ORIGINAL ARTICLE

Benefits and barriers to accreditation of HPB center and fellowship programs in Europe: a strength-weakness-opportunity-and-threats (SWOT) analysis by an E-AHPBA-ESSO-UEMS *ad hoc* working committee

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Abstract

Background: Training in HPB surgery lacks uniformity across regions covered by the E-AHPBA. Accreditation has been in place for centers and fellowship programs, but with low uptake. The decision whether to continue, change or cease such accreditation is being discussed. Thus, a strengths, weaknesses, opportunities, and threats (SWOT) analysis was conducted.

Methods: A mixed-methods, cross-sectional study among stakeholders in E-AHPBA, ESSO and UEMS under the E-AHPBA executive council was founded, ensuring representation by gender and geographic distribution.

Results: Responses were collected from across E-AHPBA regions, with response from 15 of 24 subchapters. The most frequent and recurring themes are presented in a SWOT matrix which allows for paired evaluations of factors deemed to be *helpful* (Strengths and Opportunities), those that are *harmful* (Weaknesses and Threats).

Conclusion: This study identified both helpful and harmful effects to an accreditation process of HPB centers or HPB fellowship training across the E-AHPBA membership region.

Formal accreditation of centers is not within the scope, nor jurisdiction nor financial capacity for E-AHPBA in the current situation. A strong interest in formal HPB training should be capitalized into E-AHPBA strategic planning towards a structured accreditation system for HPB fellowship programs or HPB training tracks.

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Introduction

In many countries, training beyond "general surgery" specialization with a specific focus on hepato-pancreato-biliary (HPB) surgery is rare or, not even offered at all. In North America, the focus on training in HPB surgery through fellowships has received considerable attention, although there is no uniform track through which such training is obtained.[1–4] Rather, candidates seem to pursue training through different pathways, with HPB tracks pursued through either transplantation, or general complex surgical oncology or, through formal HPB fellowship training offered by different institutions.[3] Discussions and focus on HPB fellowship training have been ongoing for more than a decade.[5,6] Despite this, only sparse structural development has occurred. Particularly in Europe, an uniform training or certification for practice is lacking, even if HPB is recognized as its own entity within the European Boards of Surgery in *Union Européenne des Médecins Spécialistes* (UEMS).[7] Indeed, the variation of surgical HPB training across Europe is considerable, with few formal or complete HPB training opportunities.[8]

Of note, the European-African Hepato-Pancreato-Biliary Association (E-AHPBA) covers a vast region, spanning more than two continents, >100 countries and comprising considerable variation in cultural, language, socioeconomic and demographic diversities. In Europe, there are 51 countries, with no uniform surgical training across each and every country, despite a unifying force attempted through the UEMS.[7] In Europe, there are only nine countries with a population >20 million. Indeed, 33 countries have a population <10 million, and of these 21 independent nations have a population below 5 million. In comparison, currently 22 countries (of 54 countries) in Africa have >20 million inhabitants, and 4 countries have >100 million population. The variation in surgical workforce, availability of postgraduate training and subspecialists is considerable.[9–11]

Formalizing HPB training with opportunity is important. Since 2017, the E-AHPBA has provided a process for centers and their HPB programs to be 'HPB accredited' through a formal process (Supplementary info S1–S3), but the uptake has been slow with only 3 centers being evaluated and accredited during the period. The decision of whether to continue, change or cease such accreditation is being discussed within the E-AHPBA council. Thus, a mixed-methods approach including a strengths, weaknesses, opportunities, and threats (SWOT) analysis of the E-AHPBA accreditation of HPB center and fellowship program was conducted to assess the positive and negative value of accreditation.

Methods

A cross-sectional, mixed methods analysis was conducted between April 15th and May 15th, 2024. The methods included a Strength-Weakness-Opportunity-Threats (SWOT) analysis[12] together with a qualitative analysis of quotes and statements provided in free-text responses by participants.[13] A standard SWOT template (available upon request) to deliver answers in SWOT categories was sent to all participants. Responses were collected, stratified and presented anonymously in a core SWOT matrix.

Ethics

No ethical approval was considered necessary as members agreed to take part in the *ad hoc working committee*, and the response was voluntary, with information given that no personal data or response would be collected nor disclosed. Also, there was no clinical contact with patients as part of this study.

Working group

Under a mandate from the executive council of the E-AHPBA, the decision to pursue an evaluation of the needs, benefits and threats of HPB center and training program accreditation was given to form an ad hoc working committee during fall of 2023. The ad hoc working committee (n = 12 members) was formed by members of the E-AHPBA executive council (n = 5) and from the education committee (n = 3) of the E-AHPBA, as well as representatives (n = 3) from the *Union Européenne des Médecins Spécialistes* (UEMS) committee of HPB surgery, and members of the HPB chapter of education and training committee (n = 2) in European Society of Surgical Oncology (ESSO-HPB subcommittee) and, finally, representatives of active fellowship programs in Europe (n = 3). In addition, 2 representatives of centers that had previously gone through the E-AHPBA accreditation program were included. Of note, several of the 12 members had one or more roles across the various organizations, hence the numbers do not add up, but represents the spread in affiliations and representation of working group members.

In addition, all contacts of the regional/national chapters (n = 24) of the E-AHPBA were sent an email (with 2 subsequent reminders) with the request for filling out the SWOT analysis, in addition to providing free-text views on the role and value of HPB center accreditation.

Recurring themes were collected and discussed more widely within the ad hoc working group to provide a final SWOT matrix of the most pertinent points to the topic. In addition, a compilation of themes and quotes relevant to the studied issue was gathered and presented.[13]

Results

The full, unselected result of the SWOT analysis is presented in Supplementary Table S4.

Responses were collected from 15 63%) of the 24 E-AHPBA chapters. Most European regions were covered by responses, except from France, Hungary, Switzerland (newly formed, so may not have secretariat), and Poland in Europe. The Commonwealth of Independent States (CIS; Russia, Belarus; Uzbekistan; Kazakstan) did not respond. Among the 3 formal

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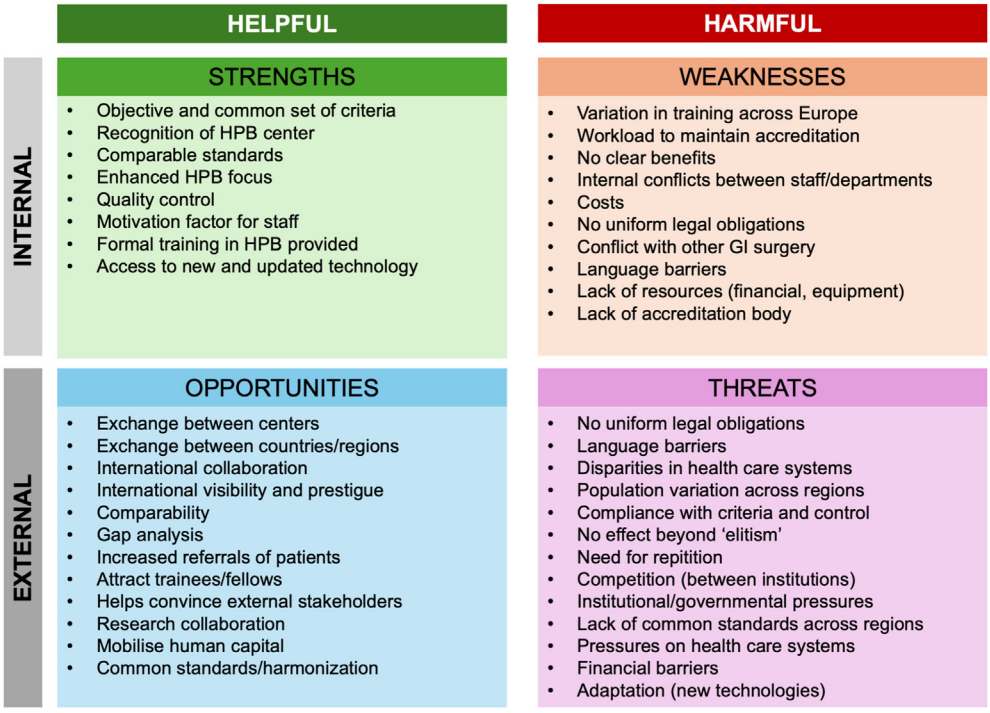

Figure 1 SWOT matrix

African chapters, only Nigeria responded. No response was received from the MENA chapter, representing the Middle East and Arab world.

The most frequent and recurring themes are presented in a SWOT matrix in Fig. 1. The topics are presented according to an assessment of being harmful or helpful and whether they are internally oriented or external factors, with some factors being eligible in more than one category.

Recurring themes and quotes are presented in Table 1. The quotes are exemplary of statements and themes that were found across respondents and participants free text reports and serve to qualitatively mirror the themes in the SWOT matrix (Fig. 1).

The SWOT matrix allows from paired evaluations across the matrix. These pairs allow to group factors into those that are deemed to be *helpful* (Strengths and Opportunities), those that are *harmful* (Weaknesses and Threats) or, alternatively into those that may be viewed of *internal* relevance (Strengths and Weaknesses) or related to *external* factors (Opportunities and Threats).

Helpful or harmful factors to accreditation

The factors listed to be *helpful* in the decision to pursue an E-AHPBA accreditation process include several themes related to the definition of HPB as practiced as a specific surgical discipline. Having objective and common criteria that is aligned across countries and regions seems to be a central strong point, as are the focus on comparable standards and quality control. The recognition of HPB centers as such (recognition, visibility, prestige), with opportunities for networking, collaboration and research seems to be an important motivation for accreditation. Some view benefits such as patient referral, attraction of fellows and trainees as valuable drivers that are helpful for accreditation.

There may be *harmful* factors from accreditation as well, most prominently by the lack of uniform criteria and standardized training in surgery across Europe and Africa, in addition to huge variation in health care systems and approving bodies for specialist certification. Benefits to the accredited center may be unclear, as will be the costs involved and the resources needed to fulfill the criteria. Also, the current lack of a formal body that can issue an accreditation seems to be an obstacle that may make accreditation difficult and harm an accreditation credibility. In general, the impression is that costs and resources needed to uphold accreditation, auditing and monitoring are beyond the resources within the E-AHPBA. Furthermore, if defined criteria for accreditation are set, a formal overseeing of compliance and control needs to be in place to ascertain the centers are fulfilling the criteria. The process of accreditation needs to be repeated (i.e. not 'eternal' accreditation) and monitored, and issues with other institutional, governmental and healthcare system requirements which vary across regions may come in conflict with an accreditation process. Finally, both the variation in the population statistics, the overall increasing pressures on health care as such and, the time limitations and financial burdens may all be

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Table 1 Themes and quotes regarding the accreditation of HPB centers

Theme	Quote
Need	*"It is extremely needed, but a huge effort from all the societies, surgeons, and government is also needed [to make it happen]. "*
Benefits vrs efforts	*"In general, a certification is a nice idea, however, for the accredited centers the accreditation must come with clear benefits worth the time and money invested in the accreditation process"*
	«Generally, I'm in favor to have a closer look into the possibilities to get this going, but we certainly need to define what the benefits for these centers will be to compensate for the extra efforts»
Universal criteria	*"… in [my country] the procedure for establishing criteria for accreditation of HPB centers and for the recognition of the subspeciality of HPB surgery has just recently started. It will be very useful and functional to have similar criteria to be used"*
	"*I think that it is interesting to create accreditation centers via the E-AHPBA, however, I do not think that the regulations to attain accreditation standards can be universal between the different countries*"
	"There are currently no universally accepted objective standards for HPB training centre accreditation in Europe"
Quality & Safety	*«The accreditation process for establishment of HPB centers, who fulfil certain criteria of quality and safety is very important for the care of hpb patients and for the credibility of hpb community. «*
Education & Research	*«E-AHPBA is a medical specialty association and its main strength is in education and research. In order to successfully implement a fundamentally financial and organizational project such as accreditation, the accreditation elements (especially the criteria) must in my opinion include mainly education and research criteria.»*
	"It is much better and more equitable to focus on developing fellowships, mentoring and training opportunities."
Centers vrs fellowships	*"… there are only very few dedicated HPB fellowships in Europe. I would accredit these [fellowships] and not HPB centers in general, there are just too many.»*
	«Accreditation of the center brings extra international recognition and attract more fellows. We will definitely continue with accreditation»
E-AHPBA vrs UEMS	*« … transplant surgery the accreditation is given by UEMS, which is officialy recognized by European authorities, whereas the HPB accreditation is not UEMS accreditation …"*
	«The cost and manpower required to legislate proper center accreditation is well outwith the scope of E-AHPBA»

factors that contribute to harmful effects of an accreditation process.

Internal and external factors regarding accreditation

Internally, both from a center perspective and from an organizational perspective within E-AHPBA, there is a recognition of competition between the HPB-focused accreditation and other surgical disciplines in a given department or unit, and even within the gastrointestinal/abdominal surgical field. This may be viewed as a hindrance (i.e. by regional, institutional or clinic-level executives) for establishing accredited programs within a subfield of what is often referred to otherwise as 'general surgery'. Internal conflicts within departments, within regions and, even across countries may result as HPB "gets attention" while others do not.

External challenges include the lack of common jurisdiction between countries, governmental and health care systems including recognition of board approved specialists across countries, as well as language barriers and the varied population demographics across the region(s) to be covered. Financial hindrances are also needed to be overcome, to cover costs and salary for fellows and to provide sustainable solutions over time within a program that can be relied on, predictable and timely. At the moment, the E-AHPBA does not have financial nor jurisdictional powers to ascertain regulations to accredited centers over the regional or local governing bodies.

Discussion

This study aimed to investigate the positive and negative sides to the accreditation process of HPB centers or HPB fellowship training across the E-AHPBA membership region and its potential influence on E-AHPBA strategic planning. The SWOT analyses produced a matrix overview that consists of internal and external factors of both helpful and harmful effects towards this end. These factors should be considered when structuring a system for center or fellowships evaluation for E-AHPBA. As one may have envisioned, the variation in opinions and importance placed on themes is as varied as the number of regions covered for this study. However, some overarching themes are found, which are further discussed in detail to the SWOT analyses.

Among the voiced strengths of an accreditation process is the need for having a common and core set of uniform or standardized goals that is comparable and implementable across regions within the E-AHPBA domain. To this end, accreditation of either HPB centers, or HPB fellowship training programs or, eventually, accreditation of practicing HPB surgeons has some inherent logic. Such HPB accreditation may serve to objectify what was previously a nuanced aspect of surgical training. As it is currently the case in North America,[1,14–16] the public and indeed

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governing bodies will necessitate that HPB surgeons be accredited to practice in this subspecialty. Notably, even within the Unites States, HPB training follow several routes to certified specialist care, namely either through the route of surgical oncology, the transplant route or, through specific HPB training.[1,3,17] Currently, the complexity of similar tracks in Europe and Africa is considerable. Of note, even the UEMS board exam[7] offered to trainees is not evenly recognized among European countries.

One should note the slight difference in scope between the included organizations for this work; E-AHPBA has a pure focus on HPB surgery and training in the widest form, i.e. both benign and malignant disease spectrum including transplantation, as well as research and education. In contrast, an organization such as ESSO has a strict focus on cancer surgery and, the UEMS more on the formal specialist education and unified board exam (diploma of European Board of Surgery) within Europe. However, both ESSO and UEMS have subchapters with focus on HPB and share common goals with E-AHPBA, and the mutual interests are clear in trying to facilitate more, better and broader training, education and research in HPB for optimal patient care.

Recognition, internationalization, networking and research collaboration are put forwards as positive arguments for accreditation. Notably, such networks and collaborative efforts already exist without the accreditation, and hence may not be viewed as a crucial or essential part to the accreditation needs. However, offering such training and exchanging trainees may help facilitate further collaboration, and may be viewed as a positive spin off rather than a prerequisite for HPB accreditation.

The balance between resources and costs involved to the perceived benefits of an accreditation is lifted as a concern. Currently, other accreditation programs are in place in Europe and include the designation of Comprehensive Cancer Centers by the Organization of European Cancer Institutes (OECI; https://accreditation.oeci.eu/the-ad-programme/#our-mission) and European transplantation training programs through UEMS-ESOT.[18] Among all organizations, the UEMS is currently the only one with a unified and trans-European approach with some leverage for political influence. A society as E-AHPBA does not have the same political influence to move legislation or enforce criteria in discussion with European countries as a stand-alone organization. Hence, if center accreditation should become a viable option across countries in the future, it seems that close collaboration with UEMS to gain traction within the governmental system in Europe is needed.

Institutions being accredited (and re-accredited and audited) across several disciplines may become overburdened in the process with little return on investment as seen by actual change in delivery or training. Hence, finding a balance between formal approval of a training scheme and a very stringent, labor-intensive accreditation process is required for an E-AHPBA process to be deemed valuable, viable and worth the investment from either perspective. The impression of only 3 institutions in Europe having gone through the existing accreditation scheme for HPB accreditation may suggest that the right balance has not been found thus far. Hence, and adjustment into a more viable scheme that has broader interest across E-AHPBA membership regions should be explored.

There is considerable heterogeneity in training standards across Europe for HPB fellowship programs. Some regions have just very recently formed formal chapters for HPB specialists.[19] The variation is likely a barrier to creation of a "one-size-fits-all" solution for the E-AHPBA region. However, there is an opportunity to create specific fellowship programs to demonstrate an appropriate educational environment and minimum caseload volume with an appropriate balance between training and service delivery. Such programs may need to be tailored, e.g. an institution may provide a one-year opportunity for specific minimal-invasive HPB surgery training or, offer a broader HPB complex surgery caseload exposure. Furthermore, HPB fellowship tracks need to be defined both in terms of duration and content, specifically if accredited with an E-AHPBA diploma or seal of educational/training delivery. The E-AHPBA may build on prior consensus work on fellowship curriculum, such as done across the three main tracks in North America,[20] as suggested for structured robotic training[21] or, as done for surgical oncology in Europe.[22] Training and themes associated with ideal fellowship training could be determined and defined by consensus. HPB units that can offer such programs should then be certified through a formal process based on criteria by E-AHPBA. This needs to be formalized within the E-AHPBA organization to ensure robust, sustainable and viable opportunities for future HPB trainees.

Not all HPB centers that currently train HPB surgeons will be able to meet the requirements set by an E-AHPBA accreditation of HPB training programs, including factors such as case volume, access to and activity in research, access and use of minimal invasive platform systems, or other barriers to health care delivery specific to the region (language, legal or practical issues). Such barriers may deter some units in applying for accreditation and, therefore, may deter potential HPB fellows from applying for what may well be good stand-alone programs. Over time, this may result in the migration of fellows to the larger units, and away from smaller ones. Potential solutions could include having a joint fellowship program between more than one center in a region, whereby appointed HPB fellows can rotate to different units which each might have different strengths (e.g. pancreatic surgery in hospital A, liver surgery in hospital B, exposure to robotic surgery in hospital C etc.). This would require some innovative and joined up thinking by units and across regions, as well as guidance and support from the governing bodies.

Some limitations to this study need to be mentioned. First, the process was meant to be as inclusive as possible, however a relatively low response was received from African chapters that represent a crucial part of the E-AHPBA. Several rounds of email alerts and directed emails to nominated persons were sent, with only a few returns with complete responses. One reason may be

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that the question of accreditation may have stronger appeal in Europe compared to other regions. Africa currently has the highest number of inhabitants and some of the greatest disease burden (i.e. for hepatocellular carcinoma), while the lowest number of surgeons per capita, and as such availability of subspecialization may be lacking[10,11] and accreditation may have a different appeal or focus. Nonetheless, the interest and need for HPB focused care was recognized, while lifting the issue of resources and manpower needed to justify this. Furthermore, a SWOT analysis is a tool that was originally developed for business case modelling and may have inherent flaws in terms of interpretation and quantitative evaluations.[23] However, SWOT analyses have been used previously in the medical field and also within HPB,[12,24,25] with reported value for drawing conclusions and pointing the way forward from the process.[26] Also, the decision to use a SWOT analysis and a qualitative approach was based on the decision in the executive when trying to move forward with the accreditation system from the past. As some disagreement in what an accreditation should constitute was noted, simply going forward with arguments for or against was deemed insufficient. Hence, giving this a formal thought process through a SWOT analysis within a working committee and include opinions from regional chapters was done to collect open and anonymous impressions from several regions on the perceived benefits and harms of accreditation, with perspectives from E-AHPBA as well as ESSO and UEMS representatives. A Delphi process may have been entertained but is a slightly different methodology that preferably comes later in the process when specific tasks can be discussed to arrive at a consensus. A first step would be to allow for a slightly larger group (i.e. up to max 30) of wider representation and to be more specific about the list of items that need to be voted on and why, as well as definition of what constitutes consensus agreement. A (modified) Delphi process is certainly one of need and of a value to further objectify decisions going forward, and one that should be conducted in the near future.

Finally, the current study does not address what current and future trainees in HPB surgery want. The need or motivation to pursue further HPB training through an accredited fellowship program may be varied.[2,27] Motivation may include readiness for clinical practice,[15,28] the need to obtain specific training,[29] enhance academic opportunities or, achieve training otherwise not available in the region of origin of the trainee. Notably, a specific project aimed to address this is currently conducted within the E-AHPBA. While the current study addresses several positive and negative factors, as well as benefits and barriers to accreditation within E-AHPBA, the design of fellowship programs and training tracks should also consider the needs and wishes expressed from the future generation.[30] Focus on diversity, equity and inclusion needs to be considered,[31] in addition to considerations of academic (research and educational) activities[27] in addition to purely clinical opportunities combined into fellowship constructions.[32]

Conclusions

The current ad hoc working group has documented the current perceived benefits and barriers of HPB center and training program accreditation within the E-AHPBA through a mixed-methods approach including SWOT analyses and qualitative evaluation. Benefits include an expressed need for accredited fellowship training with uniform, transparent and defined criteria that can be offered through an E-AHPBA accredited portal. Barriers include the variation in population, jurisdiction, financial and health care systems across the E-AHPBA region and the resources needed to ensure compliance and re-accreditation. Rather than highly complex, costly and advanced institutional accreditation, a specific focus on HPB fellowship tracks may be considered to build E-AHPBA accredited training opportunities. Accreditation of centers is not within the scope, nor jurisdiction nor financial capacity for E-AHPBA in the current situation. A strong interest in formal HPB training should be capitalized into E-AHPBA strategic planning towards a structured accreditation system for HPB fellowships or HPB training tracks.

Conflicts of interest

None to declare.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.hpb.2024.06.011.

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