

# Expanding the reach of clinical pharmacology and pharmacometrics in Africa: A French-version of an on-line training course

## Authors

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## Background

Although Africa is facing a high incidence of diverse diseases, pharmacometrics that would help reducing disease burden is less developed. Pharmacometrics Africa, in collaboration with local research organisations and academic groups, have reached over 350 scientists with English-language training courses (Figure 1).

During a clinical pharmacokinetics workshop in Rwanda, it was noted that more than 25 % of delegates might have benefitted if French translation was available. French is spoken in 29 African countries, among which 21 states use French as an official language (Figure 2). Therefore, a team of pharmacometrics Africa had a great idea to translate in French the existing English teaching materials previously used in pharmacometrics courses [1-2]. This poster aims to describe efforts to expand the 12-week online clinical pharmacology and pharmacometrics training to French-speaking scientists, from 2022.11.01 to 2022.03.10.

## Methods

French-speaking pharmacometricians used the English on-line course [1-2] to set-up a French version on the Moodle e-learning platform, with a five-steps approach (Figure 3). The English self-study content pages were transcribed using Google Translate, and finalized by French subject matter experts. Original English lecture slides were used to present a "voice-over" version in French during a recorded ZOOM meeting. A shared drive facilitated work-sharing while the course was being developed.

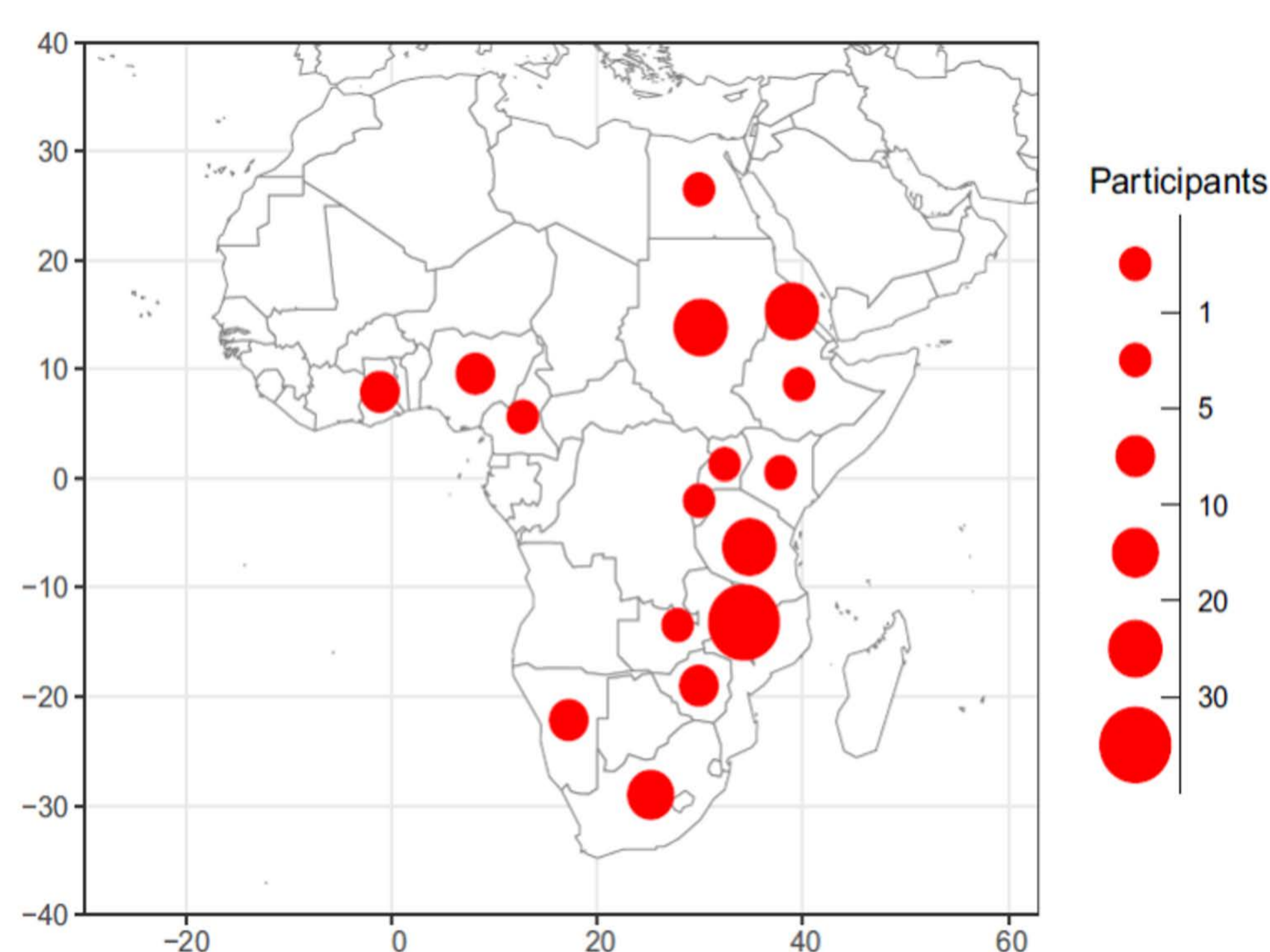
As an interim insight of the effort to be put into translating a 12-week online clinical pharmacology and pharmacometrics training to French-speaking scientists, the percentage of completion of each task, associated with the time spent, was summarized through an Excel Google sheet at the cut-off date of 2022.03.10.

## Results

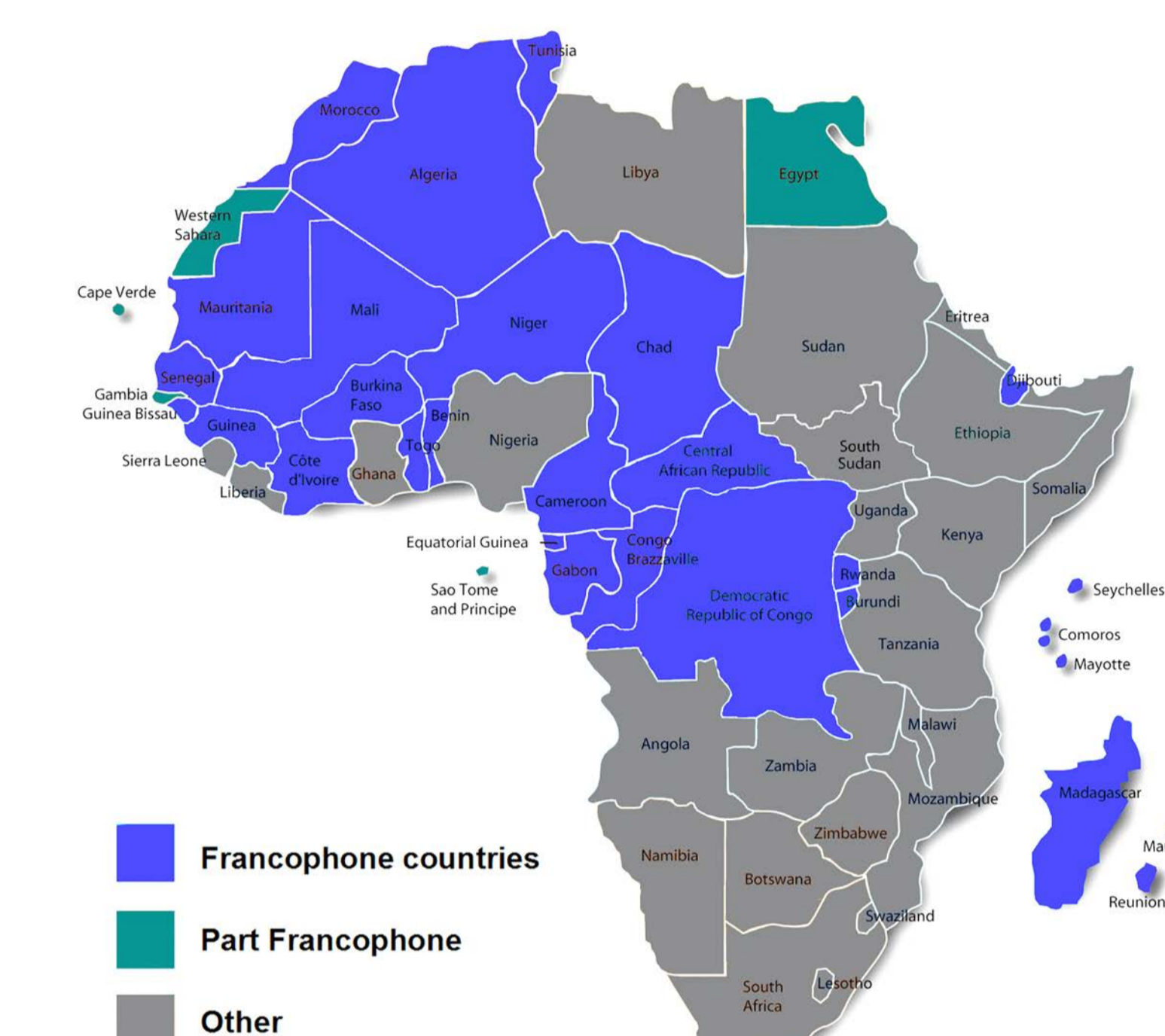
International and Africa-based clinical pharmacologists participated in the project allowing for mutual sharing of insights for relevant value creation. The time required to set up each week's lesson on the platform varied depending on the lesson content e.g. recording didactic lectures tended to take longer than live software demonstrations of modelling (Table 1). Based on the time reported for actual completion of the different tasks, and assuming that the remaining tasks are comparable to the ones already performed, the time needed to translate the 12-week online clinical pharmacology and pharmacometrics training should be around 440h (387h of primary translation and 53h of reviewing).

## References

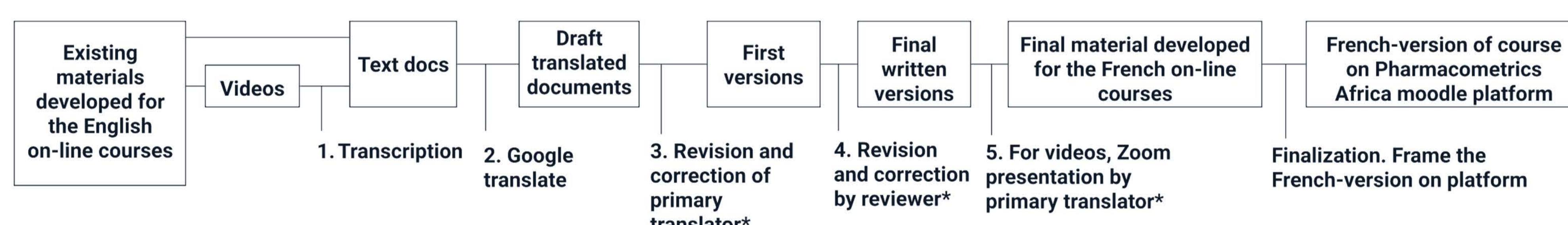
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[2] Wenning L, Pillai G, Knepper TC, Ilic K, Ali MA, Hibma JE. Clinical Pharmacology Worldwide: A Global Health Perspective Clin Pharmacol Ther (2021) <https://doi.org/10.1002/cpt.2274>.



**Figure 1** Geographic distribution of > 350 African participants in an on-line clinical pharmacology and pharmacometrics training program. Participants from non-African countries (not shown) included seven from Brazil, two from India, and one each from Argentina, Germany, and The Netherlands.



**Figure 2** Francophone Africa. The countries colored dark blue had a population of 442.1 million in 2020.



**Figure 3** Framework of the methods used to build up the French teaching materials. \*French-speaking pharmacometricians

**Table 1** Completion of tasks and time spent at interim cut-off (2022.03.10)

Type of document		Written documents				Video					
		Primary translation		Review		Primary translation		Review		Recording	
LESSON (week)	Lesson Title	Completion (%)	Time spent (h)	Completion (%)	Time spent (h)	Completion (%)	Time spent (h)	Completion (%)	Time spent (h)	Completion (%)	Time spent (h)
1	Clinical pharmacology and pharmacometrics	100	2	0	0	100	20	100	4	100	2
2	Absorption and distribution	100	4	0	0	60	40	0	0	0	0
3	Elimination	20	1	0	0	0	0	0	0	0	0
4	Pharmacokinetics after single dose administration	100	6	0	0	20	7	0	0	0	0
5	Pharmacology	100	2	0	0	40	6	40	3	0	0
6	Pharmacokinetics after chronic dosing	100	1.5	0	0	0	0	0	0	0	0
7	Fundamentals of biostatistics	100	2	100	1	100	27	70	2	0	0
8	Introduction to Berkeley Madonna and IV models	100	1.5	100	2	100	5	0	0	0	0
9	Mathematical implementation of infusion, oral and repeated dosing PK models in Berkeley Madonna	100	1.5	100	2	0	0	0	0	0	0
10	Pharmacokinetic and Pharmacodynamic Models in Berkeley Madonna	100	1	50	0.5	0	0	0	0	0	0
11	Model-independent Analysis and Bioequivalence Assessment	0	0	0	0	0	0	0	0	0	0
12	Data analysis and regression	100	2	0	0	0	12	0	0	0	0
	Reported at the cut-off date (2022.03.10)	85	24.5	29.2	5.5	35	117	17.5	6	8.33	2
	Total	100	28.8	100	18.9	100	334	100	34.3	100	24
	Predicted at finalization of the course										

## Discussion

Translating the content to propose a French version of the 12-week online clinical pharmacology and pharmacometrics training took a certain time so far. This work was done to stay as close as possible as the English version, even if translation was done in the French-speaking pharmacometrician's own version of the words. The original English lecture slides were kept, together with a French "voice-over", in order to allow the students to get used to English materials while not being lost in the concepts given by the teachers. A faster process may consist to replace course content with French materials that French-speaking pharmacometricians would already possess.

## Conclusion

The translation of the course required significant effort but progressed significantly.

The initiative will be pivotal for other translations that are being planned thereby attracting more scientists to the discipline.