

## Introduction

Tuberculosis (TB) is a global health challenge, with a quarter of the world’s population latently infected with *Mycobacterium tuberculosis*. Around 5 to 10% of these individuals may develop active TB in their lifetime [1]. Timely diagnosis is key to controlling TB. The QuantiFERON-TB Gold Plus (QFT-Plus) test is a major tool for diagnosing both latent and active TB. This study is particularly relevant in the context of increased migration to Ireland, underscoring the need to monitor TB prevalence in diverse populations.

## Aim of the Study

The aim of this study was to assess possible shifts in prevalence of tuberculosis due to increased migration to Ireland based on data obtained from 2020 to 2024.

## Materials and Methods

We conducted a retrospective audit of QFT-Plus test results from Irish patients between 2020 and 2024, gathered from hospitals and GP practices. Data were analysed to assess TB positivity trends, focusing on age groups (<18, 18-39, 40-59, 60-74, and ≥75) and sex, using Microsoft Excel.

## Results

The number of QFT-Plus tests increased from 9,276 in 2020 to 26,581 in 2022, with a slight decline to 24,093 in 2024 (Figure 1). Despite fluctuations in testing volume, positivity rates show statistically significant downward trend from 5.1% in 2020 to 3.8%-3.9% in subsequent years ( $p<0.05$ , Figure 2). Males showed significantly higher positivity rates compared to females ( $p<0.05$ ), despite lower number of tests performed in this group. In 2024, the highest positivity rates were seen in individuals aged ≥75 years, with males at 7.26%. Elevated rates were also observed in working-age adults (18-39 and 40-59 years), particularly in males (6.70% and 6.55%, respectively). The lowest rates were in individuals under 18 years, with 1.48% in females and 2.83% in males (Figure 3). A similar pattern was also observed in 2020 (Figure 4 and Figure 5).

## Conclusion

Although the volume of TB testing increased from 2020 to 2024, a statistically significant decline in percentage of positive results was observed. Elderly males (>75 years) showed the highest positivity rates, likely due to immune decline and pre-existing conditions. Higher positivity in working-age adults may reflect increased exposure risks. Additionally, males had significantly higher QFT-Plus positivity rates than females, despite fewer tests being conducted in males. These findings highlight the need for continued TB surveillance and targeted public health interventions to address health disparities.

## Results

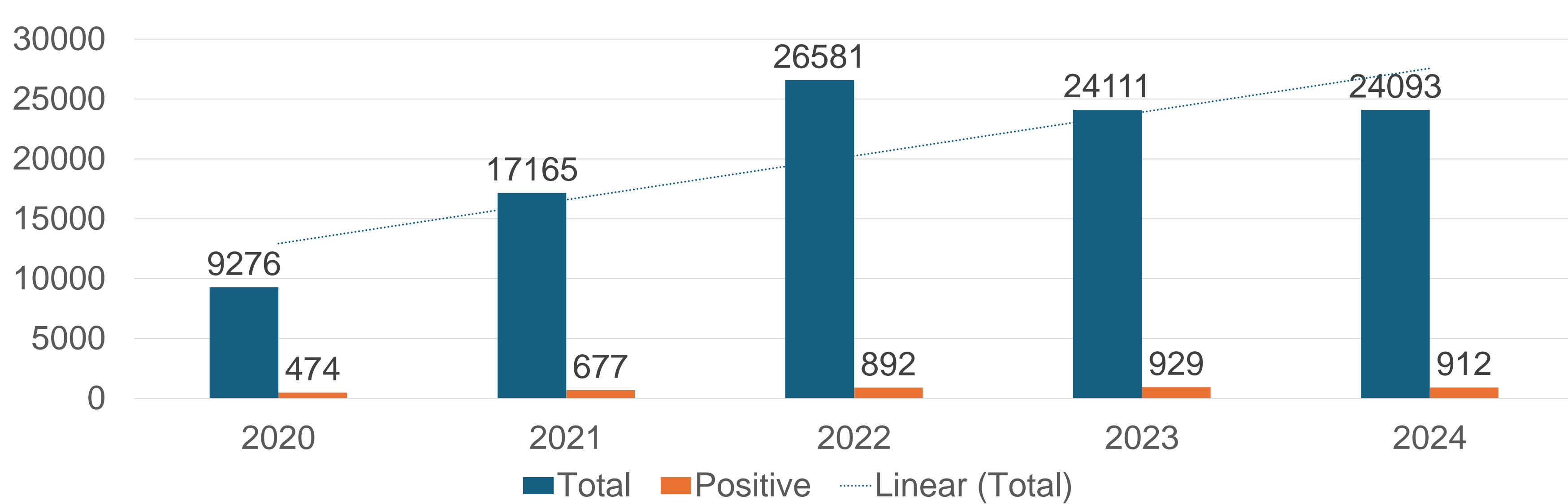


Figure 1. Distribution of performed QuantiFERON tests numbers by year.

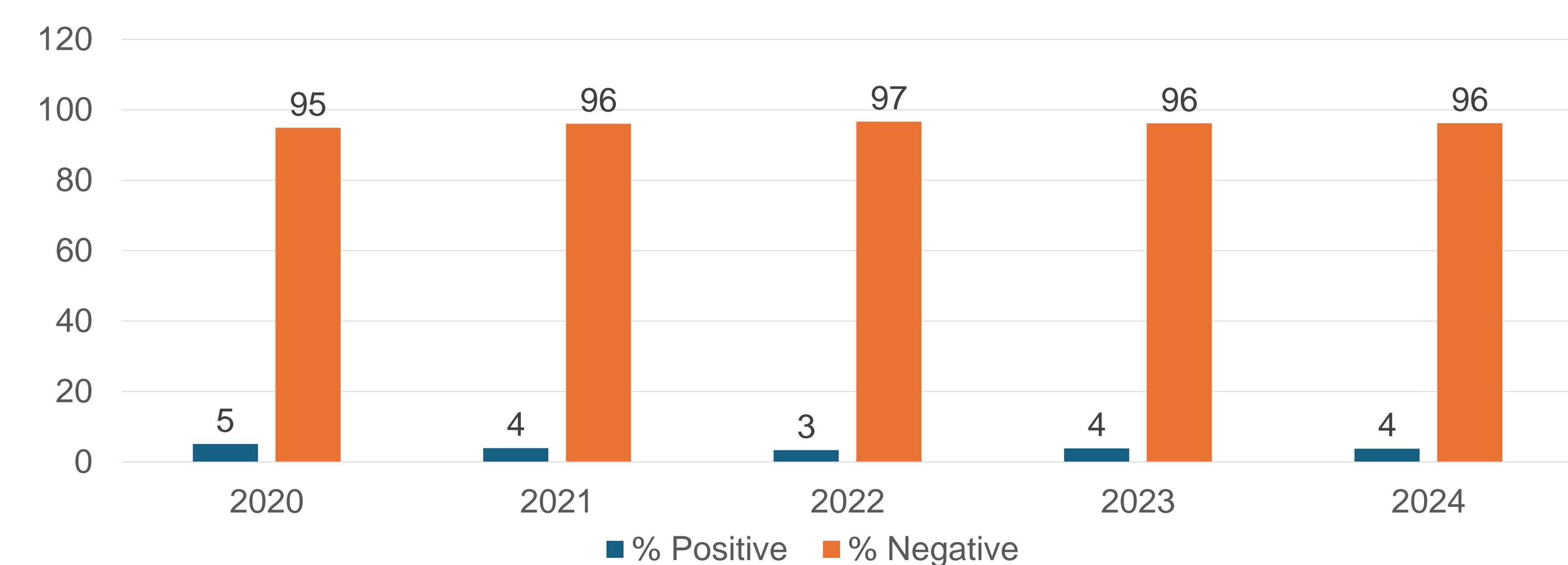


Figure 2. Proportions of positive QuantiFERON tests (%) rates by year.

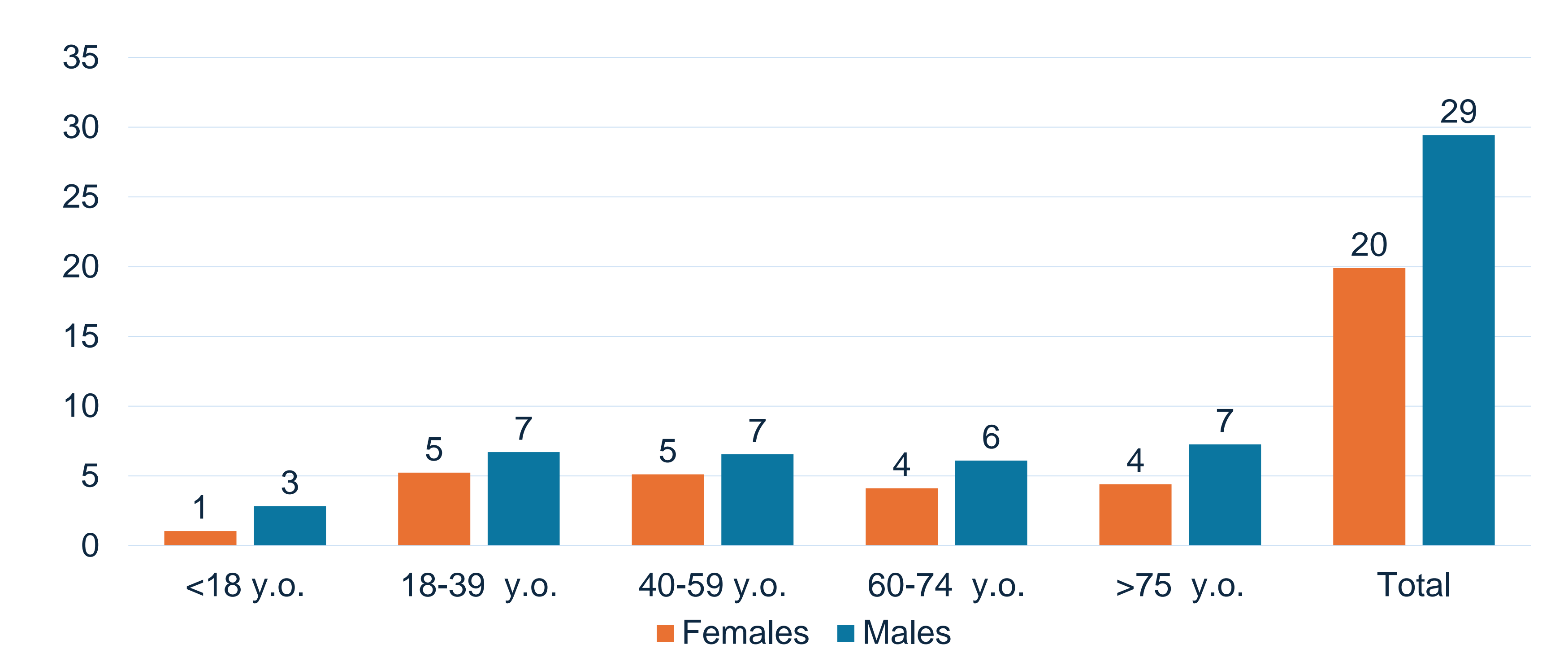


Figure 3. Distribution of positive QuantiFERON test results (%) by age groups in males and females 2024.

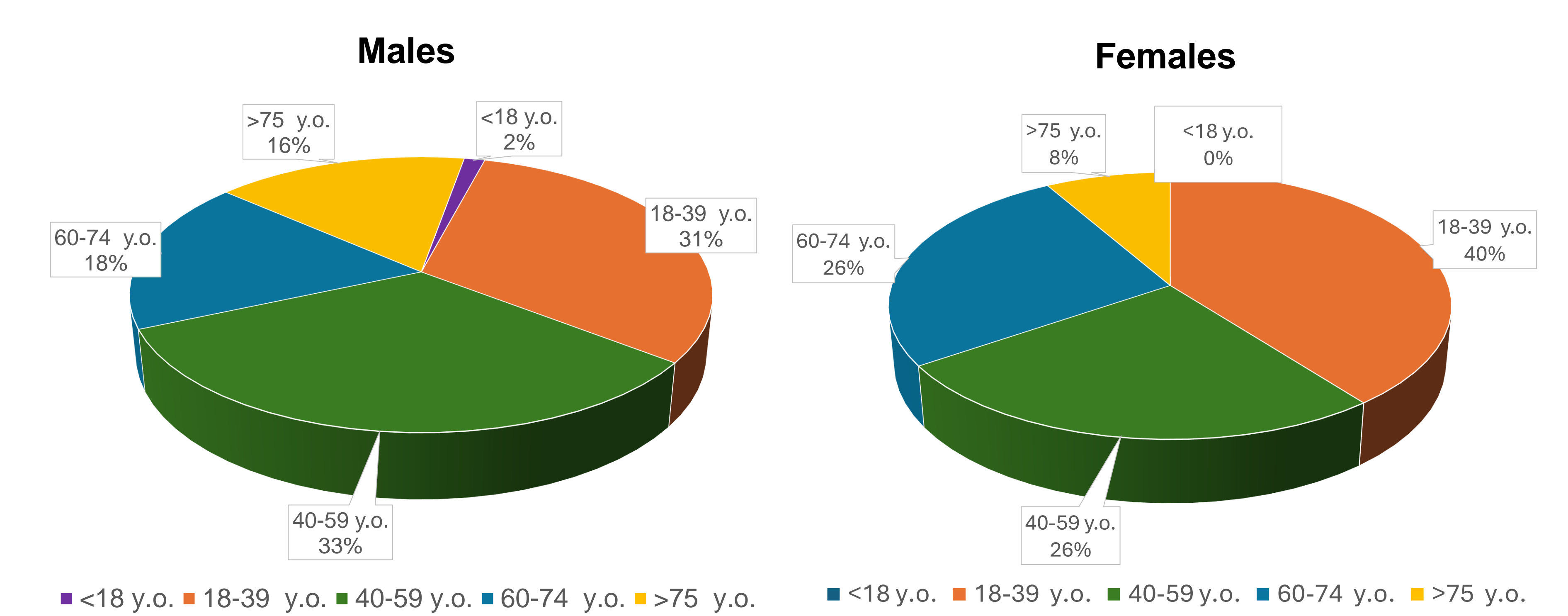


Figure 4. Distribution of positive QuantiFERON test results by age groups in males in 2020.

Figure 5. Distribution of positive QuantiFERON test results by age groups in females in 2020.

## References

1. World Health Organization, Health Topics, Tuberculosis [Internet]. [cited 2020 Sep 15]. Available from: [https://www.who.int/health-topics/tuberculosis#tab=tab\\_1](https://www.who.int/health-topics/tuberculosis#tab=tab_1)