

# Da Vinci Multi-Port Robotic-Assisted Surgery: 5 years of Health Technology Assessment Trends and Recommendations

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HTA15

## INTRODUCTION

The da Vinci robotic-assisted surgery (RAS) system is a widely adopted technology with almost 17 million procedures performed to date and over 2.6 million procedures performed in 2024 alone. There are over 9,600 systems installed globally, and more than 40,000 peer-reviewed articles have been published to date that discuss the da Vinci system.

## OBJECTIVE

Da Vinci Multi-Port (MP) RAS has been routinely assessed by HTA agencies for decades and remains a topic of interest by many agencies today. This analysis aims to examine trends and recommendations from HTA agencies from the past 5 years for da Vinci MP RAS.

## METHODS

- Publicly available HTA reports from 2020 to 2024 were identified via a targeted literature search.
- Sources searched included the International Network of Agencies for Health Technology Assessment/INAHTA database, as well as individual websites of HTA agencies from more than 20 countries.
- Snowballing was used to identify additional reports or agencies for review.
- Full text reports related to da Vinci MP RAS were included in the analysis. Reports were analyzed by year, country, specialty, procedure, and directional conclusions.

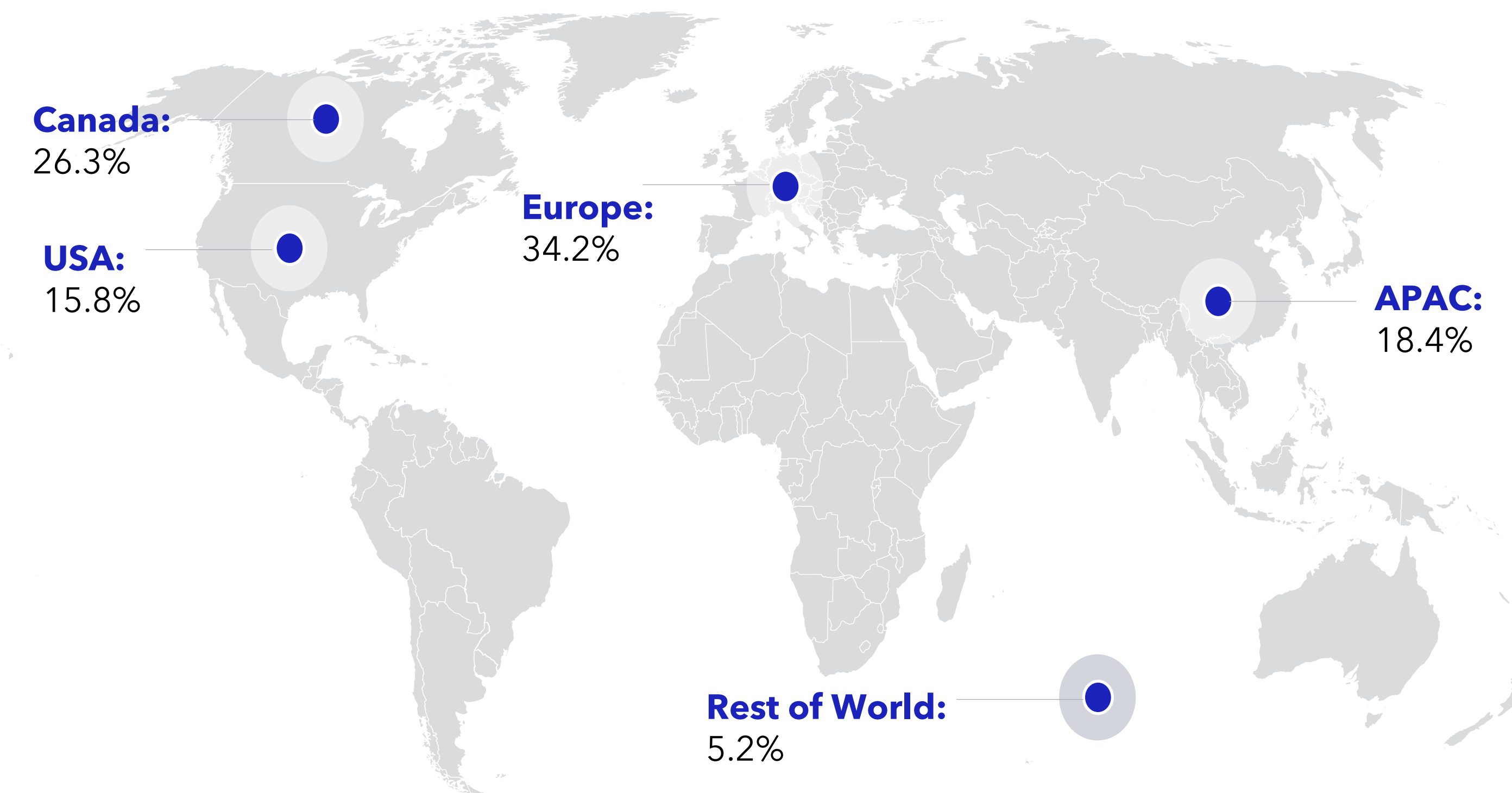
## CONCLUSION

This analysis provides an overview of HTA activity for da Vinci Multi-Port RAS within the last 5 years. Limitations include heterogeneity between HTA reports including differences in scope, methodology, and objectives. Conclusions of reports may be subject to interpretation. Da Vinci RAS continues to be a prioritized technology for HTA amongst organizations globally, with more well-established da Vinci procedures accounting for majority of the indications assessed. Reports from the past 5 years have shown HTAs reaching favorable or neutral conclusions, likely due to a maturing clinical evidence base among procedures that are well adopted.

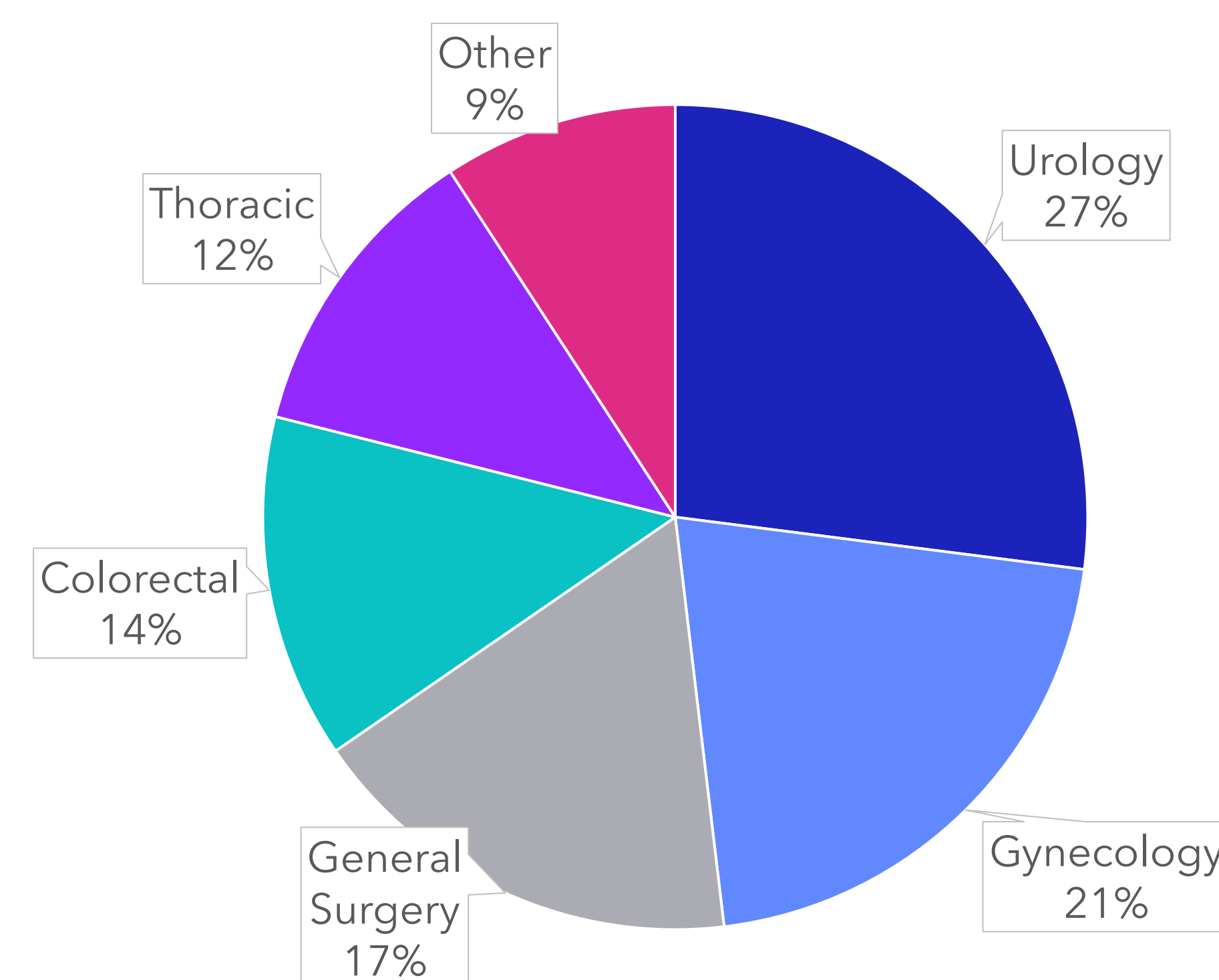
## RESULTS

38 individual reports from 16 different countries and 23 organizations were identified. Canada (26.3%) and the US (15.8%) produced the most reports, followed by European countries (34.2%), Asia-Pacific (18.4%), and Rest of World (5.2%).

**Figure 1.** HTA reports by geography



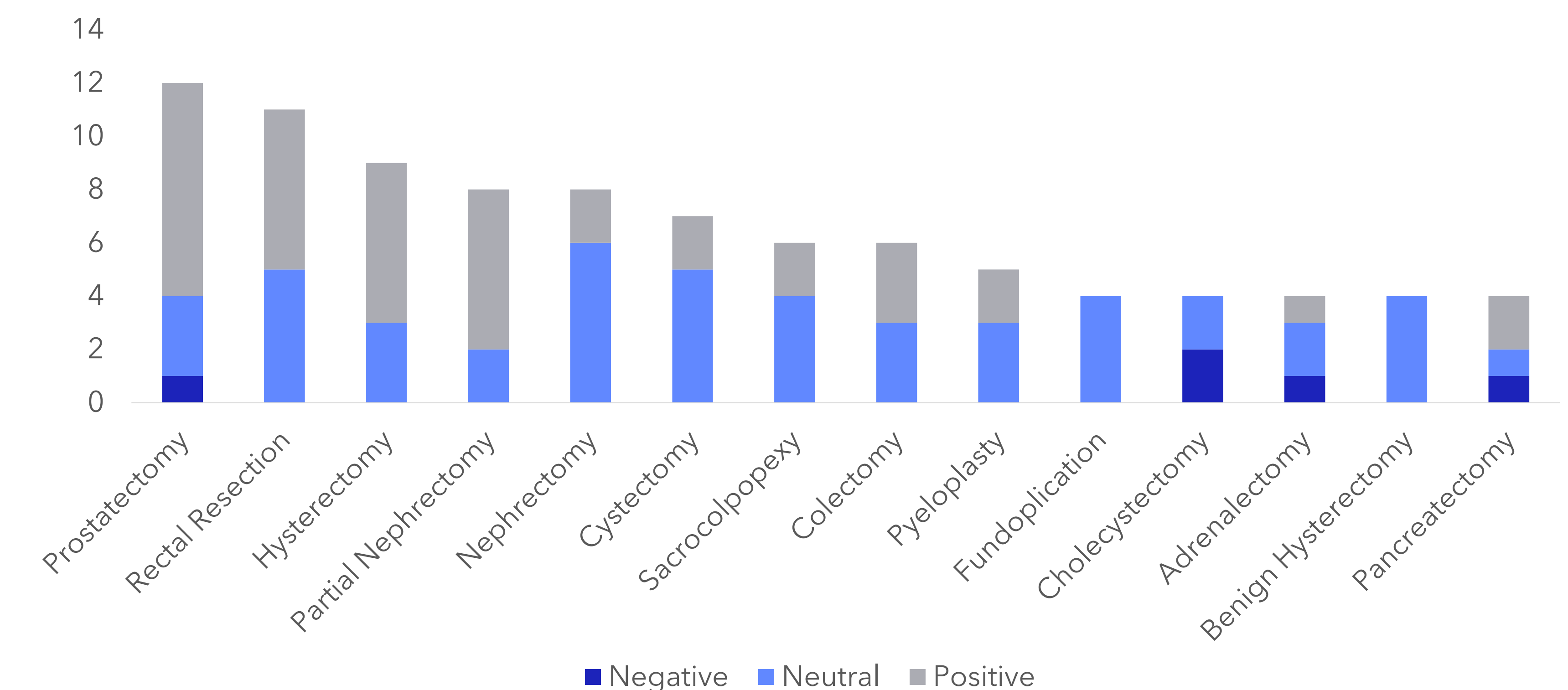
**Chart 1.** Breakdown by surgical specialty



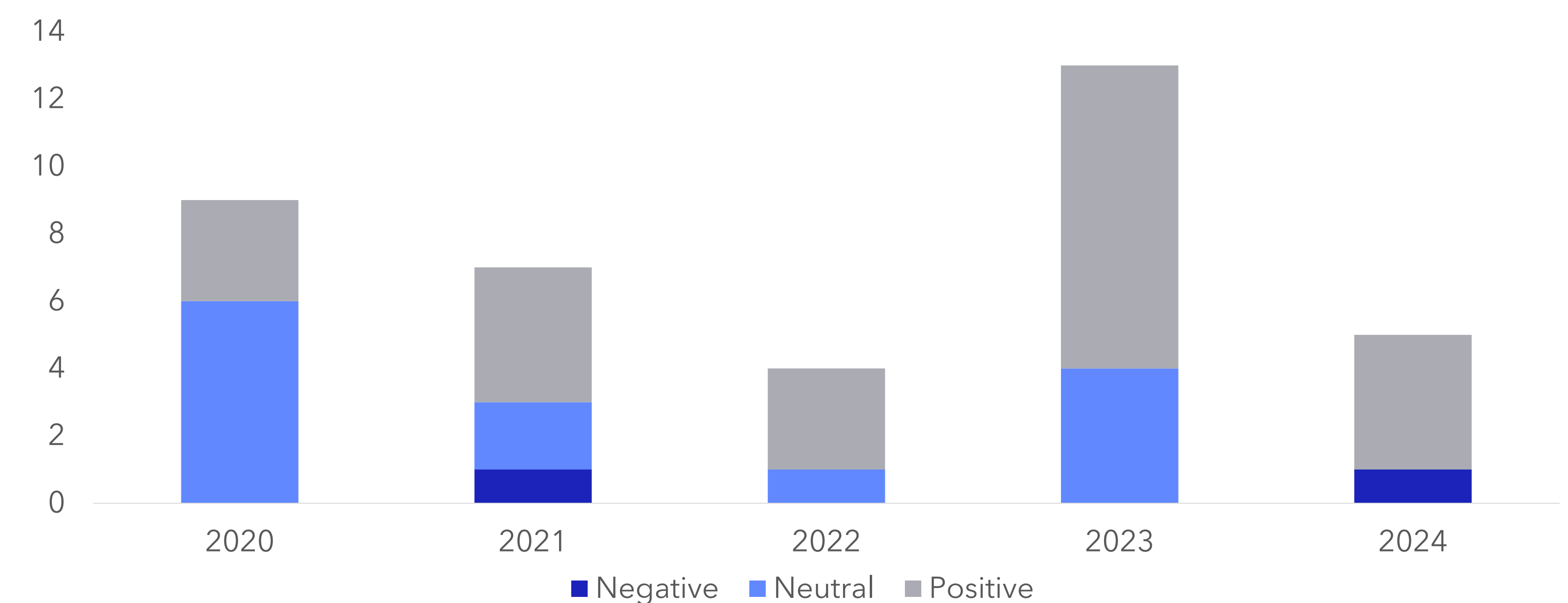
## RESULTS CONT.

Eight different surgical specialties were included in the 38 reports, with general surgery, colorectal, urology, gynecology (GYN), and thoracic representing the most assessed specialties. Other specialties included cardiac, head and neck, and procedure agnostic. The most assessed procedures included prostatectomy, rectal resection, hysterectomy, and partial nephrectomy, followed by other GYN, urological, and general surgery procedures. Among individual reports, 60.5% were classified as directionally positive, 34.2% as neutral, and 5.3% as negative.

**Chart 2.** Most assessed procedures and directional conclusions



**Chart 3.** Directional conclusions of individual reports



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