EDITORIAL

# The Importance of External Validity Through Regional Registers

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Atrial fibrillation (AF) is the most common sustained arrhythmia in North America. It affects approximately 2.3 million people and is the cause of one third of hospitalizations for cardiac arrhythmias. (1) It is estimated that subjects ≥ 40 years old have a 4-fold to 1 risk of developing AF in their lifetime and that 5.6 million people in North America will be affected by 2050. (2, 3) The clinical impact of AF is mainly manifested with increased morbidity and mortality, principally associated to stroke and heart failure.

During the last decade, different scores to determine stroke risk in patients with AF were transferred en masse to the medical community which is gradually incorporating them in daily practice.

However, as discussed below, information bombardment does not always result in the implementation of recommendations accepted worldwide. To fill this gap between detections-findings-recommendations and daily medical work, a new trend of knowledge transfer called "knowledge translation" (KT) is being applied with great success.

The KT strategy can be performed at multiple levels: reading groups, 1:1 interactive presentations with specialists, fluent colloquial language, and in strict research terms, records reporting on the patient's "real life". This does not mean abandoning complex methodological studies such as randomized or non-inferiority trials, but, on the contrary, to complement that information with registers where patients are followed–up without statistical interventions that may force the analysis in a particular direction. In this sense, registers and their subsequent analysis (external validation) are another way to "download" information (KT) so that it is applicable for all those involved in health systems.

However, the registers developed in one part of the world do not necessarily match the reality of the rest of the world.

This introduction was necessary to get acquainted with the importance of the study that Di Toro et al. present in this issue of the Journal. (4) It is a comparison of the CHADS2 and CHA2DS2-VASc scores in an Argentine population with persistent and permanent AF, included in a register published more than a decade ago, (5) precisely when the first of those scores was published. (6) This first score showed some deficits to estimate low risk, and 10 years later the second one was published. (7) Di Toro et al.´s commendable effort to attempt an external validation (of particular relevance in our environment) by comparing these two predictive strategies on a local population deserves to be praised.

Somehow, the study endorses the work of those who apply these scores in the country. The authors' main finding is that both strategies were useful for predicting stroke and, furthermore, both are valid and comparable, with a trend of the CHA2DS2 VASc score to identify more accurately very low risk patients.

However, the model developed by Di Toro et al. presents an attractive difference from previous external validations: analyzed patients were not anticoagulated, which in some way empowers stroke outcome. Thus, the question to be asked is: Does the study population represent "real life" in Argentina, if nearly 50 % of patients with persistent or permanent AF did not receive anticoagulation? To answer this question, monitoring should be extended with the same questions as those of the original record. Regarding the telephone survey, it does not mention if 50 % of patients currently remain without anticoagulation or if that number was reversed since incorporation in the register.

External validation, beyond the statistical exercise, must clearly state the reasons for considering the Argentine population somehow different from those populations incorporated in the registers mentioned above. And what could be the different factors between one population and another?

We are quickly reminded of endemic diseases in the region such as Chagas disease, which coincidentally is associated with cardiac rhythm alterations as sinus bradycardia and AF, and where pacemaker implantation is very common (it is not necessary to speak here

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of AF and pacemakers, but it is mentioned because in some way Chagas AF may have differences with European and North American AF). It would have been relevant if Di Toro et al. had shown not only how similar we are to our Europeans and American brothers, but also how we differ. Is the authors' rule applicable to stroke prediction in patients with Chagas disease? So far it is not known, but the Research Area of the Argentine Society of Cardiology continues providing brilliant expressions of interest in learning about Argentine cardiovascular reality, as evidenced by this wise analysis. We just have to wait for Di Toro et al. to find that piece of information that differentiates us, albeit it exists, from the populations so extensively studied.

**Conflicts of interest**
None declared.

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