologists) would be vital to the success of this initiative. To this end, EILF has promoted the formation of an independent EASL-consortium gathering expert centres in regenerative medicine, while at the same time developing strategies to empower a dedicated campaign of fundraising, owing to the fact that regenerative medicine remains grossly underfunded.<sup>5</sup>

The second axis to the research pillar of EILF pertains to occupational medicine. As a first step to this undertaking, an EASL Clinical Practice Guideline in occupational medicine will provide EILF with a tool in the challenge of fundraising to

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	EASL	EILF
Orientation	Members	Societal
Project scope	Short-medium term	Long term
Geographical scope	European	Global
Fundraising	Pharmaceutical	Philanthropic
Research grants	Fellowships	Programmes
Education	Topic oriented	Capacity building

**Fig. 1. The strategic differentiation between EASL and EILF.** EASL, the European Association for the Study of the Liver; EILF, the EASL International Liver Foundation.

promote research in liver diseases resulting from an interaction between genes and specific environmental exposures. The panel of experts in occupational medicine, epidemiology, toxicology, pharmacology, hepatology and liver pathology that is scrutinising the scientific literature to craft recommendations on liver diseases associated with occupational exposures to toxicants, face a challenging task in a field largely devoid of evidence-based data. This notwithstanding, crafting such recommendations will be a success once the sparse data in the literature are properly weighed for their consistency and matched with the expert opinions of clinicians and scientists, a step forward with respect to the existing recommendations that are almost exclusively based on hazard ratios with little coherence regarding clinical outcomes and patient management. Furthermore, the delineation of this existing evidence base of occupational medicine in hepatology, will allow for the definition of appropriate research funding programmes in the future.

### The pillar of education and public awareness

The educational outreach of EASL has grown steadily over the past decades, and more recently has also targeted geographic areas outside of Europe, even entering an educational portfolio customised for specialty groups other than hepatologists. In response to these growingly disperse educational activities, EILF has been mandated the undertaking of educational activities going beyond the traditional EASL target audience. With some exceptions (e.g. EASL collaborations with sister and national societies), the first consequence is that tailored standalone educational events to be organised outside of the EASL geographical scope, should be undertaken by EILF. By leveraging the EASL network of experts, EILF has already built a powerful infrastructure to disseminate the latest evidence-based medicine and foster a global community of practitioners. The educational activity is centred on so-called “EILF-GOLD” (Guidance On Liver Disease) courses built on a format of discussing clinical cases between local juniors and facilitators selected from local and EASL faculties, who are also asked to disseminate the updated EASL recommendations to manage liver diseases and assist local practitioners in crafting national treatment recommendations aligned with the EASL Clinical Practice Guidelines. In slowly

scaling up this initiative, a geographical emphasis has so far been made for Africa, Central Asia and the Middle East. The template has proven successful when applied to the Middle East & North Africa (MENA) region, where it resulted in two GOLD courses and the generation of updated guidelines of the Saudi Arabia Society of Liver Transplantation on management of hepatitis B reactivation in oncohematology. Aligning with the educational event are also preceptorship programmes, so far centring on liver transplantation and liver cancer. Inherent to this concept is that the presence of EILF goes beyond the traditional conference format, into enhancing local clinical practice by dissemination of best practice standards and training of practitioners through mentorship programmes. The relevance of this model is exemplified by the importance of having transplant hepatologists from central Asia and the Middle East become acquainted with the liver transplant programmes based on cadaveric donations, thereby advancing the portfolio of liver transplantation beyond living donor transplantation in these regions.

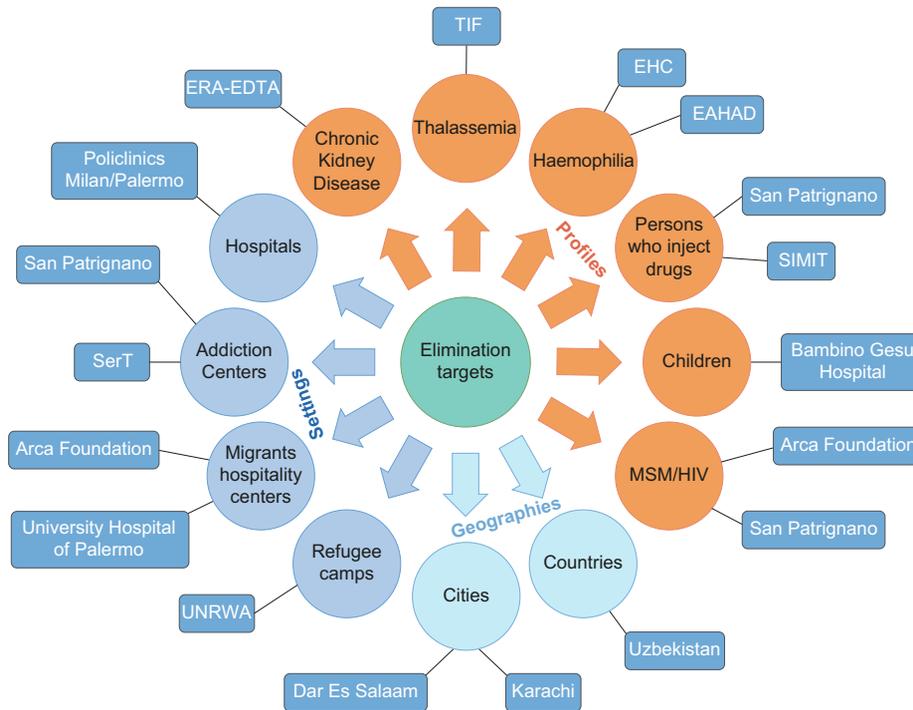
Silently facing the growing burden of viral hepatitis, non-alcoholic fatty liver disease (NAFLD) and liver cancer worldwide, still only a tiny minority of the overall general population – and even the affected patients – is aware of the health status of their liver. Therefore, only a limited number of diseased individuals can be linked to appropriate care in a timely fashion. In trying to compensate for this gap, EILF has launched several studies in different geographical areas collecting data on awareness, public health interventions and linkage to care of patients with viral hepatitis and metabolic liver disease. An EILF led task force is collecting data among liver patients on epidemiology, risk factors, diagnosis and management of NAFLD in Europe (a “NAFLD Policy Review”), which has unravelled the many gaps existing in terms of awareness and public health interventions, not to mention the limited perception of the medical consequences of this condition and of the negative role of an inappropriate life style. Along these lines, EILF is also launching a campaign of awareness on viral hepatitis and NAFLD among the general population based on dissemination of videoclips (e.g., in crowded areas of shopping, travel and entertainment), while screening of liver diseases is being promoted at any level among the general population and risk groups. The work is demanding, both in terms of the resources needed and difficulties in measuring impact, but clearly needs to be done to effectively overcome the current situation. Complementary to the awareness campaigns, EILF has delivered a user friendly questionnaire-based intervention that proved to be effective in the identification of excess consumption of alcohol in many settings of patients, students and employees, an intervention that might provide benefits at various societal levels.

### The pillar of viral hepatitis elimination

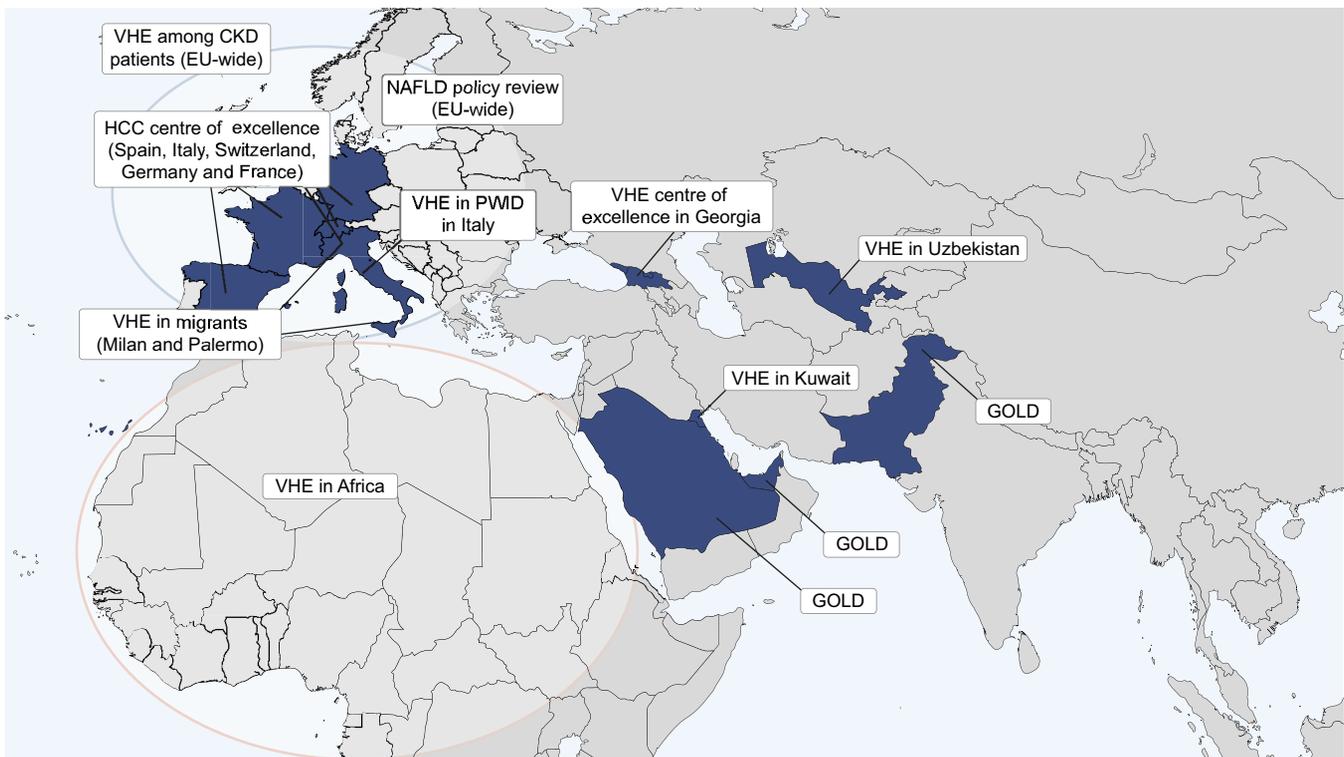
To proactively take a role in designing and implementing programmes that can support the achievement of the WHO viral hepatitis elimination by 2030, EILF is fostering collaboration between hepatologists and other key stakeholders while developing and launching road maps for the elimination of viral hepatitis in specified target populations. In addition, EILF is facilitating capacity building, and resource and information sharing. Central to this strategy is the viral hepatitis micro-elimination programme package for specified target populations and the build-up of a viral hepatitis elimination network.<sup>6</sup> (Fig. 2) Thus,

EILF has finalised a number of expert consultative meetings to establish the current state of prevention, screening and treatment efforts and identify opportunities and barriers to optimise

the outcome of the viral hepatitis elimination. This has resulted in close networking with other foundations and patient advocates operating in the area of congenital blood disorders, people



**Fig. 2. The viral hepatitis micro-elimination network orchestrated by the EILF.** EAHAD, The European Association for Haemophilia and Allied Disorders; EHC, European Haemophilia Consortium; EILF, the European Association for the Study of the Liver International Liver Foundation; ERA-EDTA, European Renal Association – European Dialysis and Transplant Association; SerT, Servizi Tossicodipendenza; SIMIT, Società Italiana di Malattie Infettive e Tropicali; TIF, Thalassaemia International Federation; UNRWA, United Nations Relief and Works Agency for Palestine Refugees in the Near East.



**Fig. 3. EILF key initiatives.** CKD, chronic kidney disease; EILF, the European Association for the Study of the Liver International Liver Foundation; GOLD, guidance on liver disease; HCC, hepatocellular carcinoma; NAFLD, non-alcoholic fatty liver diseases; PWIDs, people who inject drugs; VHE, viral hepatitis elimination.

who inject drugs, dialysis and nephrology, migrants and refugees, trying, in collaboration, to deliver an integrated approach linking screening of at-risk populations to treatment and prevention (Fig. 3). This movement seems to the EILF board an unavoidable step in the fight against viral hepatitis, as exemplified by elimination strategies in Egypt, where the launch of a vast therapeutic programme has been increasingly successful because of its close integration with screening.<sup>7,8</sup> In other countries such as Brazil, where screening of the general population was successfully run, there was no effective linkage to care. The result was an accumulation of untreated HCV infected patients appearing as a difficult to climb barrier rather than facilitating the therapeutic elimination of hepatitis.<sup>9</sup> Finally, in many countries, though antiviral therapy and screening were run in parallel, the lack of any harm reduction policy to prevent reinfection ultimately attenuated the success of the campaign against HCV. Incidentally, for the case of people who inject drugs, while it is widely recognised that increasing opioid substitution therapy and needle and syringe distribution coverage results in a reduction of injecting risks and ultimately enhances HCV treatment through significant prevention benefits, the WHO still targets needle and syringe programmes and not opioid substitution in their global strategy.<sup>1</sup>

Despite the fact that more than 3 million people have been treated with direct-acting antiviral based regimens including brand named and generic drugs, with more than 95% success rates, the size of the global HCV epidemic has not shrunk in parallel, owing to the fact that the sum of annual rates of hepatitis cures plus deaths due to end-stage HCV (net cure) are only slightly higher than new infections, whereas an annual net cure of 7% is deemed necessary to reach the WHO target of elimination of HCV by 2030.<sup>10</sup> In fact, the projected global net change of HCV epidemic is from 69.6 to 69.3 million, *i.e.* a 0.4% reduction,<sup>10</sup> meaning that very few countries are on target to achieve elimination of HCV as a public health problem by 2030. Clearly the engagement in this enormous undertaking is beyond that of EASL or EILF *per se*, and the scale-up of EILF instruments and communications in this territory provides a perfect example of the synergy of the academic society on one side (EASL) and a dedicated vehicle for implementation (EILF) of the scientific innovations on the other.

### Conclusions

As the extensive activities of EASL in science, education and advocacy are being refined to align the society with emerging challenges in hepatology, EILF has started a complementary action in more than one direction to the point of having several partnerships with relevant stakeholders in the broader society space. Most recent achievements include the development of a number of educational activities centring on capacity building and dissemination of best practice in new geographical areas. Unique aspects, when comparing to EASL, of this work pertain

to initiatives targeting the general population (public awareness) as well as to an elaborated agenda of HCV micro-elimination, targeting various patient settings as well as selected regions of Central Asia, the Middle East and Africa. While the importance of most public health interventions is universally recognised to assist the elimination programme of viral hepatitis driven by the WHO both within and outside the borders of Europe, the educational activity of EILF has the benefit of nurturing practice of hepatology, which needs to be optimised through the vision of developing personalised therapeutic algorithms that harmonise EASL recommendations with standards of care in the various geographical regions. The mission of the Foundation incorporates the exploration of new ways to fund research in hepatology, beyond the pharmaceutical industry on which the activities of EASL have relied heavily. Improving both access and cost effectiveness of health care interventions, appears particularly timely in an era when decision making processes are heavily influenced by the economic sustainability of medical interventions. To conclude, let us highlight that all interventions so far delivered by EILF and those already programmed for the years to come, could not materialise without the strenuous work of the executives in the office in Geneva and the active participation of the members of the EILF Board.

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