Analyzing Health Technology Assessment (HTA) Decisions in Oncology

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Analysis Goals

1

Identify and review recent health technology assessment (HTA) reports on oncology drugs from the UK (NICE), Canada (CADTH/pCODR), Germany (IQWiG/G-BA) and France (HAS)

2

Determine the extent to which international HTA organizations review and recommend new therapies, with a specific focus in oncology

NICE: The National Institute for Health and Care Excellence, CADTH: Canadian Agency for Drugs and Technologies in Health, pCODR: pan-Canadian Oncology Drug Review, IQWiG: Germany's Institute for Quality and Efficiency in Healthcare, G-BA: The Federal Joint Committee, HAS: Haute Autorité de santé

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What Is Health Technology Assessment?

Health Technology Assessment (HTA)

- HTA is a form of policy research that systematically examines the short- and long-term consequences, in terms of health and resource use, of the application of a health technology, a set of related technologies or a technology related issue
- HTA can be used to evaluate drugs, medical devices, procedures, diagnostic tests, health services or systems for delivery of care
- It is focused on making healthcare decisions at the population level
- HTAs are commonly used outside of the US. Payers in the US are able to make coverage decisions based on their specific patient populations

In many cases, an HTA decision can strongly influence pricing and reimbursement

Source: Henshall et al. Priority setting for health technology assessment. Theoretical considerations and practical approaches. Priority setting subgroup of the EUR-ASSESS Project. *Int J Technol Assess Health Care* 1997,144—85

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Degree of HTA Influence Varies; Recommendations Are Typically Not Binding

Country	HTA Body	Central	Regional/ Local	Binding Coverage
UK	National Institute for Health and Care Excellence (NICE)	✓		✓
Canada	Canadian Agency for Drugs and Technologies in Health (CADTH) Pan-Canadian Oncology Drug Review (pCODR)	✓	✓	
Germany	The Institute for Quality and Efficiency in Healthcare, Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen (IQWiG) Federal Join Commission, Gemeinsame Bundesausschuss (G-BA)	✓		
France	The French National Authority for Health, Haute Autorité de Santé (HAS)	✓	✓	

Sources: Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen. "Responsibilities and objectives of IQWiG." Available at: https://www.iqwig.de/en/about_us/responsibilities_and_objectives_of_iqwig.2946.html; ISPOR Global Health Care Systems Roadmap. Germany – Pharmaceutical. http://www.ispor.org/research_pdfs/51/pdffiles/AG1.pdf; Griffins L. The German NICE or the German Nasty? An Analysis of IQWiG Decisions and Requirements for An 'Added Benefit." ISPOR. 9 November 2015. http://www.ispor.org/research_pdfs/51/pdffiles/AG1.pdf; Haute Autorite Sante. "About HAS." Available at: http://www.has-sante.fr/portail/jcms/r_1455134/en/about-has ; ISPOR Global Health Care Systems Roadmap. France – Pharmaceutical. http://www.ispor.org/htaroadmaps/france.asp#1; National Institute for Health and Care Excellence. "About NICE." Available at: http://www.nice.org.uk/aboutnice/; Canadian Agency for Drugs and Technologies in Healthcare. "About Health Technology Assessments." Available at: http://www.cadth.ca/en/products/health-technology-assessment/health-technology-assessments; Thomson S., ed., et al. "International Profiles of Healthcare Systems, 2013." Available at: http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf

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HTA Decision Criteria Reflect Differences in Cultural Values Across Countries

Country / HTA Body	Absolute Therapeutic Value*	Relative Therapeutic Value**	Budget Impact	Cost-Effectiveness
NICE (UK)	✓	✓	✗	✓✓✓
Canada (CADTH/pCODR)	✓	✓	✗	✓✓✓
Germany (IQWiG/G-BA)	✓	✓✓✓	✓	✗
France (HAS)	✓✓✓	✓	✗	✓ (innovative products)

*Disease severity, burden, unmet needs, efficacy/safety of the product
**Incremental efficacy/safety versus available comparators

Sources: Toumi M. Reimbursement Systems for Pharmaceuticals in Europe. ISPOR 20th Annual European Congress. 5 November 2017. Glasgow, Scotland; Guidelines for the Economic Evaluation of Health Technologies: Canada – 4th Edition. March 2017. https://www.cadth.ca/dv/guidelines-economic-evaluation-health-technologies-canada-4th-edition

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Processes for Incorporating HTA Findings into Market Access and Payment Differ by Country

NICE (UK)

- NHS is required by law to adopt NICE coverage recommendations, however, actual access may be determined by local Clinical Commissioning Groups (CCGs), which must consider budget constraints when making payment decisions

CADTH/pCODR (Canada)

- CADTH and pCODR assessments inform coverage decisions at participating federal and provincial institutions, however adoption of recommendations/ access varies across provinces because of local resource constraints

IQWiG/G-BA (Germany)

- IQWiG and G-BA recommendations jointly inform early benefit assessment (EBA) and additional benefit assessments that set different pathways for rounds of pricing negotiations managed primarily by the G-BA

HAS (France)

- ASMR and SMR scores feed the listing of products and health economic assessments and price negotiations carried out by other republic agencies that determine final access and pricing in the retail and hospital classes of drugs*

*ASMR: *Amelioration du Service Medical Rendu* (improvement in actual benefit [IAB]); SMR: *Service Medical Rendu* (actual benefit [AB] scores, which include initial reimbursement levels)

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Methodology: Report Selection

Inclusion Criteria

Report Type:

- Technology Appraisals (NICE)
- Common Drug Review (CADTH)/Expert Review Committee Recommendations (pCODR)
- Commissions (IQWiG)/Resolutions (G-BA)
- Technical Assessments (HAS)

Report Status: Final and Draft

Therapeutic Area: Oncology*

Timeframe: January 2013 – December 2017

Exclusion Criteria

- Non-drug reports
- Assessments that were discontinued

Reports Included

$N_{NICE} = 99$

$N_{CADTH,pCODR} = 86$

$N_{IQWiG,G\text{-}BA} = 64$

$N_{HAS} = 80$

Total: 329

Reports are categorized by recommendations and issue date for analysis

Recommendation Rating

Each HTA's report classifications has been aligned to allow comparisons across reports

*This includes oncologic treatments and some oncology specific supportive care (e.g., filgrastims). The analysis does not include treatment for conditions that may result from oncology care (e.g., chemotherapy-related osteoporosis)

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Methodology: Recommendation Ratings

	NICE	CADTH & PCODR	IQWiG & G-BA**	HAS	
				Improvement in Actual Benefit (IAB)***	Actual Benefit (AB)***
Recommended	Recommended	Recommended	1. Major additional benefit 2. Considerable additional benefit 3. Minor additional benefit 4. Non-quantifiable additional benefit 5. No additional benefit over comparator 6. Inferior to competitor	Medical Assessment 1. ASMR I – major innovation 2. ASMR II – important improvement 3. ASMR III – moderate improvement 4. ASMR IV – minor improvement 5. ASMR V – no improvement	Reimbursement Band 1. SMR – Major – 100% or 65% 2. SMR – Important – 65% 3. SMR – Moderate – 30% 4. SMR – Weak 15% 5. SMR – Insufficient 0%
Recommended with restrictions	Recommended with discount*; use in specific subpopulations; step therapy requirement; use as a second or third line therapy; specified duration/time frame of use; disease severity/progression requirement; limited indication; recommended only over certain comparators; etc.				
Not / non-positive recommended	Not recommended	Do not list	Will set course of listing and reimbursement evaluations	SMR rating insufficient	

ASMR: *Amelioration du Service Medical Rendu*, or improvement of medical benefit
SMR: *Service Medical Rendu, or* medical benefit
*Recommendations that included discounts or price concessions were captured under the "recommended with restrictions" category to distinguish from unconditionally positive recommendations
**Together, these agencies develop an early benefit assessment (EBA), the recommendations coming therefrom are listed here
***Together, the IAB and AB feed the listing of products and pricing and reimbursement pathways

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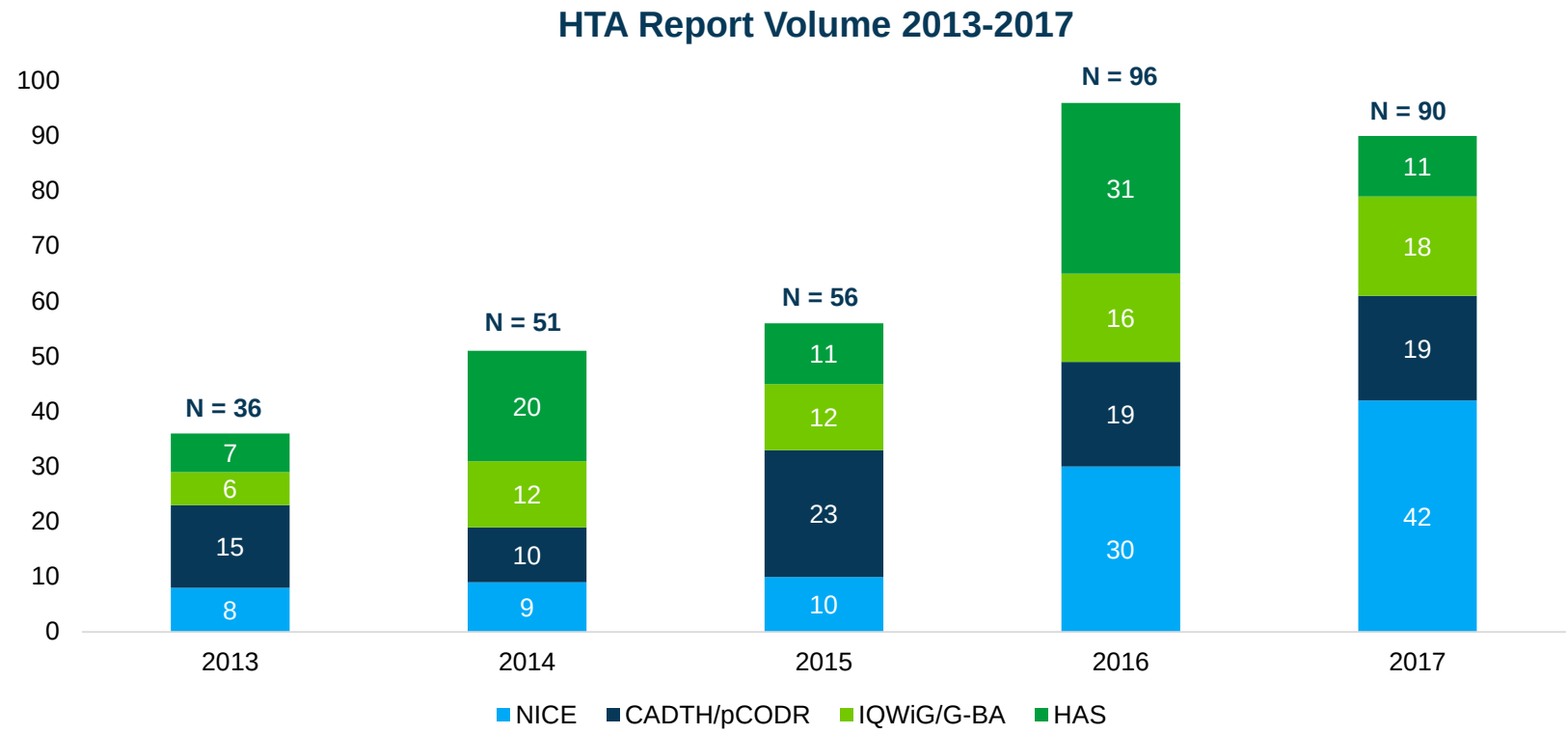
The Volume of Oncology HTAs Has Increased Since 2013



The growth of HTA reports in oncology likely mirrors the advances and innovation in this space. Individual, targeted products may be reviewed multiple times for the same or (usually) different indications

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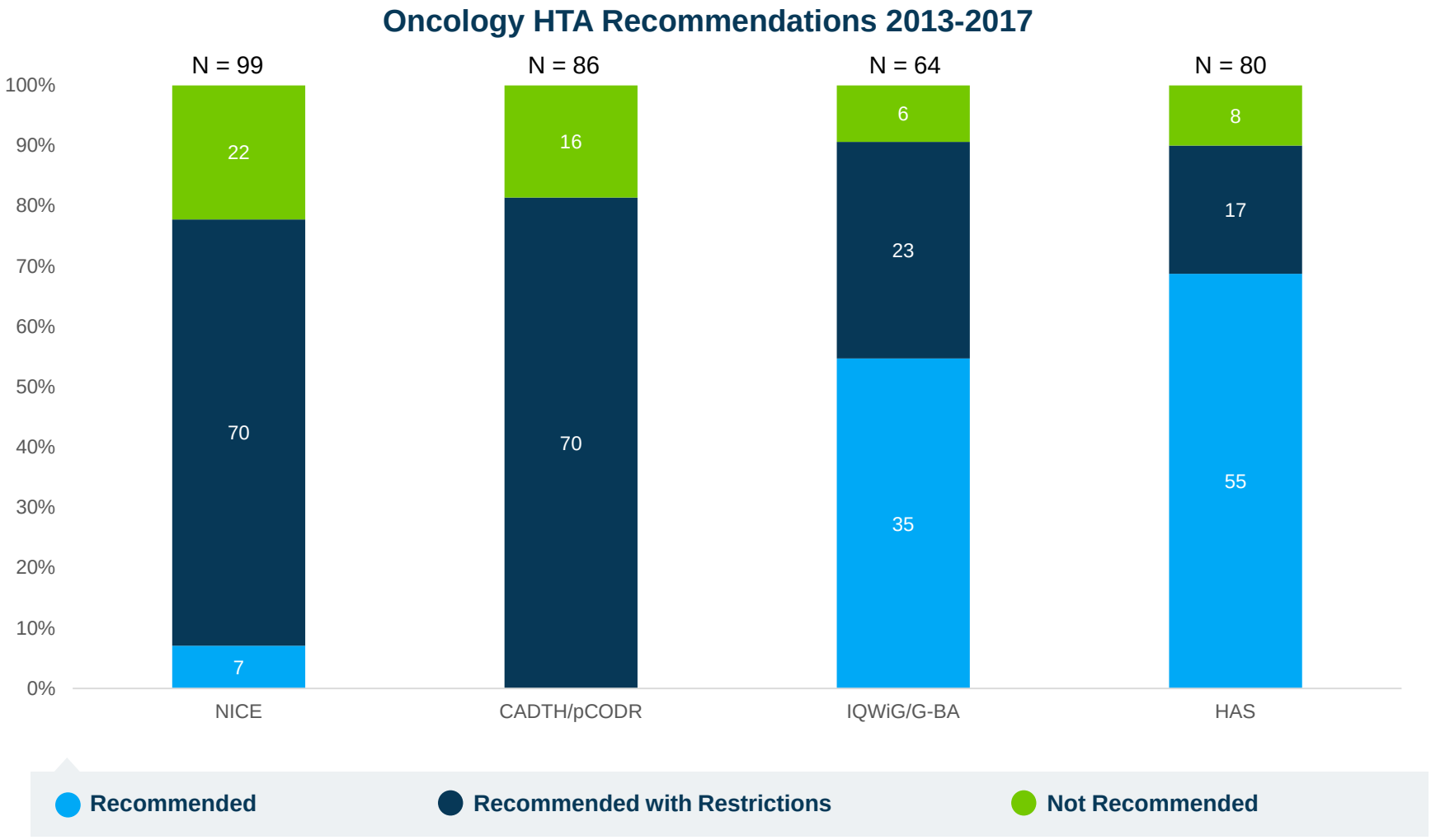
Of 329 Oncology HTAs from 2013-2017, 29% Resulted in Positive Recommendations Without Restrictions



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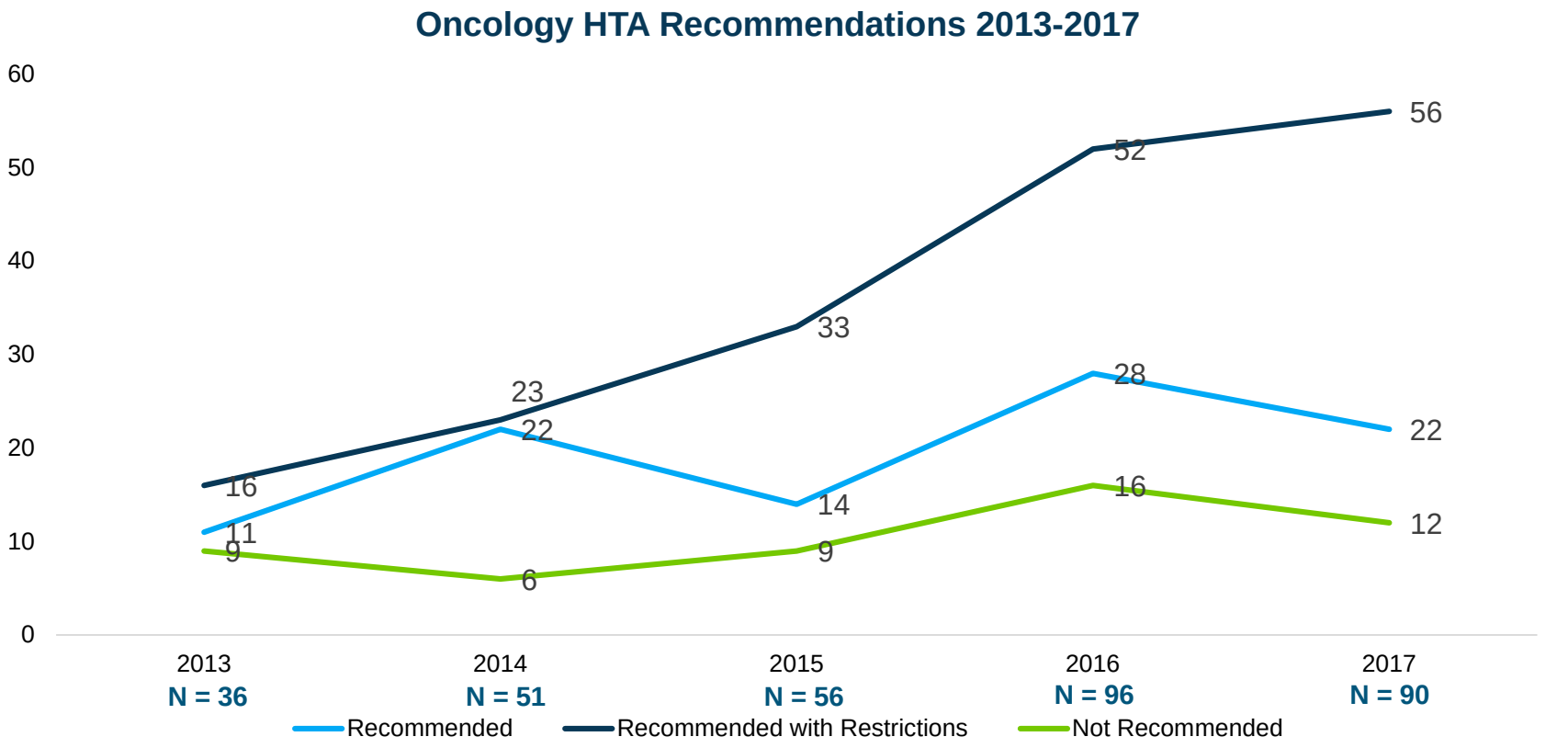
HTA Recommendations for Oncology Have Grown More Restrictive Over Time



Most recommendation restrictions called for additional discounting or further proof of cost-effectiveness; recommendations with multiple restrictions typically entailed both an increased discount and clinical restrictions such as step requirements and other utilization management, generally aligned with targeted therapy use

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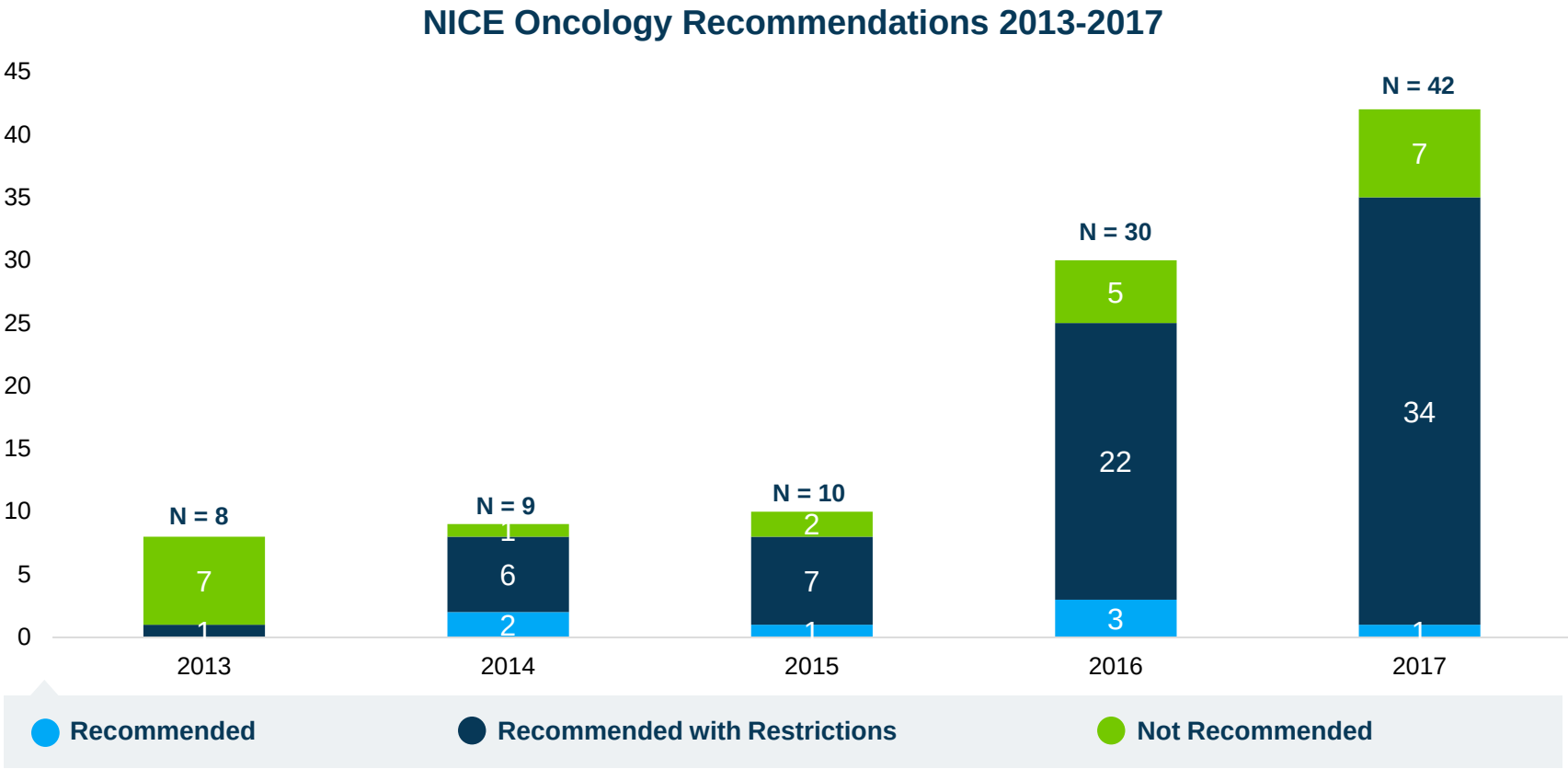
United Kingdom

Percentage of NICE Assessments Resulting in Negative Recommendations Has Increased Slightly In Recent Years



Access at the local level is determined by Clinical Commissioning Groups (CCGs) based on local needs and available resources

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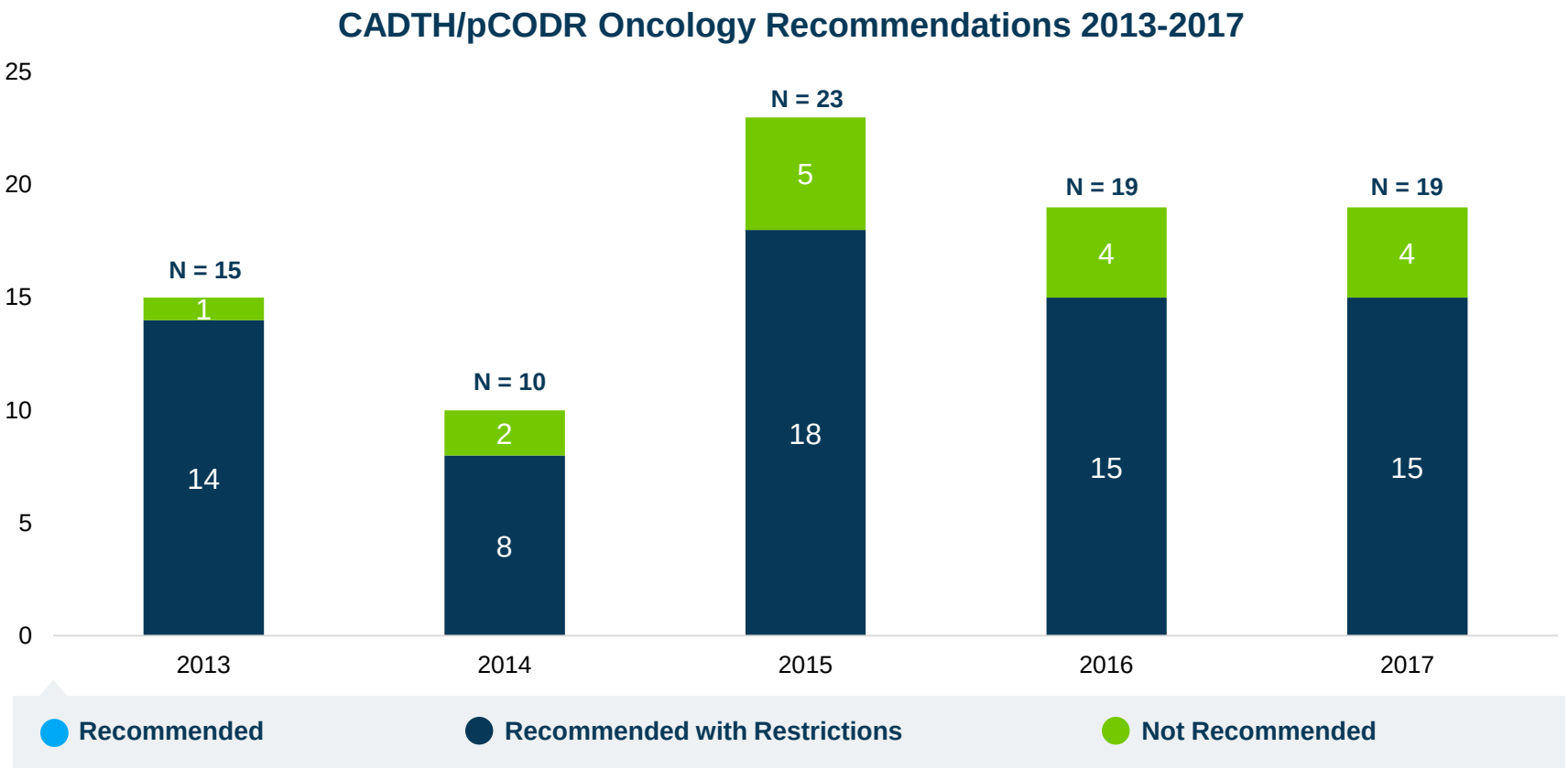
Canada

CADTH/pCODR's Conclusions Are Driven by Use of Non-Uniform Cost-Effectiveness and Other Thresholds



As in the UK, the final determinants of patient access are the provinces and other local jurisdictions, based on local needs and available resources

Note: Although Canada has historically provided positive unconditional recommendations for certain therapies, additional cost-effectiveness requirements are increasingly commonplace

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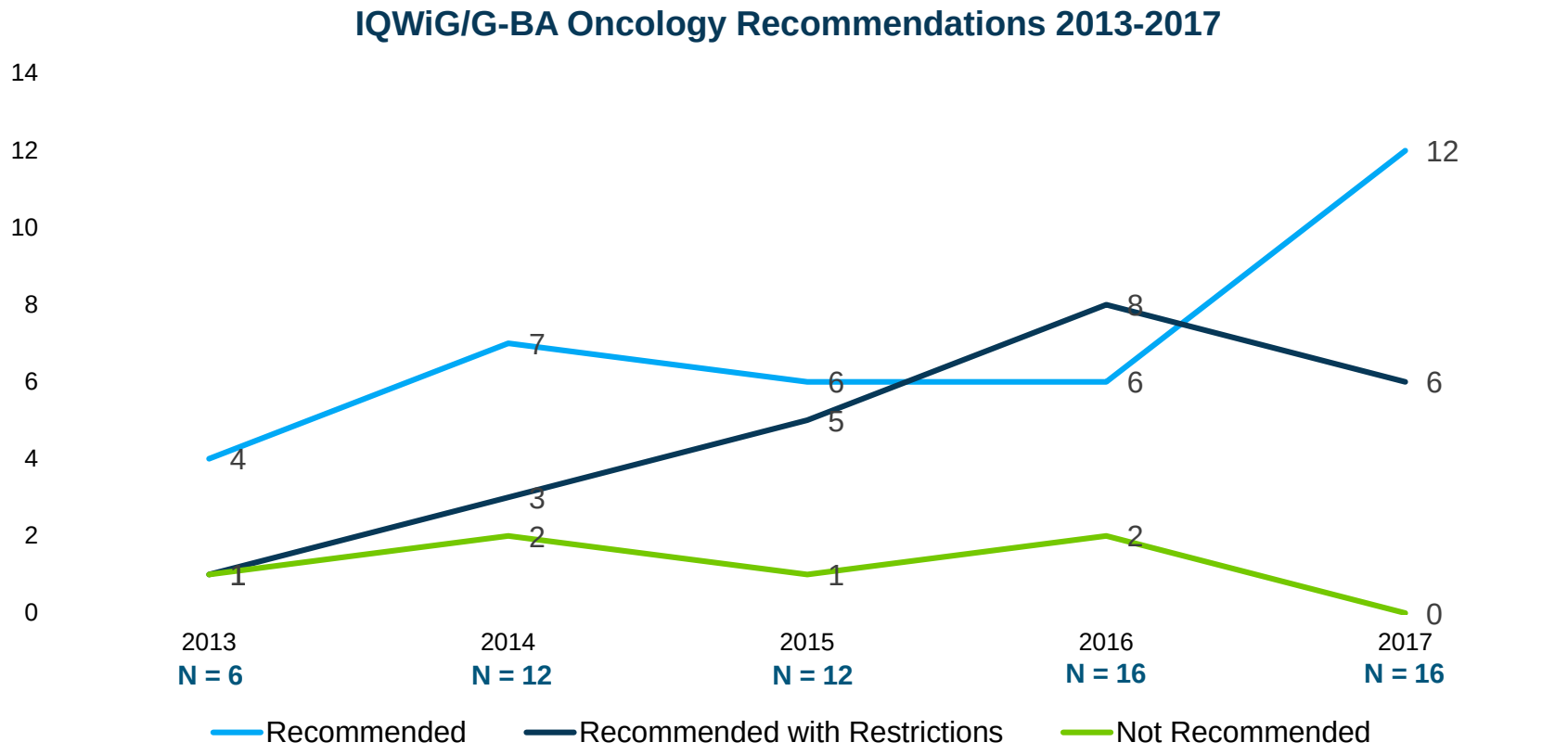
Germany

IQWiG/G-BA's Positive Recommendations Were Most Frequently Given for Orphan Drugs



For orphan drugs, AMNOG deems the "no additional benefit" and "less benefit" classifications not applicable, since the grant of market authorization assumes that additional benefit has already been proven

AMNOG: The Act on the Reform of the Market for Medicinal Products (*Arzneimittelmarktneuordnungsgesetz*)
Source: Bouslouk M. G-BA Benefit Assessment of New Orphan Drugs in Germany: The First Five Years. *Expert Opinions on Orphan Drugs*. Volume 4, 2016 – Issue 5. Pages 453-455. Accessed at: https://www.tandfonline.com/doi/full/10.1517/21678707.2016.1166950

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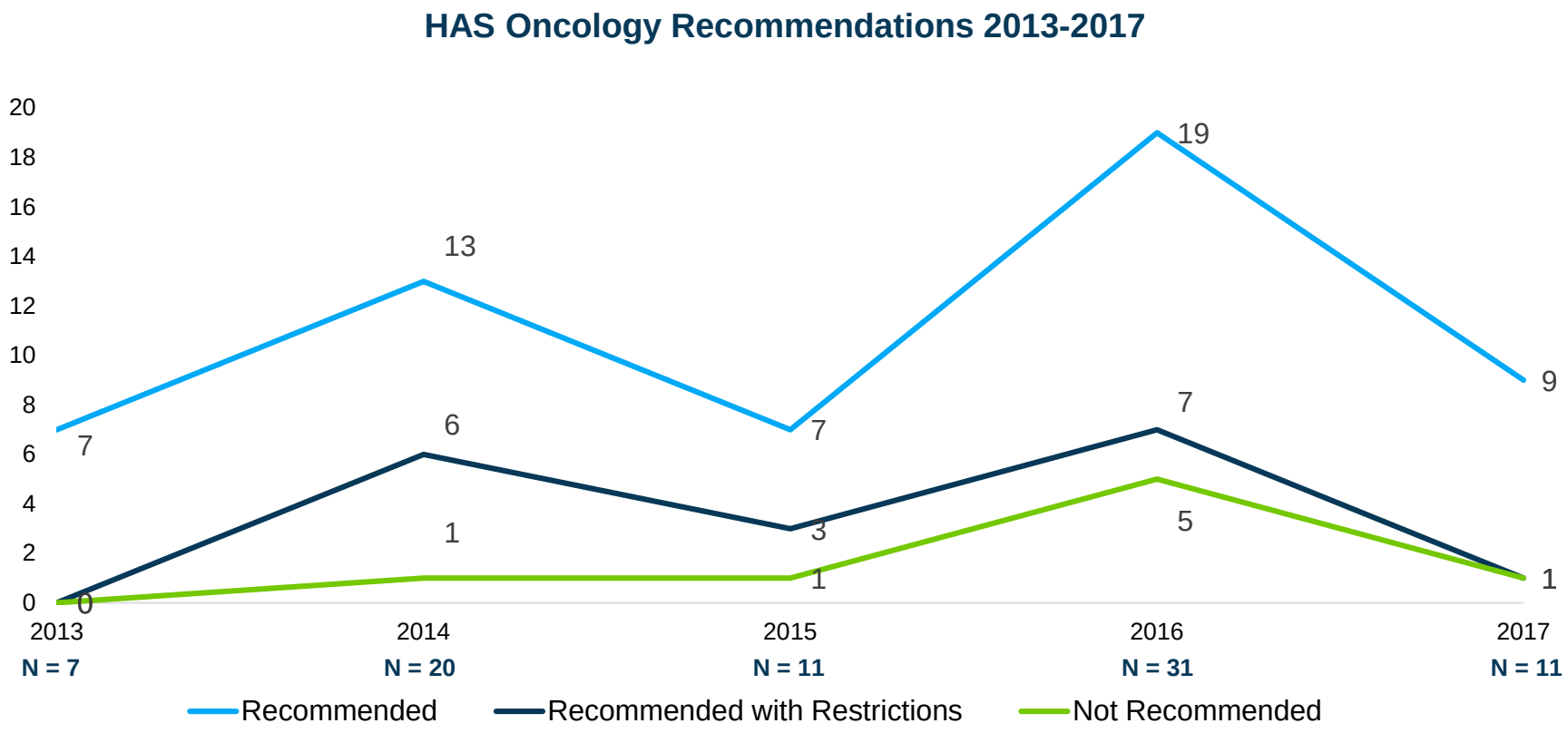
France

HAS Continues to “Recommend” Oncology Products



From 2013-2017, 69% of HAS’ evaluations resulted in positive recommendations by giving many oncology products an ASMR IV (minor improvement) score

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Country-Specific Factors Can Influence HTA Processes

DRUGS REVIEWED BY ALL 4 HTA BODIES

Drug	Cancer Type	NICE	CADTH/ pCODR	IQWiG/ G-BA	HAS
Afatinib	Lung	Y (R)	Y (R)	Y (R)	Y
Axitinib	Renal	Y (R)	Y (R)	Y (R)	Y
Bosutinib	Leukemia	Y (R)	Y (R)	Y (R)	Y
Crizotinib	Lung	Y (R)	Y (R)	Y (R)	Y
Dabrafenib	Skin	Y (R)	Y (R)	Y (R)	Y
Enzalutamide	Prostate	Y (R)	Y (R)	Y	Y
Ibrutinib	Leukemia	Y (R)	Y (R)	Y	Y (R)
Ipilumab	Skin	Y (R)	Y (R)	N	Y (R)
Nivolumab	Skin	N	Y (R)	Y	Y
Nivolumab	Lung	Y (R)	Y (R)	Y (R)	Y
Nivolumab	Renal	Y (R)	Y (R)	Y (R)	Y
Obinutuzumab	Lymphoma	Y (R)	Y (R)	Y	Y
Olaparib	Ovarian	Y (R)	Y (R)	Y	Y (R)
Osimertinib	Lung	Y (R)	Y (R)	Y	Y
Ruxolitinib	Myelofibrosis	N	Y (R)	Y	Y
Pembrolizumab	Skin	Y (R)	Y (R)	Y (R)	Y
Pomalidomide	Multiple Myeloma	Y (R)	Y (R)	Y (R)	Y
Trastuzumab Emtansine	Breast	Y (R)	Y (R)	Y	Y

Y: Recommended; **Y** (R): Recommended with restrictions; **N:** Not recommended

Drivers of Variability in HTA Design & Implementation*

1. Population heterogeneity
2. Economic pressures
3. Social considerations
4. Ethics
5. Organizational dynamics
6. Pricing and reimbursement schemes

*Not an exhaustive list

Source: Toumi M. Reimbursement Systems for Pharmaceuticals in Europe. ISPOR 20th Annual European Congress. 5 November 2017. Glasgow, Scotland

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Summary

Of the 329 oncology HTA reports analyzed from the period 2013-2017, 29% resulted in positive recommendations without any restrictions

NICE and CADTH/pCODR issued the highest percentage of recommendations with restrictions at 71% and 81%, respectively

NICE was most likely to not recommend a product among oncology products reviewed by all 4 HTA organizations

IQWiG/G-BA recommended 55% of reviewed products outright and recommended products with restrictions in 49% of reports

HAS outright recommended 69% of all products reviewed

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Key Takeaways

Personalized Medicine	The number of HTAs on oncology drugs have grown since 2013, reflecting innovation and a trend toward targeted therapies
Oncology in the Global Spotlight	Oncology drugs generally represent one of the largest and fastest-growing categories of therapy in all countries studied
Evolution of HTA Decision-Making	Many HTA processes have changed or are being changed to better meet the challenge of evaluating the clinical, cost, and humanistic effectiveness of oncologic therapies within a national health system
Nuancing Recommendations	The increased volume of HTA findings have resulted in more nuanced recommendations (i.e., “with positive recommendations but restrictions”)
No “One-Size-Fits All” Approach	Cross-country comparisons of HTAs are difficult due to cultural influences and differences in how HTAs are designed and implemented across countries

Stakeholders should monitor and prepare for the ways different countries are addressing these challenges, particularly around how value definitions may be evolving and informing pricing and reimbursement decisions

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Avalere Health
An Inovalon Company
1350 Connecticut Ave., NW
Suite 900
Washington, DC 20036
202.207.1300 | Fax 202.467.44455
www.avalere.com