Evidence-Informed Strategies for Supporting Scientific Publishing Through the FETP Enterprise
# Table of Contents

**Executive Summary** ................................................................................................................. 3

Report .................................................................................................................................................. 6

1. **Introduction** .............................................................................................................................. 6

2. **Methods** ...................................................................................................................................... 6
   2.1. Key informant interviews ............................................................................................................ 6
   2.2. Market research survey .............................................................................................................. 7
      2.2.1. Design and pilot ................................................................................................................... 7
      2.2.2. Survey rollout ....................................................................................................................... 7
   2.3. Expert working group ............................................................................................................... 8

3. **Results** ....................................................................................................................................... 8
   3.1. Key informant interviews ........................................................................................................ 8
      3.1.1. Setting the context: Why start a new journal? .................................................................... 8
      3.1.2. Building commitment to quality publications in field epidemiology ................................. 9
      3.1.3. Economic models ............................................................................................................... 11
      3.1.4. Considerations for partnering with established journals .................................................... 11
      3.1.5. Final thoughts ...................................................................................................................... 12
   3.2. Market research survey results ............................................................................................... 13
      3.2.1. Respondent characteristics ............................................................................................... 13
      3.2.2. Previous academic publishing experience ....................................................................... 15
      3.2.3. Interest in publishing ......................................................................................................... 18
      3.2.4. Qualities sought in a journal ............................................................................................ 19
      3.2.5. Preferences in reading and writing journal articles ............................................................ 20
      3.2.6. Final remarks and comments ............................................................................................ 21
   3.3. Expert working group ............................................................................................................. 23
      3.3.1. Journal breakout group ..................................................................................................... 23
      3.3.2. Supplement breakout group .............................................................................................. 24
      3.3.3. National public health bulletin digest .................................................................................. 25

4. **Discussion and conclusions** ..................................................................................................... 27

5. **Updates** ...................................................................................................................................... 27

6. **Appendix** ................................................................................................................................... 29
   6.1. Key informant interview questions .......................................................................................... 29
Executive Summary
The TEPHINET Secretariat finds itself in a unique position to spearhead initiatives to support academic publishing in the field epidemiology community. To inform TEPHINET’s strategic planning process—and ultimately better meet the current and future publishing needs of field epidemiologists—we conducted a series of key informant interviews and administered a market research survey. Our findings are presented here in summarized format, organized by data source.

Key findings from the interviews:

- **There is a need for a high quality and specialized field epidemiology journal that recognizes this field’s unique methodologies.** Field epidemiology articles do not lend themselves easily to being published in traditional academic journals, as these established journals typically prefer novel findings, sophisticated statistical analysis, and rigorous trials. While there are journals that focus on the topics of international infectious disease or biosecurity, there is currently no dedicated field epidemiology journal; such a journal could find a legitimate niche in the existing academic publishing ecosystem.

- **Publishing is a time- and energy-consuming task and most fellows and graduates need coaching and motivation to produce high quality academic writing.** Field epidemiology training program (FETP) trainees and graduates must attempt to publish their work, as it would help programs build competencies and generate a historical record of epidemiological events and their responses. Key informants suggested not only strengthening fellows’ and graduates’ scientific writing skills to ensure high quality submissions, but also engaging FETPs in the peer review process.

- **A new journal will not survive without a clear development strategy that involves collaboration with programs, networks, and other institutional partners.**

- **There was a lack of consensus about the best types of articles to publish,** with some arguing for true novelty (i.e., new field epidemiology technology and methodologies) while others argued for more functional and practical articles (namely outbreak reports).

- **The process to define a TEPHINET field epidemiology journal requires strong editorial policies focused on producing high quality articles.**

- **Financial and reader access models may be difficult to navigate.** Open access was preferred over subscription-based journal models. However, most key informants emphasized the catch-22 situation of potential authors not wanting to pay article processing fees to an unknown journal, but at the same time, needing to avoid the impression that a journal is low quality because it does not charge any fees.

- **Starting a TEPHINET journal from the ground-up would be an extremely time- and resource-intensive approach.** All informants agreed that TEPHINET’s goals should inform the publishing strategy, as the different initiatives to support FETP publishing are not necessarily equivalent.

Key findings from the market research survey:
The market research survey was completed by 278 trainees and graduates, with Advanced FETP graduates being the most represented FETP category. The African and Americas regions were also the
most represented, and English and Portuguese were the most common languages represented. The sample size was slightly skewed male (53.2%) and survey respondents had an average of 6.74 years working in field epidemiology (with a wide standard deviation of 5.18 years). Participants tended to rate their skills in academic or scientific writing, writing in English, scientific methodology and study design, literature reviews, and statistical analysis as “average” or “good”.

While 61.9% of the survey respondents had already been a co-author on a paper submitted to a peer-reviewed journal, fewer than half (46.1%) of the total survey respondents had ever been first author. As either co-author or first author, about half of the total respondents had achieved a successful publication in a peer-reviewed journal. Successful authors were more likely to be male, from the Western Pacific region, have more years of experience, and higher self-rated skill sets than those who had never successfully authored a peer-reviewed article.

Our survey respondents were heavily interested in publishing an academic article: 249 of the 278 respondents (89.6%) reported an interest in publishing within the next 12 months. Of those indicating an interest in publishing, the most frequently reported motivation was “to share my knowledge with my professional community and participate in my scientific field” followed by “to advance my career/improve my CV” and “to make a difference in society and the world”. In general, the most important qualities sought in a journal were the impact factor, the journal subject matter, and a low price or no publishing fee. Interest was highest around articles in English and articles describing outbreak investigations, surveillance systems evaluations, and original research.

**Key findings from the expert working group**

Following the key informant interviews and the market research survey, TEPHINET then hosted a virtual working group meeting in October 2020. The purpose of this meeting was to convene a wider group of experts to explore the three publishing scenarios identified through the interviews and market research: starting a new journal, publishing supplements in other journals, and creating a digest of national public health bulletin articles. A total of 20 experts in field epidemiology and/or scientific publishing were recruited to participate; these experts included some of the key informants from the interviews, additional experts identified by these key informants, and other experts known to TEPHINET. These experts were divided into breakout groups corresponding to the three publishing scenarios.

The journal breakout group agreed that while the internet has increased the number of international journals available, outlets for FETPs to publish are still missing. There is a clear niche for an outlet or forum for applied epidemiology research that encompasses the topics that field epidemiologists deal with in practice. The journal purpose and scope will be the compass to guide all other related efforts. The breakout group members warned that TEPHINET should not underestimate the huge workload involved with finding articles and peer reviewers. They also noted that an advisory board will certainly be required at the early stages of a TEPHINET journal, as well as an ongoing editorial board dedicated to writing editorials, finding reviewers, and establishing connections. At a bare minimum, a journal would require two and a half full time positions: a managing editor, a full time copy editor, and an editor-in-chief spending 30% of their work time with the journal.

The supplement breakout group began the discussion by defining a supplement: a separate project involving a publication on top of the normal publishing cycle where the standard journal team is not involved. The most salient benefits identified by this working group included the supplement’s potential
to be a good marketing tool, a feasible first step/pilot toward a field epidemiology journal, and a supportive platform with mentorship to encourage early-career FETP trainees and graduates to publish. While a supplement would certainly be a lower investment than a full scientific journal, it would still involve a very substantial investment. When seeking out a partner journal for this supplement, it was suggested that TEPHINET should focus on journals that are within more of a public health/infectious disease sphere, with a flexible team that understands that the scope of the articles will be different. Given TEPHINET’s focus on training field epidemiologists, the partner journal’s managing editor and supporting team must be willing to work with FETPs to make the work publishable. TEPHINET should not feel limited to partnering with only one journal, but instead could partner with several journals in order to reach different audiences.

The national public health bulletin (NPHB) digest group commenced by highlighting NPHBs’ unique characteristics. The most salient difference between an NPHB and a scientific journal is that that an NPHB communicates risks at a national level, provides timely information for rapid action, and supplies a platform for the government voice on public health. This is in contrast to scientific journals that publish content that has been tested through the scientific method and vetted by other scientists. The members of the breakout group therefore agreed that both NPHBs and scientific journals are worthy and necessary required platforms for FETPs to publish in, and should be supported. They should not be seen as equivalents or substitutes. Both platforms can motivate FETPs to greater scientific production, as FETP affiliates are motivated to publish in both venues. The group suggested that what FETPs need most urgently are resources to improve the FETPs’ scientific output; while it would be interesting to launch an NPHB digest, this model does not provide author development opportunities. The bulletin might be interesting for readers to read, but it would not include this essential focus on training. The ideal situation would be to have a formal partnership between a journal and an NPHB where they support each other in creating and sharing high quality scientific content.

**Opportunities and Recommendations**

The interviews offered several key recommendations to chart a successful course for this initiative:

- Choose a right “blend” of editorial board members who share passionate commitment for field epidemiology and can join in giving their time and energy to this cause.
- Encourage submissions from FETPs and work towards developing a strong sense of journal ownership among programs.
- Partnerships and collaborations are key to maximize the impact, gain a wider audience and discover new sources of support.

The market research survey identified opportunities to support academic publishing and strengthen FETP fellows’ and graduates’ scientific writing skills:

- Despite the limitations of this cross-sectional survey and the small sample size, it is clear that FETP fellows and graduates are highly interested in producing scientific articles, yet do not have a clear path to follow.
- These findings highlight the need for more interventions to improve the quality of scientific production and to create more opportunities for operational research.
Report

1. Introduction
The Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) is the only global network of field epidemiology training programs (FETPs). TEPHINET was founded in June 1997 with support from the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), and the Foundation Merieux. Overall, TEPHINET comprises 75 FETPs across more than 100 countries and includes training programs with laboratory and veterinary components.

The TEPHINET Secretariat recognizes the need to engage a variety of key stakeholders to define a strategy by which TEPHINET can support field epidemiologists in scientific publishing. Key informant interviews were conducted with selected key stakeholders with intimate knowledge in scientific communication, publishing, and field epidemiology. Additionally, a market research survey was developed and administered to members of the TEPHINET network to assess the numerous barriers that early career field epidemiologists face in writing and publishing their findings in traditional peer-reviewed academic journals.

This report synthesizes key informants’ impressions, experiences, and opinions together with key findings drawn from the survey analysis. Results depicted in this report complement other planning efforts to ensure that the TEPHINET Secretariat’s goals, strategies, and funding allocations for the upcoming years in the context of scientific production are aligned with the organization’s mission.

2. Methods
2.1. Key informant interviews
Key informant interviews were conducted as a mechanism to gather insight on the opportunities and challenges related to academic publishing. Our team generated a list of subject matter experts with diverse knowledge and experience in field epidemiology and academic publishing. We also attempted to establish regional representation to ensure a variety of perspectives. During data collection, additional participants were identified by asking each interviewee for recommendations of other potential key informants. The final list consisted of approximately eight individuals. Potential informants were first contacted via email explaining the purpose and format of the interview. Only one participant declined due to time constraints.

An interview guide was developed to gather information in a semi-structured and systematic manner. Nine open-ended questions were used to explore journal scope needs, target audience, organizational structure, funding models, and related barriers and opportunities to establishing a journal.

Seven semi-structured one-on-one interviews were conducted between April 26 and May 6. Interviews lasted approximately 60 to 90 minutes. Probing and prompting were used to gain more depth and seek the most salient ideas. All interviews were recorded and transcribed. During transcription, efforts were made to preserve the essence of the content expressed, but quotes were also edited for grammar and brevity and may not necessarily be expressed verbatim. A thematic analysis was completed using manual coding. Main themes were detailed and described with supporting quotes when appropriate.
Quotes are verbatim unless indicated by square brackets [xxx] to indicate edits, or dots ( . . ) to show text has been removed for the sake of brevity. To protect anonymity, names and identifying information have been removed from the quotes.

2.2. Market research survey

2.2.1. Design and pilot

A literature review was conducted of previously published peer-reviewed articles describing barriers to publishing in the fields of epidemiology, medicine, and public health. Other general literature on opinions surrounding academic publishing in different regions of the world was also reviewed. These literature reviews, as well as professional experiences working with early-career researchers on increasing scientific production, informed the design of the market research survey. Emphasis was placed on brevity and conciseness, while also maximizing the amount of useful information obtained. The survey was designed to preserve anonymity and to be inclusive and culturally appropriate for a wide range of respondent profiles.

The survey was first designed by the two primary researchers (Angela Hilmers and Elena Atkinson), then reviewed internally by other TEPHINET staff familiar with survey methodologies and quantitative and qualitative analysis. The survey was translated into Spanish, Portuguese, and French by TEPHINET staff members fluent in these languages, and then these translations were reviewed by a second TEPHINET staff member also fluent in that language.

After incorporating the feedback from the internal TEPHINET reviewers, the survey was user-tested by FETP trainees and graduates. These pilot testers were recruited by sending an email to all regional program directors, requesting that they nominate two or three FETP trainees or graduates. Once these nominations were received, we contacted the individuals directly to schedule a time for them to take the survey and provide their feedback and opinions. A total of 14 individuals were contacted, and 10 of them successfully completed the user testing survey and provided feedback: two individuals hailed from Brazil, two from Central America, two from Mozambique, two from Morocco, and one each from Singapore and Egypt. The survey was tested in Spanish, Portuguese, and French. After each user test, the survey was updated as needed to incorporate their feedback.

2.2.2. Survey rollout

The survey was administered through the SurveyMonkey platform and was open and received responses between July 20 and August 30, 2020. The survey link was shared through the TEPHINET newsletter, the TEPHINET alumni platform, TEPHIConnect, and in individual emails to program directors, inviting them to share the survey with their FETP trainees and graduates. No additional effort was made to give preference to any one region, but once it became apparent that the Portuguese language and African regions were overrepresented, we contacted additional FETP directors in Asia, Europe, Eastern Mediterranean, and Spanish-speaking Latin America to attempt to increase the geographical representation. 280 (84.3%) of the 332 respondents took the survey in English, while 31 (9.3%) took it in French, 18 (5.4%) in Portuguese, and only 3 (0.9%) in Spanish. 6.3% or 21 respondents only filled out the first page (asking about their FETP affiliation) and provided no further information beyond that; these respondents were excluded from the analysis, leaving a final sample size of 311.
2.3. Expert working group
Following the key informant interviews and the market research survey, TEPHINET analyzed the different publishing scenarios—starting a new journal, publishing supplements in other journals, and creating a digest of national public health bulletin articles—and constructed three definitions of possible initiatives. TEPHINET then hosted a virtual working group meeting in October 2020, the purpose of which was to convene a wider group of experts to explore the three scenarios identified through the interviews and market research. A total of 20 experts in field epidemiology and/or scientific publishing were recruited to participate; these experts included some of the key informants from the interviews, additional experts identified by these key informants, and other experts known to TEPHINET.

Once these experts were identified, a formal letter of invitation was extended to them. Their preferences for the best date and time were recorded in order to schedule the working group at a time that would be acceptable to participants from across the globe. Once these experts confirmed their acceptance and availability, they were divided into breakout groups corresponding to the three publishing scenarios. Each breakout group was led by a moderator with deep knowledge of the topic, who also had an assistant to help with the presentation, administration of the room, and note taking. Breakout groups were balanced as much as possible in terms of geographical representation, area of expertise, and public health sector (government, non-governmental, and academia).

The day of the event, participants joined the session through the video conference platform Zoom. The first half-hour was dedicated to introductions and presenting the results of the key informant interviews and market research survey, the next hour was dedicated to breakout group discussions, and the final half-hour was dedicated to sharing the results of the breakout group discussions with the entire working group. The audio and video of the breakout group sessions were recorded, and notes were taken in each breakout room by two separate note takers.

3. Results

3.1. Key informant interviews
A total of seven key informants participated in semi-structured interviews. All but one of them had previous experience starting a journal or participating on an editorial board, and all but one (not the same person) had performed supervisory activities to support early career field epidemiologists in writing and publishing. They were employed by Ministries of Health, academic institutions, non-governmental organizations (NGOs), or CDC offices in their countries of origin at the time of the interviews. The analysis presented here roughly follows the structure of the interview guide. The first section provides several reasons and potential benefits to starting a new journal. The second section concerns perceptions of critical issues related to quality and content. The third section examines perspectives on the best economic model for a new journal. The fourth section explores alternative strategies, such as partnering with existing journals. The fifth section depicts key informants’ final considerations and recommendations.

3.1.1. Setting the context: Why start a new journal?
The absence of a dedicated international field epidemiology journal has been highlighted for over 20 years in numerous discussions within the field epidemiology community. We asked key informants to share their perspectives on elements that need to be considered when starting a new journal such as
scope, functional specificity, and target audience. The following represent major themes that were identified by multiple interview participants.

3.1.1.1. A field epidemiology journal has the potential to establish a legitimate niche in academic publishing.
A majority of key informants identified the need for a high quality, specialized field epidemiology journal that advocates for fundamental field epidemiology principles.

“...There should be a journal on field epidemiology in general, how to use field epi to guide practical public health issues/applied public health.... These topics are very important and practical, but won’t be published because they ‘don’t have fancy formulas that confuse people’”.

“There’s no journal currently on this topic—there are ‘international infectious journals’ but not on the methodologies.”

3.1.1.2. Field epidemiology as a specialty area is not well served by larger, mainstream journals.
Key informants emphasized the “unique selling point” of a specialized field epidemiology journal that will not ask for a typical academic article, but rather have some functional specificity in the way it presents information. They also pointed out the lack of appreciation for field epidemiology methodologies by bigger, mainstream journals and the need to find peer reviewers experienced in this area.

“Articles should be published that don’t just focus on ‘what’s new’ but rather appreciating high quality front line epidemiology work”

“This is the right time to push field epidemiology. There is a need to find peer reviewers experienced in field epidemiology who are not going to ask for the typical ‘academic’ articles.”

“Open a new research space that other rigid journals might have boxed themselves out of.”

3.1.1.3. There is an audience looking and needing to publish.
There was consensus that FETPs need to and should publish their work. Publishing would help programs build competencies and contribute to the creation of a historical record of all epidemiological events and the responses that occur behind the scenes. However, publishing is a time-and-energy-consuming task, and most fellows and graduates need coaching and motivation to produce high quality academic writing.

“There are so many field epidemiologists in the entire world looking to publish...”

“There is a wide range of field epidemiologists—some are highly motivated to publish in high-impact journals.”

“It’s more a matter of finding the time and getting coaching and making the effort to put everything together. It’s a very time- and energy-consuming task with no clear reward a lot of times.”

3.1.2. Building commitment to quality publications in field epidemiology
A specialized field epidemiology journal’s reputation will ride on the quality of the manuscripts submitted by FETPs, a consistent and good quality peer-review process, and the reputation of board members. We asked key informants about the benefits and drawbacks of establishing a journal, the type
of articles that would be the most valuable to accept, and their thoughts on the editorial board structure. The following represent major themes that were identified by multiple interview participants.

3.1.2.1. Don’t be the journal that will (most probably) accept the manuscript.
The majority of key informants agreed that a high quality level editorial policy makes it difficult to maintain the flow of published articles at the beginning but it can also stand the journal in good stead and prevent it from being a recipient of science “junk”.

“It might be too hard to get a steady stream of articles and reviewers who are responsible and contributing quality works.”

“It is very valuable to invest in clear/practical guidelines in order to ensure quality submissions.”

“How many more journals does the market need/want? Even if you get rejected in one journal, you can always just go look for another one that needs publications.”

3.1.2.2. Establishing and maintaining a high quality journal requires a collaborative approach.
Beyond the editorial board structure, a new journal will not survive without a clear development strategy that involves collaboration with programs, networks and other institutional partners. Key informants suggested not only strengthening fellows’ and graduates’ scientific writing skills to ensure high quality submissions but also engaging FETPs in the peer review process.

“...it is not only just launching the journal, but also supporting FETPs every step of the way. That requires funding, money, time, finding/recruiting experts who have skills in publishing. If you don’t do this, you will not have quality articles.”

“Being peer reviewers would help FETPs to analyze their own findings and publications.”

TEPHINET actively engages and supports its regional network affiliates on a number of initiatives. Key informants agreed that establishing a new journal opens up a new opportunity for collaboration and helps raise the profile of the FETP/TEPHINET brand.

“[there would be] more engagement in the region, increased bi- and multilateral collaboration.”

“Builds [the] FETP/TEPHINET brand and could create a virtuous circle of empowering FETPs to do more high quality science...”

“Don’t just think about launching the journal, also think about how to get quality articles from the networks.”

3.1.2.3. What to publish? Novelty vs. Practicality
Key informants’ opinions were varied regarding content that will readily appeal to our community of readers and authors. Some argued in favor of true novelty pieces (e.g., technology and new methodologies) rather than outbreak reports and surveillance evaluations that are already being published by national public health bulletins and may only be relevant at a local level.

“National bulletins publish outbreak and surveillance reports, data of relevance to that country specifically. Therefore, it might be more helpful to share best FETP practices: how to evaluate field epidemiology ethics, how to use technology to train field epis, how to evaluate field epi interventions.”
“Any articles that highlight true novelty and quality in field epidemiology. Publish more methodological pieces that are getting lost in other fields (for example, how to set up a surveillance threshold).”

Others were in favor of pieces that described practical information such as epidemiological reports, surveillance evaluations, evidence-based activities, and outbreak reports that will speak to the functional specificity of the journal.

“Articles should be aligned with the core competency areas. Core areas will be outbreak reports, epidemiological reports, interventional programs, evidence-based activities.”

“The most popular is going to be outbreak investigations (other journals don’t publish these).”

3.1.3. Economic models
Launching a journal requires a financial investment. We asked key informants about the types of funding models they were familiar with and that could be explored in the context of a field epidemiology journal.

Two key informants suggested charging authors at least a nominal amount, although recognizing that it is very difficult to charge money for publishing in a new or unknown journal, especially one without an impact factor. The catch-22 situation is that not charging something can give the impression that the content is low quality.

“It’s hard to get people to pay money to publish or read …. but if you don’t charge to publish/read it can seem like your content is low quality.”

A workaround for this issue could be offering some kind of benefits to TEPHINET/FETP members, for example, waiving the Article Publishing Charges (APCs) or offering free copyediting services. Two key informants recommended this model in order to emphasize the high quality of the content while also reducing barriers to publication.

Subscriptions have long been an important means of financially supporting journal publishing. This was also discussed, but most key informants argued in favor of providing open access to the articles. Open access publishing, however, will require a sustainable source of funding to ensure long-term viability of the journal. The majority of key informants recommended being funded through a line-item budget from either a government agency, a philanthropic organization, or both. One key informant highlighted the importance of government funding in order to avoid having to run publicity. Running ads in a journal can detract from its objective stance and dedication to higher ideals. However, another mentioned that they have a dedicated staff member responsible for obtaining publicity money, and that this model has worked well.

3.1.4. Considerations for partnering with established journals
The idea of producing a special supplement or partnering with an existing journal was also explored during the interviews. There was no general consensus that a partnership might be more effective than creating a new journal from scratch. Before deciding on a partnership approach, a number of factors need to be considered such as the volume of quality articles and enthusiasm for the submission and review process. Some argued that the most important factor should be the willingness and mindset of the partner journal. Below, a summary of one of the key arguments:
“Most journals just want to increase impact factors, and they do not have a vested interest in teaching FETP trainees and graduates. So if, down the road, the quality of FETP articles is not as high as the other articles that the journal receives, it could create friction with the journal. Additionally, most journals see outbreak investigations as “garden variety” or “nothing new” and do not appreciate the value of publishing these kinds of studies.”

It was also recommended that a partnership be conducted as a separate pilot project instead of a replacement for a journal.

“It’s comparing apples to oranges. It has been done before...... Certain journals might be interested. From an effort standpoint it might be good to get scientific output out there without having to invest so heavily, or as more of a pilot.”

Other interviewees did not consider a partnership necessary, either because a journal can be started without much overhead (simply receiving and sending for peer review through email), or because there are existing biases and tendencies against field epidemiology within academic journals. These biases are already ingrained in the peer review process, and most editors and peer reviewers will not appreciate field methodologies nor see their value.

3.1.5. Final thoughts

Final thoughts from key informants included a number of considerations and recommendations to help chart a successful course for this initiative. The editorial board’s role is most crucial during the early years, and it was recommended to comprise not only senior experts for credibility, but also less experienced individuals who will be keen to take on some work to establish their name and reputation.

“Do not go directly for big names, rather look for people who will work hard. Maybe have a few big names to give credibility, but not focus on that.”

“The most important thing to start off with is your editorial policy.... Then get a group of dedicated people passionate/enthusiastic about your mission to build goodwill.”

Trying to get ‘hot’ papers in the field and convincing people to submit to an unproven journal would be major challenges in the early days. One way to ensure a steady stream of articles could be by supporting FETP fellows and graduates who have investigated something sound and of significance to publish their findings in the journal. One key informant suggested making this explicitly a “training” journal.

“We should do what we do at the conferences, figure out how to leverage FETP capital to help each other. We should push FETP participants to publish first and then just share the abstracts at the meetings.”

“...the strategy should be to make this explicitly a ‘training’ journal that enhances TEPHINET capacity. Therefore, this would require more support for the authors, just as TEPHINET supports its trainees/fellows.”

Although key informants highlighted major barriers to publishing (also explored in our accompanying market research survey), they also recommended potential interventions to improve the overall quality of the submissions.
“Most countries have low levels of (writing) English together with low desire to publish. Some countries don’t prioritize publishing at all. So each FETP program should teach publishing on their own.”

“Workshops and training are good for setting the baseline for a certain level of understanding between the journal and participants/potential future authors. Usually quality improves when someone is submitting their second or third article to the journal, you can see that they appreciate the feedback and they are incorporating it.”

Finally, collaboration is a powerful and effective way to maximize the impact and longevity of the journal as depicted in the quotes below.

“TEPHINET’s approach is really wonderful, there’s a ‘spirit of collaboration across cultures’ and it would be wonderful to capture that spirit in a journal.”

“It will require a lot of stakeholder engagement, making stakeholders feel a sense of ownership.”

For the past 24 years, TEPHINET has been able to successfully cultivate a global spirit of collaboration in the network through a common vision and purpose. With this accomplishment already under our belt, we will continue to create the conditions that encourage program engagement and help establish the journal’s credibility.

3.2. Market research survey results

3.2.1. Respondent characteristics

The survey was sent out to any affiliates of an FETP and no filters were placed on who could respond. However, for the purposes of this analysis, only current FETP trainees or FETP graduates were included in the final sample size. While we received the responses of 33 individuals who were affiliated with an FETP in a professional capacity, they were excluded from the final analysis for never having trained at a FETP. Many of these non-FETP graduates were program coordinators, mentors, instructors, or otherwise worked closely with FETPs. Some of their comments have been retained and included in the “Final remarks and comments” sub-section of this document.

Of the 278 FETP current trainees and graduates, the most represented group in the market research survey was graduates of an Advanced FETP program: 151 (54.3%) graduated from an Advanced FETP. Only 21 (7.6%) had graduated from an Intermediate program, 66 (23.7%) from a Basic or Frontline program, and 40 (14.4%) had not yet graduated from an FETP. Many

Figure 1: Participant flow diagram

Survey link sent out through the TEPHINET newsletter, by email to regional and country FETP directors, and posted on TEPHIConnect

332 responses received

21 did not answer any questions beyond the welcome page

311 responses received

33 had never graduated from an FETP and were not currently training with an FETP

278 final sample for analysis
respondents had more than one overlapping relationship with their FETP; for example, many graduates continued working as a coordinator or in another capacity at their FETP after graduation. Only 23.7% of the survey respondents had absolutely no current relationship to their program, meaning that they left their FETP after graduation to work/study in another institution. Almost a third (30.2%) of the FETP trainees/graduates were currently an FETP supervisor, mentor, or instructor.

Africa was the most represented region, with 113 (41.5%) respondents, followed by the Americas with 64 (23.0%), Southeast Asia with 38 (13.7%), Western Pacific with 25 (9.0%), Eastern Mediterranean with 18 (6.5%), and lastly Europe with 16 (5.8%). In terms of the gender composition of the sample, men were slightly more represented, with 148 (53.2%) men and the rest women (while an option was provided to self-identify, all survey respondents selected one of the two gender binary options). The participants had an average time working in field investigations of 7.01 years, but with a wide standard deviation (±5.38). Participants tended to rate their skills in academic or scientific writing, writing in English, scientific methodology and study design, literature reviews, and statistical analysis as “average” or “good”. See Table 1 for a detailed breakdown of respondent characteristics.
3.2.2. Previous academic publishing experience

Almost two-thirds (63%) of the survey respondents had already been a co-author on a paper submitted to a peer-reviewed journal. However, less than half (46.9%) of the total survey respondents had ever been first author on a paper submitted to a peer-reviewed journal. Almost half of the total respondents had achieved a successful publication in a peer-reviewed journal as either co-author or first author. Those who had never been a co-author were not asked about first authorship or publication success and skipped this section; the results of this survey are shown in Figure #2.

Table 1: Survey respondent characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FETP graduation status, n (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Never graduated from an FETP</td>
<td>40 (14.4%)</td>
</tr>
<tr>
<td>Graduated Basic/Frontline</td>
<td>66 (23.7%)</td>
</tr>
<tr>
<td>Graduated Intermediate</td>
<td>21 (7.6%)</td>
</tr>
<tr>
<td>Graduated Advanced</td>
<td>151 (54.3%)</td>
</tr>
<tr>
<td><strong>Current relationship to an FETP, n (%)</strong></td>
<td></td>
</tr>
<tr>
<td>No current relationship to an FETP</td>
<td>66 (23.7%)</td>
</tr>
<tr>
<td>Basic/Frontline Trainee</td>
<td>22 (7.9%)</td>
</tr>
<tr>
<td>Intermediate Trainee</td>
<td>14 (5.0%)</td>
</tr>
<tr>
<td>Advanced Trainee</td>
<td>63 (22.7%)</td>
</tr>
<tr>
<td>Supervisor/Mentor/Instructor</td>
<td>84 (30.2%)</td>
</tr>
<tr>
<td>Other*</td>
<td>48 (17.3%)</td>
</tr>
<tr>
<td><strong>FETP location (WHO Regions), n (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>113 (40.6%)</td>
</tr>
<tr>
<td>Americas</td>
<td>64 (23.0%)</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>38 (13.7%)</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>25 (9.0%)</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>18 (6.5%)</td>
</tr>
<tr>
<td>Europe</td>
<td>16 (5.8%)</td>
</tr>
<tr>
<td><strong>Gender, n (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>126 (45.3%)</td>
</tr>
<tr>
<td>Male</td>
<td>148 (53.2%)</td>
</tr>
<tr>
<td><strong>Years conducting field investigations, mean (± SD)</strong></td>
<td>6.74 (±5.18)</td>
</tr>
<tr>
<td><strong>Self-described ability levels (scale of 1-5), mean (± SD)</strong></td>
<td></td>
</tr>
<tr>
<td>Academic or scientific writing</td>
<td>3.68 (± 0.77)</td>
</tr>
<tr>
<td>Writing in English</td>
<td>3.46 (± 0.89)</td>
</tr>
<tr>
<td>Scientific methodology and study design</td>
<td>3.68 (± 0.79)</td>
</tr>
<tr>
<td>Literature reviews</td>
<td>3.60 (± 0.82)</td>
</tr>
<tr>
<td>Statistical analysis</td>
<td>3.41 (±0.82)</td>
</tr>
</tbody>
</table>

* “Other” relationships included working as a coordinator, advisor, officer, or any other kind of collaborative role with an FETP.
Clear differences emerged when analyzing the survey demographic characteristics and previous success in publications. Almost two-thirds of Advanced graduates (63.6%) had a previous successful publication, yet only 38.1% of Intermediate and 27.3% of Frontline/Basic graduates had any of their articles accepted (either as first or co-author). It was interesting to note that only 54.8% of the FETP supervisors, mentors, and instructors had a successful publication—lower than the proportion of successful publications in the Advanced graduate group. The Western Pacific region had the highest proportion of respondents with a successful publication (80.0%) while Africa had the lowest (35.4%). Gender differences were also apparent: slightly more than half of the women never had a successfully-published article (54.0%), while slightly more than half of the men had a successfully published article (52.0%).

Figure 2: Survey respondent experiences with the publishing process
These differences could be explained by differences in experience and/or skill sets, although causality cannot be established in this merely cross-sectional survey. With that being said, differences were significant between the “successful previous authorship” and “no previous publications” group in terms of years of experience and self-rated skills. Those respondents with a previously successful publication had almost four more years of experience conducting field epidemiology investigations than those without a previous publication (8.64 ±5.79 vs 4.89±3.98, respectively). The successful previous authors also consistently rated their skills as higher than those without successful publications, rating their academic writing abilities as 3.98 (vs 3.38), their English writing abilities as 3.75 (vs 3.17), their scientific methodology and study design as 3.97 (vs 3.41), literature reviews as 3.87 (vs 3.34), and statistical analysis as 3.61 (vs 3.21).

* "Other" relationships included working as a coordinator, advisor, officer, or any other kind of collaborative role with an FETP.

\[ \text{Differences between those in the “previous successful publication” and “no previous successful publication” were statistically significant on a Student t-test for independent means (p<0.001).} \]
methodology skills as 3.97 (vs 3.41), their literature review skills as 3.87 (vs 3.41), and finally their statistical analysis skills as 3.61 (vs 3.21). Differences between all variables when grouped by the “previous successful publication” and “no previous successful publication” were statistically significant on a Student t-test for independent means (p<0.001).

3.2.3. Interest in publishing
Our survey respondents were heavily interested in publishing an academic article within the next 12 months: 249 of the 278 respondents (89.6%) reported being interested. Of those indicating an interest in publishing, the most frequently reported motivation was “to share my knowledge with my professional community and participate in my scientific field” (77.3%). Respondents could select multiple motivations, and “to advance my career/improve my CV” was reported by 56.8% of the sample, “to make a difference in society and the world” by 47.4%, “to meet my program or job requirements” by 28.1%, and “because I belong to an FETP/research group that publishes” by 18.3%.

<table>
<thead>
<tr>
<th>Motivations to publish (among those interested in publishing, n=249)</th>
<th>n (%)</th>
<th>Perceived barriers to publication (among those not interested, n=24)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To share my knowledge with my professional community and participate in my scientific field</td>
<td>215 (77.3%)</td>
<td>I don't have any findings to publish</td>
<td>9 (37.5%)</td>
</tr>
<tr>
<td>To advance my career/improve my CV</td>
<td>158 (56.8%)</td>
<td>I don't have enough time</td>
<td>7 (29.2%)</td>
</tr>
<tr>
<td>To make a difference in society and the world</td>
<td>108 (47.4%)</td>
<td>I don't know where I could publish my findings</td>
<td>5 (20.8%)</td>
</tr>
<tr>
<td>To meet my program or job requirements</td>
<td>78 (28.1%)</td>
<td>I don't have any motivation/incentive to publish</td>
<td>4 (16.7%)</td>
</tr>
<tr>
<td>Because I belong to an FETP/research group that publishes</td>
<td>51 (18.3%)</td>
<td>My English writing skills are not proficient</td>
<td>3 (12.5%)</td>
</tr>
<tr>
<td>Other*</td>
<td>8 (2.9%)</td>
<td>I don't know where to start</td>
<td>1 (4.2%)</td>
</tr>
</tbody>
</table>

*Selected other motivations: “It’s necessary to transmit applied COVID-19 experience”, “Personal motivation”, “To get my work evaluated by high-class professionals in my field”, “To improve my colleagues’ practice”, “To improve my scientific writing and statistical knowledge”, and “Unless you publish it, it is like you did not do it.”

Table 3: Interest in publishing

Of those who indicated not being interested in publishing an academic article within the next 12 months, the most frequently reported reason was, “I don’t have any findings to publish”, reported by 9 of the 24 individuals with no interest in publishing (37.5%). Other reasons included “I don’t have enough time”, reported by 7 respondents (29.2%), “I don’t know where I could publish my findings” reported by 5 respondents (20.8%), and the other less-frequent reasons listed in Table 3. While “I am not a good
“I don’t like writing” and “Publishing is only for more experienced professionals” were available options, they did not receive any responses.

3.2.4. Qualities sought in a journal

To better understand the “product” that FETP trainees and graduates would be interested in, respondents were asked to select the top three qualities they seek when choosing a journal to publish in. In general, the most important qualities sought in a journal were the impact factor (61.1% of the respondents indicated this was an important quality for them), the journal subject matter (59.7%), and a low price or no publishing fee (41.6%). Those who had published before placed relatively more emphasis on impact factor and low article processing charges. Those who had not previously published an article placed relatively more emphasis on the journal language, a short submitting and reviewing timeline, and clear communication with the journal editors and peer reviewers. These qualities should be explored in greater detail in future interviews to better understand the needs of new authors.

Table 4:Ideal qualities sought in a journal

<table>
<thead>
<tr>
<th>Qualities sought in a journal (Exactly three selections allowed)</th>
<th>Previous successful publication</th>
<th>No previous successful publication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n ) (% of people in this category selecting this quality)</td>
<td>( n ) (% of people in this category selecting this quality)</td>
<td>( n ) (% of people in the sample selecting this quality)</td>
</tr>
<tr>
<td>Impact factor</td>
<td>78 (67.8%)</td>
<td>60 (54.5%)</td>
<td>138 (61.1%)</td>
</tr>
<tr>
<td>Journal subject matter</td>
<td>69 (59.5%)</td>
<td>66 (60.0%)</td>
<td>135 (59.7%)</td>
</tr>
<tr>
<td>Low price/no publishing fee</td>
<td>58 (50.0%)</td>
<td>36 (32.7%)</td>
<td>94 (41.6%)</td>
</tr>
<tr>
<td>Clear communication with journal editors and peer reviewers</td>
<td>42 (36.2%)</td>
<td>43 (39.1%)</td>
<td>85 (37.6%)</td>
</tr>
<tr>
<td>Language of the journal</td>
<td>30 (25.9%)</td>
<td>45 (40.9%)</td>
<td>75 (33.2%)</td>
</tr>
<tr>
<td>Short submitting and reviewing timeline</td>
<td>25 (21.6%)</td>
<td>32 (29.1%)</td>
<td>57 (25.2%)</td>
</tr>
<tr>
<td>Name recognition (the journal is famous)</td>
<td>20 (17.2%)</td>
<td>28 (25.5%)</td>
<td>48 (21.2%)</td>
</tr>
<tr>
<td>Easy formatting instructions</td>
<td>24 (20.7%)</td>
<td>19 (17.3%)</td>
<td>43 (19.0%)</td>
</tr>
<tr>
<td>Editors I know</td>
<td>3 (1.7%)</td>
<td>2 (0.9%)</td>
<td>5 (1.3%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>116 (100%)</td>
<td>110 (100%)</td>
<td>226 (100%)</td>
</tr>
</tbody>
</table>
3.2.5. Preferences in reading and writing journal articles

Analysis of ways potential writers and authors would interact with a TEPHINET field journal was conducted, with emphasis on the journal language and article formats. Questions about writing/publishing were only asked to those who indicated an interest in writing/publishing articles over the next 12 months (249 respondents) while questions about reading were asked to the entire sample of 278 individuals.

Table 5: Article format and language preferences

<table>
<thead>
<tr>
<th>Preferred Language</th>
<th>Reading n (%)</th>
<th>Writing/Publishing n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>215 (77.3%)</td>
<td>190 (68.3%)</td>
</tr>
<tr>
<td>Portuguese</td>
<td>58 (20.9%)</td>
<td>53 (19.1%)</td>
</tr>
<tr>
<td>Spanish</td>
<td>45 (16.2%)</td>
<td>24 (8.6%)</td>
</tr>
<tr>
<td>French</td>
<td>35 (12.6%)</td>
<td>24 (8.6%)</td>
</tr>
<tr>
<td>Otherb</td>
<td>18 (6.5%)</td>
<td>11 (4.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article Formats</th>
<th>Reading n (%)</th>
<th>Writing/Publishing n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbreak investigation</td>
<td>212 (76.3%)</td>
<td>188 (67.6%)</td>
</tr>
<tr>
<td>Evaluation of surveillance systems</td>
<td>177 (63.7%)</td>
<td>154 (55.4%)</td>
</tr>
<tr>
<td>Original research articlec</td>
<td>161 (57.9%)</td>
<td>143 (51.4%)</td>
</tr>
<tr>
<td>Report on innovations and new methodologies in field epidemiology</td>
<td>132 (47.5%)</td>
<td>79 (28.4%)</td>
</tr>
<tr>
<td>Literature reviewd</td>
<td>129 (46.4%)</td>
<td>57 (20.5%)</td>
</tr>
<tr>
<td>Health policy analysis</td>
<td>94 (33.8%)</td>
<td>55 (19.8%)</td>
</tr>
<tr>
<td>Commentary/perspective/ viewpoint</td>
<td>62 (22.3%)</td>
<td>30 (10.8%)</td>
</tr>
</tbody>
</table>

a Multiple selections allowed
b Other: Arabic, Chinese, Indonesian, Italian, Malay, Russian, Swahili, Thai, and Turkish
c Includes clinical trials and observational studies
d Includes systematic reviews and meta-analyses

In general, respondents were more inclusive of reading in different languages and article formats than in writing/publishing. For example, 215 respondents (77.3%) indicated that they would like to read articles in English, but only 190 (68.3%) indicated an interest in writing articles in English. The same differences were apparent in French (12.6% interest in reading, but 8.6% interest in writing) and Spanish (16.2% interest in reading, but 8.6% interest in writing). Interest in reading a wide range of articles was also consistently higher than writing/publishing. For example, 212 (76.3%) of the respondents reported an interest in reading outbreak investigations, 177 (63.7%) in reading evaluations of surveillance systems, and 161 (57.9%) in reading original research articles. The lower levels of interest corresponding to each of these categories can be consulted in Table #5. The largest contrast between interest in reading and writing/publishing was apparent in literature reviews, with 46.4% of the sample interested in reading
this type of article (including systematic reviews and meta-analyses) but only 20.5% interested in writing a literature review.

3.2.6. Final remarks and comments

At the end of the survey, the idea of a TEPHINET field epidemiology journal was presented, as well as an open space to receive any suggestions for promoting field epidemiology scientific output. Support for the idea of a TEPHINET field epidemiology journal was overwhelmingly positive, as captured by several comments here (comments have been edited for grammar and brevity):

- That would be amazing! It will be a great channel for FETP trainees and graduates to share and immortalize their scientific research for the benefit of many, especially our fellow field epidemiologists. Yes, I would love to publish whenever time permits and will definitely be including this one to my reading journals.

- This is indeed a very good idea. Steps should be taken earlier to launch such a journal. This will provide a platform where fellows and alumni will have the opportunity to share their knowledge, work and experience with each other and with the world far easier than other journals.

- Good idea to provide a vehicle for more front-line reports, analysis and commentary. I would definitely be interested in participating in peer review and reading the journal.

- I’m glad to see this initiative. I’m also interested to submit manuscripts for the journal to be published. I will read the articles that are published in TEPHINET Field epidemiology journal. If possible, I wish to be a reviewer or any technical assistance.

- As a FETP program supervisor, our trainees would be interested in publishing in a TEPHINET field epidemiology journal because not all journals understand the goals for FETP. All our trainees are required to publish a peer-reviewed article to graduate. However, the long review process and high publication fee has become an obstacle for our trainees. Hope TEPHINET can create a FETP-friendly journal.

- Yes, I think this could help FETP or FELTP trainees and graduates to share their experience to the world. Most importantly, this could provide an opportunity for people understanding field epidemiology.

- It would be helpful to have a journal focused on the area of field epidemiology. I would be interested in reading articles. If it is free of charge to publish and is free for everyone to access the articles, then I would consider publishing with the journal.

- Yes, but with caveats. There needs to be a clear justification why a new journal is needed and how this new journal is different/complementary to establish journals with considerable field epidemiology content such as Eurosurveillance and Global Biosecurity. No author fee gold open access would be an incentive.

- I think it is an excellent idea, but it is necessary for the magazine to be bilingual so that the article will be easy to read for the country where the research was carried out. This will allow more access to reading for health professionals who have no knowledge of a language other
than their native language. For the scientific community and other field epidemiologists, the most appropriate language for TEPHINET will probably be English. If we want our country to value science and value field epidemiology, we have to make publications accessible so that it will be easier to understand the importance of field epidemiology in global health interventions.

Following the more directed question about the TEPHINET field epidemiology journal, an open space was made available for respondents to share any additional comments they wished to bring to TEPHINET's attention. Most of the comments were related to the challenges that field epidemiologists are facing in different regions of the world and requests for support to overcome these issues. Other suggestions included adding more digital/future-thinking elements to the journal and approaching the journal from a One Health perspective.

- Please make the price of submitting or publishing articles affordable, especially when it comes to developing countries. Many African researchers do not have access to research funds, which does not allow them to publish in expensive journals even though the quality of their work is impeccable.

- TEPHINET should have a digital health component of this journal that allows publication of Jupyter Notebooks and digital case studies with Python code and living notebooks of science. Lancet Digital Health is an example of this type of revolution in scientific publication. TEPHINET should also build for the future.

- A One Health oriented approach including the human-livestock-environmental-wildlife interface would be excellent!

- I think this is a great initiative. I feel that there is a gap in journals aimed at publishing outbreaks, inclusive, most journals do not understand the ethical aspects and the epidemiological method applied to respond to public health emergencies, which are very different from academic works.

- This is a fantastic idea. I was the founding editor for the Western Pacific Surveillance and Response Journal (WPSAR) at WHO (2010-2011). This journal was founded to support inexperienced authors publish their work on the surveillance of and response to public health events. In particular, trainees and graduates of FETPs in the region were encouraged to publish their work. There is a gap for a similar journal globally. I think there are many lessons from WPSAR that would apply to this new journal. The TEPHINET journal would need to have no article processing fees, be open access, be indexed in PubMed, and have a relatively quick peer-review/editing time. There would also be the benefit of a pre-submission service where authors could get assistance before their manuscript goes out for peer review if the manuscript needs substantial improvement. Support for English language editing is also helpful if the journal is in English and English is not the author's first language.

- The challenge is balancing the need for credibility (high quality articles) and opportunity for the field epis (subjects perhaps not novel, but of broad interest). The key is to have honest peer review of papers and some coaching built into the process (on language, technical aspects, etc.).
3.3. Expert working group

3.3.1. Journal breakout group

3.3.1.1. Journal scope
The journal breakout group agreed that the journal purpose and scope will be the compass to guide all other efforts. TEPHINET should not only produce a journal just for the sake of producing a journal, but rather attempt to communicate key information to the target audience. The target audience will, in turn, influence the journal’s mission, vision, and goals.

When defining the scope, the focus should definitely be on field epidemiology. However, this focus will inherently cause complications as field epidemiology is a “tool kit” that can be applied to a wide range of situations, meaning that any field epidemiology journal will inherently have a very broad scope. Additionally, although field epidemiology is not very well understood outside of the field, its findings are essential for decision making in public health. Therefore, any scope should keep an eye to public health decision-making. TEPHINET could start by focusing on what its trainees and graduates need in a journal and then expand from there; in other words, broaden the scope as the journal finds more success.

3.3.1.2. Journal Content
There is a clear niche for an outlet or forum for applied epidemiology research that encompasses the topics that field epidemiologists deal with in practice. These topics include: infectious diseases, chronic diseases, injuries, disasters, and the epidemiology of health services. In terms of the type of content, journals typically do not consider outbreak reports to have a high level of evidence. However, in the area of field epidemiology, these reports may be the most complete information available for decision-making.

While the internet has increased the number of international journals available, outlets for FETPs to publish are still missing. While FETP trainees and graduates are required to prepare and publish field epidemiology reports, there is no designated journal for them to publish in. Additionally, there is a lack of journals with a focus on zoonotic and One Health approaches.

3.3.1.3. Finding content
The breakout group members warned that TEPHINET should not underestimate the huge workload involved with finding articles and peer reviewers. Based on previous experiences, one paper may need to be sent to up to 20-30 potential reviewers before getting an appropriate peer review report. Other journals have a great deal more resources for publishing articles on many different topics—a TEPHINET journal will not have as many resources at the beginning of this initiative.

It is especially difficult to get contributors when a journal is starting up, as many people want to be associate editors but very few want to be reviewers. Without a popular name and reputation, people are not as willing to help. However, TEPHINET’s advantage is the existing audience of trainees and fellows, and the ability of the network to leverage its participants. For example, TEPHINET could include peer reviewing as part of the curriculum for FETPs, or take advantage of existing mailing lists and listservs to send out requests for articles and reviewers.

3.3.1.4. Human resources
An advisory board will certainly be required at the early stages of a TEPHINET journal, but then this board can disband once the journal is established. Then the journal will require an editorial board, dedicated to writing editorials, finding reviewers, and establishing connections. It will be essential for
the editorial board to be engaged and for TEPHINET to keep the momentum going, as many board members serve on more than one editorial board. One of TEPHINET’s strengths is that it already has an established culture and buy-in from potential board members/contributors.

Many peer reviewers feel saturated with so many requests to review, which is why they are a special human resource to be managed carefully. For recruiting, “cold invites” to review are usually not successful, but they can generate new reviewers. Editors should convince peer reviewers that it is worth their time and also screen articles to ensure that only articles with potential to publish are actually sent out.

3.3.1.5. Funding
At a bare minimum, a journal would require two and a half full time positions: a managing editor, a full time copy editor, and an editor-in-chief spending 30% of their work time with the journal. Additional costs might include copy editing of certain articles, design services, and subscription managers. A web-based journal would incur costs associated with pre-designed journal software or up-front costs for developing a proprietary platform, in addition to continuous costs for hosting, maintenance, and enhancements. Associate editors are all volunteer-based, as are peer reviewers. Certain journals publish supplements as a way of bringing in additional money and supplementing their basic income. Attempting to start up with minimal costs implies relying on the good will of volunteers, which would also imply a bit more human resources management.

3.3.2. Supplement breakout group
As context, a supplement is a separate project involving a publication on top of the normal publishing cycle, and the standard journal team is not involved. This is in contrast to a special feature, which is a highlighted area within a normal journal issue. Special features have between six and eight original articles/commentaries based on a certain theme (and typically do not involve an additional cost).

3.3.2.1. Benefits of a supplement
The most salient benefits identified by this working group included the supplement’s potential to be a good marketing tool (for World Field Epidemiology Day, for example), a feasible first step/pilot toward a field epidemiology journal, and a supportive platform with mentorship to encourage early-career FETP trainees and graduates to publish. TEPHINET should establish if this is a pilot of a field epidemiology journal, or if it is intended to be a standalone supplement with a unique goal. This decision will shape how the supplement process is managed. If TEPHINET decides to publish this supplement as a pilot of a field epidemiology journal, this supplement could provide the audience with an advanced look at the type of content they could expect.

3.3.2.2. Potential drawbacks of a supplement
While a supplement would certainly be a lower investment than a full scientific journal, it would still involve a very substantial investment (typically between $25,000-45,000 USD, but sometimes up to $100,000 USD). If TEPHINET partners with a journal that is not already dedicated open access or if the partner journal levies article processing charges, funding will have to come from somewhere. The fact that many moving pieces would have to come together before September of 2021 makes this timeline seem tight.
3.3.2.3. Management of the supplement process
Editors will need to be chosen to guide the process and selection of content. Additionally, a profile of peer reviewers will need to be defined for recruitment processes and ensure that they give authors the best feedback to improve their writing. These reviewers must also be mentors (or if not possible, additional mentors may be needed). This supplement may not be a traditional supplement, because of the profiles of our authors, who, because of their inexperience, may need additional guidance especially in English writing help or academic writing support.

3.3.2.4. Selection of a partner journal
When seeking out a partner journal for this supplement, TEPHINET should focus on journals that are within more of a public health/infectious disease sphere, with a flexible team understanding that the scope of the articles will be different. TEPHINET will need to match the content/purpose of the articles to the journal to ensure that those using the journal will benefit the most from it. When selecting a journal, it is important to remember that the impact factor is not always the most accurate reflection of quality, prestige and reach.

Given TEPHINET’s focus on training field epidemiologists, the partner journal’s managing editor and supporting team (journal staff or team created for supplement) must be willing to work with FETPs to make the work publishable. Of course, the final published supplement articles will still have to attain the quality level of regular journal articles. To accomplish this, TEPHINET may need to implement certain checks and have activities in place to ensure that FETPs can learn and develop skills, not just submit and receive a decision letter without the valuable back-and-forth exchange.

TEPHINET should not feel limited to partnering with only one journal, but instead could partner with several journals in order to reach different audiences. These collaborations could be ongoing, and for example, feature a column (1-2 articles) highlighting work in the field. Some journals have a “Notes from the Field” section that is used to publish short but important articles on the work that field epidemiologists are doing.

3.3.3. National public health bulletin digest
Before exploring strategies to strengthen national public health bulletins (NPHBs) and possibly including them in a TEPHINET digest, the breakout group discussed NPHBs’ unique characteristics. The most salient difference between an NPHB and a scientific journal is that an NPHB is focused on communicating risks at a national level, providing timely information for rapid action, and supplying a platform for the government voice on public health. This is in contrast to scientific journals that publish content that has been tested through the scientific method and vetted by other scientists. As these journals imply a certain degree of vetting of information, the publication timeline is longer than with bulletins. Therefore, scientific journals are not the place for rapidly communicating risks and calling for action (especially not national or governmental action). With all this said, the members of the breakout group agreed that both NPHBs and scientific journals are worthy and necessary, required platforms for FETPs to publish in, and should be supported. They should not be seen as equivalents or substitutes. Both platforms can motivate FETPs to greater scientific production, as FETP affiliates are motivated to publish in both venues.
3.3.3.1. Defining TEPHINET’s role
If TEPHINET was adamant about strengthening NPHBs, it could work specifically with strengthening these bulletins on a regional level. For example, TEPHINET could collaborate with regions where regional bulletins already exist, and assist regions on how to start a bulletin in areas where they do not have bulletins as of yet. TEPHINET could also contribute by providing scientific writing trainings and helping to distribute the information published in NPHBs, although the FETP in each country should be the entity to directly support their own country’s NPHB.

The breakout group believes that what the FETPs need most urgently is to combine resources to improve the FETPs’ scientific output (namely, improve trainees’ abilities to do outbreak investigations and write publishable articles); while it would be interesting to launch an NPHB digest, this model does not provide author development opportunities. The bulletin might be interesting for readers to read, but it would not include this essential focus on training.

TEPHINET should commence by identifying the niche that it can fill. FETP fellows/trainees have a strong desire to publish, but often struggle to do so, meaning that this is a gap that could be filled by TEPHINET. After recognizing this niche, TEPHINET can take advantage of its network to leverage local resources and deploy capacity-building resources to work with each country/region to provide trainings. These resources should only be deployed once TEPHINET has a full idea of each region’s needs and capacities. Finally, and due to TEPHINET’s role on an international, regional, and local level, the network can play an important role in coordination. For example, TEPHINET could facilitate regional publications featuring authors from different countries collaborating on a single topic. TEPHINET could also coordinate regional publication efforts by ensuring consistent availability of peer reviewers and an equitable distribution of information across an entire region to ensure widespread scientific production.

3.3.3.2. Co-publishing model
After discussing the unique roles that NPHBs and scientific journals both have, it is clear that they should both be supported and encouraged in the context of FETPs. The breakout group members believe that there is no possible downside to having an article published in both a national and a regional/international publication. One such simple relationship between a journal and NPHBs would be to have a “trainers’ corner” of the journal, where early career authors are given extra support to publish.

The ideal situation would be to have a formal partnership between a journal and an NPHB where they support each other in creating and sharing high quality scientific content, as is the case with *Morbidity and Mortality Weekly Report* (MMWR) and the Ghanaian NPHB. In this model, the authors can publish an initial report in an NPHB and then expand it into a full article manuscript for the scientific journal. TEPHINET could even explore mechanisms to allow national bulletins to advise the regional bulletins of especially interesting content, and then these regional bulletins could reach out to the authors to offer them trainings to turn their initial report into a quality scientific article.
4. Discussion and conclusions
It is apparent that field epidemiology is in need of a high quality and specialized field epidemiology journal that recognizes this field’s unique methodologies. Despite this clear-cut need, the scientific publishing structure is decades old and already established with a unique set of restrictions and paradigms. Attempting to navigate the existing publishing structure will require thoughtful planning and strategic efforts on TEPHINET’s part.

At the same time, on the supply side, producing scientific content is a time- and energy-consuming endeavor. Most FETP fellows and graduates require coaching and motivation to produce high quality academic writing (in addition to scientific and methodological advising). While it is a difficult undertaking, the vast majority of FETP trainees and graduates are enthusiastic about participating in a TEPHINET-led scientific publishing strategy.

The TEPHINET Secretariat finds itself in a unique position to spearhead initiatives to support academic publishing in the field epidemiology community. Yet only with a clear collaborative strategy, strong editorial policies, and stakeholder buy-in can TEPHINET spearhead this initiative. Partnerships and collaborations will be key to maximize the impact, gain a wider audience, and discover new sources of support.

5. Updates
While a unique TEPHINET field epidemiology journal continues to be TEPHINET’s long-term goal, the TEPHINET Secretariat chose to pursue the journal supplement option as the most feasible and impactful intervention at the moment.

The expert working group’s input was fundamental to the decision making process. TEPHINET was cognizant of the possible benefits a supplement could bring: a good marketing tool for the science of field epidemiology, a feasible pilot towards a journal, and a supportive platform that encourages early-career FETP trainees and graduates to publish. We also considered any possible drawbacks, including the financial investment, a tight timeframe, difficulty recruiting appropriate peer reviewers, and identifying a partner journal aligned with TEPHINET values.

The TEPHINET Secretariat—through its Network and Global Scientific Collaboration area—has successfully secured funding, selected and signed a non-commercial agreement with the *International Journal of Infectious Diseases*. This agreement was made after gathering information across a wide range of potential journals to understand their scope and perspectives on field epidemiology. The *International Journal of Infectious Diseases* (IJID), published monthly by the International Society for Infectious Diseases, is a peer-reviewed, open-access journal ranked 38/93 of Infectious Diseases Journals and a five-year impact factor of 3.315. The interest areas of the IJID are epidemiology, clinical diagnosis, treatment, and control of infectious diseases, with particular emphasis placed on under-resourced countries. While IJID typically charges an article processing fee for open access, the funding secured by TEPHINET means that publishing an article in the Field Epidemiology Supplement will be free of charge for all authors.

We also considered results of the market research survey results (specifically the data contained in Table 5: Article format and language preferences) to guide the formats of the articles accepted. The
articles can discuss infectious/communicable diseases, non-infectious/non-communicable diseases, and other topics in the formats of: outbreak investigations, evaluations of surveillance systems, original research articles, and articles describing innovations and new methodologies in field epidemiology. Finally, TEPHINET proposed a pool of over a hundred reviewers to potentially call upon to review articles to mitigate any issues that could have arisen from peer reviewers not understanding FETPs.

The commemoration of the first World Field Epidemiology Day (September 7, 2021) was an ideal timeline to aim for the launching of TEPHINET’s first scientific journal supplement. World Field Epidemiology Day is a global movement to recognize and raise awareness of field epidemiologists’ vital role in protecting populations’ health. This movement aims to advance global health security and advocate for increased investment in field epidemiology training, research, and professionals.

Supplement readers will be drawn from both the field epidemiology community and from the general public. Readers from the field epidemiology community will include FETP trainees/fellows and alumni, program support staff, and affiliates. Other readers will include those from the broader fields of public health, health security, epidemiology, and adjacent fields. Additionally, this supplement is expected to be shared widely with the general public, and articles will be written in such a way to allow for their appreciation by a lay audience.

The TEPHINET Secretariat remains deeply grateful to all who participated in the defining this strategy to guide TEPHINET’s support of scientific publishing. Our appreciation goes out especially to the interviewees, the market research survey respondents, the working group experts, and internal TEPHINET staff (both full-time and interns) who collaborated to make this strategy possible.
6. Appendix

6.1. Key informant interview questions

[Introduction of interviewers and study purpose. Clarify that all of these questions are simply to hear the experiences of senior editorial staff who are also involved in field epidemiology.]

1. What has been your experience with starting a journal or participating in an Editorial Board?
   a. For example, how long have you been at this position?
   b. What do your responsibilities entail?

2. What kind of supervisory activities have you carried out to support early career epidemiologists in writing and publishing?
   a. For example, being a PI, supervising a thesis, leading a research group that publishes.

3. Thinking of these epidemiologists that you have help to write/publish, what are their biggest weaknesses? Biggest barriers to publish?

4. Do you believe there is a lack of space for FETP grads/trainees to publish? If so, what would filling this gap entail? (i.e. scope)

5. We are interested in created a journal dedicated to publishing articles by FETP member programs. What is your perspective on this initiative?
   a. What would you see as the benefits?
   b. What would you see as drawbacks?
   c. If we did, what type of articles do you think would be the most valuable to accept? (For example, case reports, surveillance evaluations, literature reviews, original research, commentaries?)

6. Do you think creating a special supplement or partnering with an existing journal to publish FETP member articles would be more effective than creating a new journal from scratch?

7. What types of funding models are you aware of or have you participated in?
   a. For example, subscription-funded or open access
   b. What was your experience with that type of model?

8. How is the editorial board structured at the journal you are collaborating with?
   a. How many editors/associated editors do you have?
   b. What auxiliary staff does the journal have?

9. Do you have any further comments to share on how we could assist FETP member programs with increasing scientific output?
   a. For example, is there something that TEPHINET could provide in parallel with the journal to walk the authors through the writing/submission process?