

# A Questionnaire Integrated with the Digital Medical Record Improved the Coverage of a Control Program for Congenital Chagas Disease in Tuscany, Italy



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## INTRODUCTION

The leading route of Chagas disease transmission in nonendemic countries is congenital. However, policies concerning screening, prevention, and management of congenital Chagas disease are rare in these settings. Since 2012, serological screening for Chagas disease should be provided for pregnant women at risk in Tuscany, Italy according to a Regional resolution. Due to difficulties in the implementation, in November 2019, a checklist aimed at identifying pregnant women at risk for Chagas disease was introduced in digital clinical records at Careggi University Hospital, Florence, Italy.

## METHODS

In order to evaluate the effectiveness of the “Chagas checklist”, data about the number of deliveries by women at risk and their screening coverage between 2012 and June 2022 were collected. The annual screening coverage was calculated as the ratio between the number of tests performed on women at risk and the total number of deliveries at risk per year.

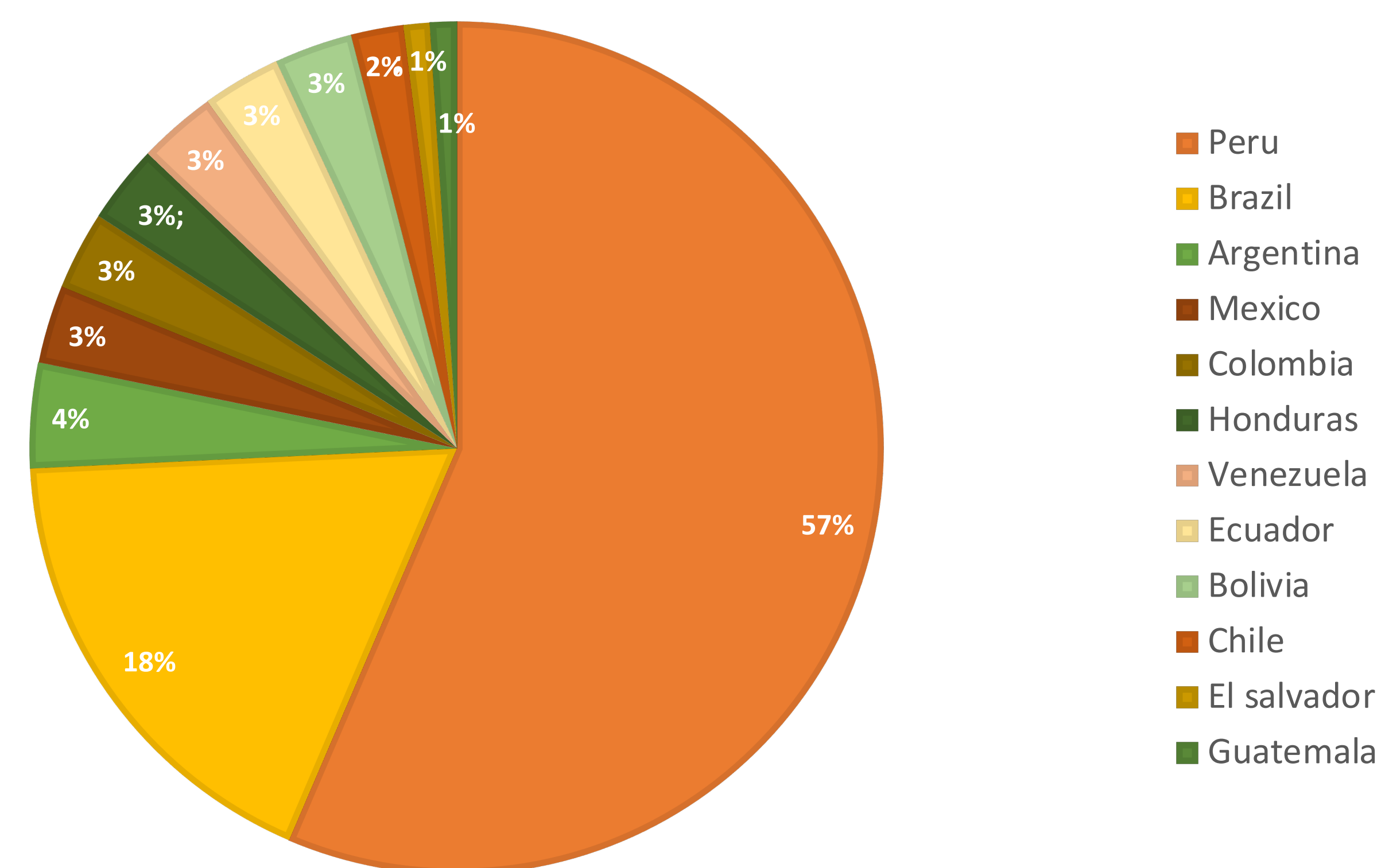


**Figure 1.** Percentages of deliveries (total N=1338) by women at risk divided by country of origin

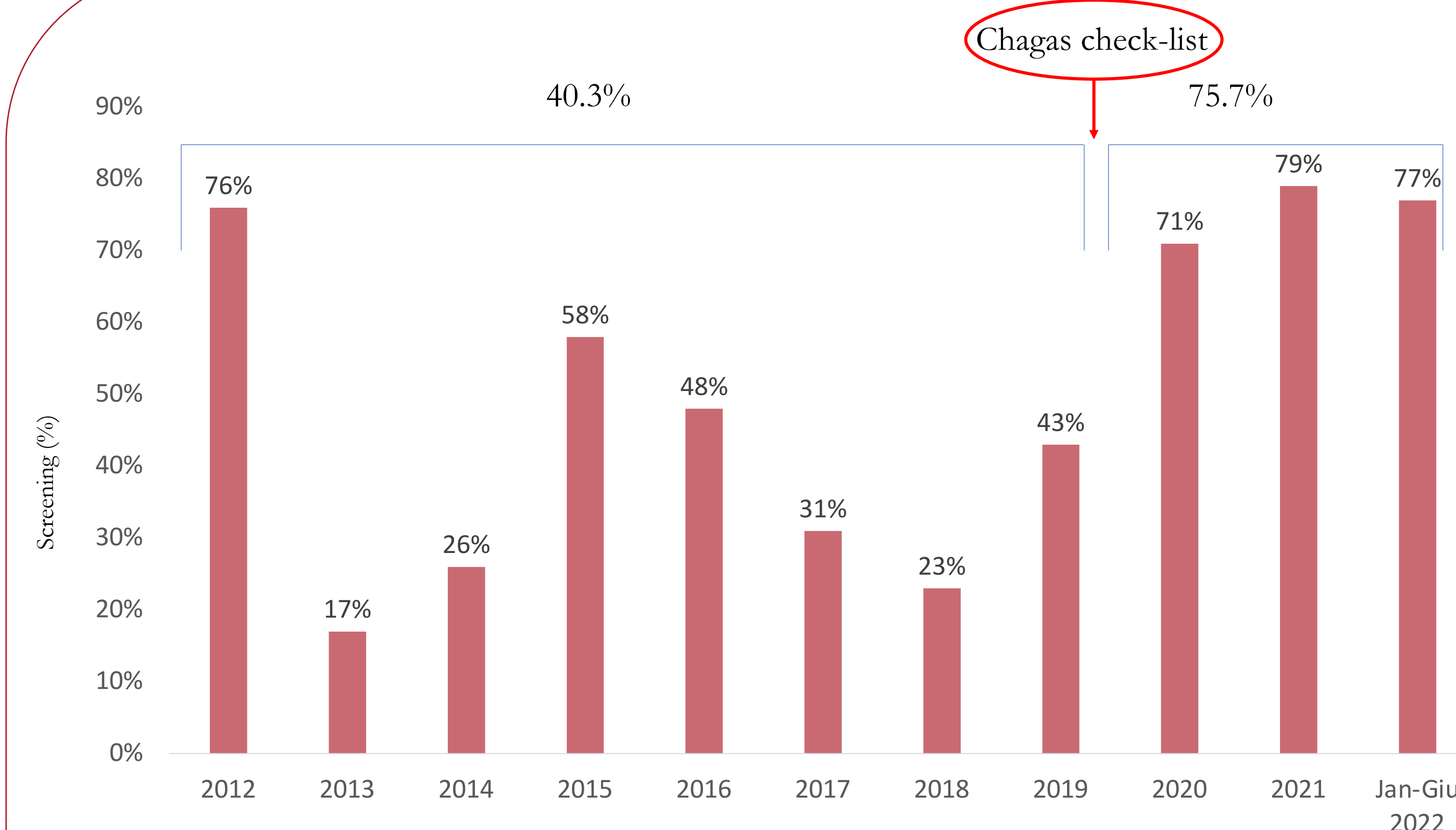


**Figure 2.** Total number of deliveries by women at risk per year (blue) and total number of women at risk tested for Chagas disease who gave birth in Careggi University Hospital each year (red).

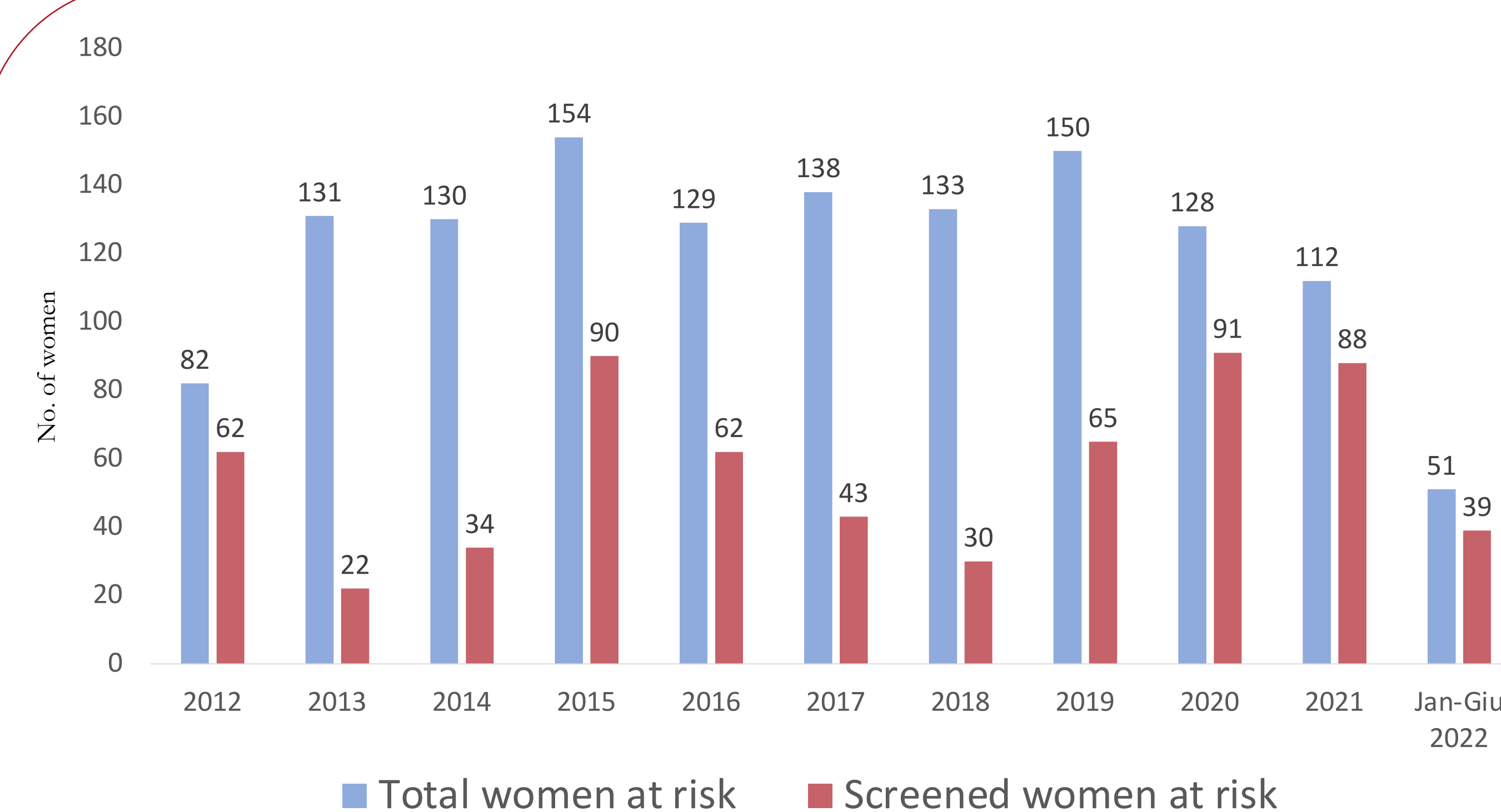


**Figure 3.** Percentage of Chagas disease screening coverage per year in women at risk who gave birth in the Careggi University Hospital.

## RESULTS

Out of 1348 deliveries by women at risk, 626 (47%) *Trypanosoma cruzi* serology tests were performed during the study period; women at risk are divided by country of origin in **Figure 1**. The annual screening coverage increased from an average of 40.3% between 2012 and 2019 to 75.7% between 2020 and June 2022 (**Figure 2, Figure 3**), underlining the big impact of the checklist. Four Chagas disease serological tests out of 626 (0.6%) resulted positive, corresponding to 2 affected women. No cases of congenital transmission occurred.

## CONCLUSION

The study showed that a simple digital tool led to a tangible improvement in the coverage of the screening program; its application in a setting where digital charts are available will contribute to the control and elimination of congenital Chagas disease.

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