

HEALTHCARE RESOURCE UTILIZATION (HCRU) IN METASTATIC OR UNRESECTABLE GASTRIC OR GASTROESOPHAGEAL JUNCTION CANCER PATIENTS RECEIVING SECOND-LINE TREATMENT

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INTRODUCTION

- The World Health Organization estimated in 2012 that approximately 1 million people worldwide were diagnosed with gastric cancer, which makes it the 5th most common malignancy, representing 7-8% of all cancers, and the 3rd leading cause of cancer deaths, representing 9-10% of related mortality^{1,2}.
- There are precise therapeutic guidelines for first line treatment in metastatic gastric cancer patients³ but there is no clear global clinical standard of care for second-line treatment (2LT) leading to a lack of accurate information in terms of mortality, morbidity and clinical management of these patients.

OBJECTIVES

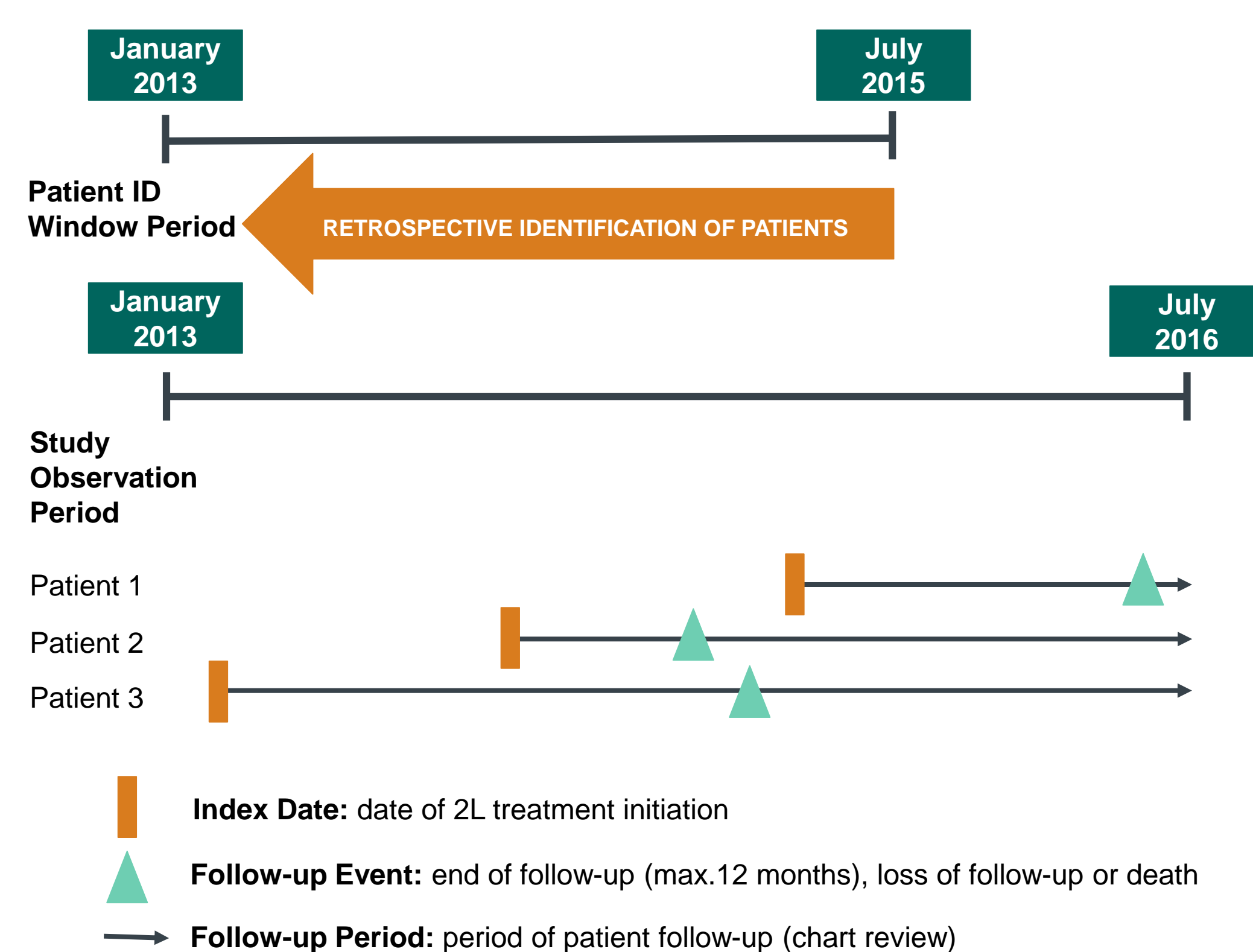
- To describe HCRU of metastatic / unresectable gastric or gastroesophageal junction (GEJ) cancer patients receiving 2LT.

METHODS

Study Design

- Retrospective chart review study in Australia, Canada, Italy and United Kingdom (UK).
- Inclusion criteria: Patients aged ≥ 18 , diagnosed with metastatic / unresectable gastric or GEJ adenocarcinoma initiating 2LT between January 2013-July 2015, not participating in clinical trials and either presenting with prior or concomitant malignancies (Figure 1).

Figure 1. Study Diagram



Data Collection

- Patients' charts were reviewed up to 12 months since 2LT initiation or until death.
- Days of hospitalization, intensive care unit (ICU) stays, emergency visits, outpatient visits, concomitant treatments, laboratory, and imaging tests were collected.

Analysis

- Resources per 100 patient-days were estimated by country and overall, and reported as mean (SD) for 2LT.

RESULTS

Sample Characteristics

- The analysis included 280 patients from Australia (n=34 from 6 sites), Canada (n=100 from 6 sites), Italy (n=84 from 8 sites) and UK (n=62 from 5 sites) (Table 1).
- Mean (SD) age for the overall sample was 60.9 (12.0) years and 68.9% (n=193) of the sample were male.
- Majority of patients were either smokers (15.1%, n=37) or ex-smokers (43.3%, n=106) and presented with some co-morbidity; only 36.4% (n=102) did not present any co-morbidity.
- Overall, only 5.0% (n=14) of patients did not present with a metastasis at the time of 2LT initiation. Approximately, half of the included patients presented with metastasis in more than one location (51.1%, n=136).
- Approximately half of the overall sample (51.8%, n=145) was receiving monotherapy in 2LT (Figure 2).

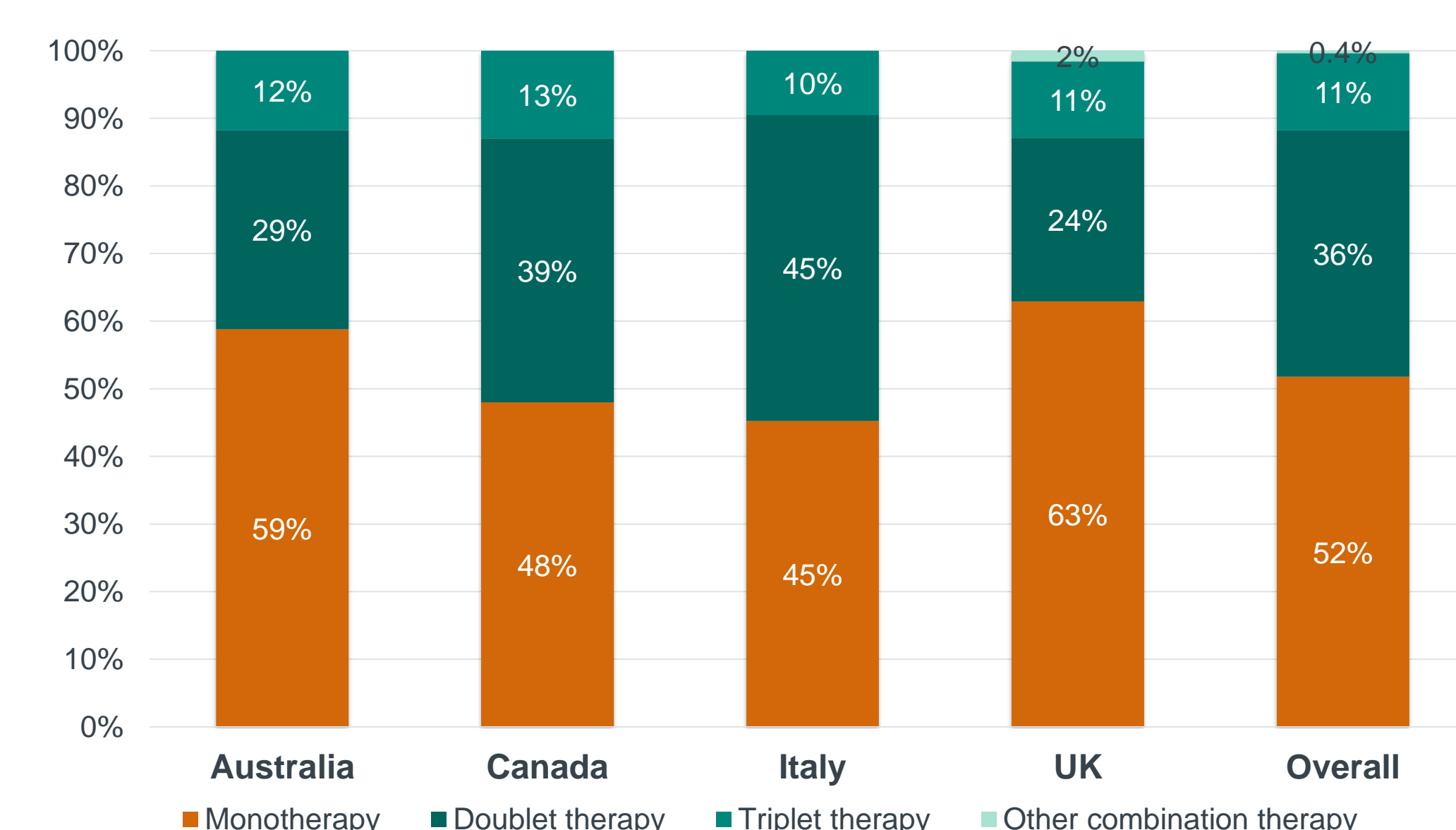
Table 1. Patient Characteristics

	Australia (N=34)	Canada (N=100)	Italy (N=84)	UK (N=62)	Overall (N=280)	
Gender	Male	64.7%	68.0%	72.6%	67.7%	68.9%
	Female	35.3%	32.0%	27.4%	32.3%	31.1%
Age (years)	Mean (SD)	65.71 (10.54)	60.71 (11.04)	60.64 (11.91)	58.84 (14.01)	60.88 (12.05)
	Median	66.50	61.00	62.50	62.00	62.00
	Range	(42.00, 83.00)	(33.00, 85.00)	(34.00, 83.00)	(26.00, 81.00)	(26.00, 85.00)
	<16.00	3.1%	1.2%	3.6%	3.2%	2.7%
BMI (Kg/m ²)	≥ 16.0 -<18.5	6.3%	9.8%	6.0%	6.5%	7.3%
	≥ 18.5 -<25.0	46.9%	53.7%	64.3%	56.5%	56.9%
	≥ 25.0 -<30.0	21.9%	26.8%	22.6%	22.6%	23.8%
	≥ 30.0	21.9%	8.5%	3.6%	11.3%	9.2%
Smoking status	Current Smoker	23.1%	13.7%	14.5%	14.6%	15.1%
	Ex-Smoker	34.6%	40.0%	48.7%	45.8%	43.3%
	Non-Smoker	42.3%	46.3%	36.8%	39.6%	41.6%
	Heavy drinker	4.8%	6.7%	3.5%	7.0%	5.7%
Alcohol consumption*	Occasional drinker	52.4%	59.6%	64.9%	72.1%	62.9%
	Abstinent	42.9%	33.7%	31.6%	20.9%	31.4%
	No co-morbidities	23.5%	31.0%	50.0%	33.9%	36.4%
Metastasis locations	None	5.9%	6.0%	3.6%	4.8%	5.0%
	1	43.8%	41.5%	56.8%	52.5%	48.9%
	2	25.0%	31.9%	17.3%	23.7%	24.8%
	3	18.8%	14.9%	17.3%	11.9%	15.4%
	4+	12.5%	11.7%	8.6%	11.9%	10.9%
Performance status (ECOG-PS) at the initiation of 2LT**	Unknown	26.5%	32.0%	10.7%	8.1%	19.6%
	0	28.0%	10.3%	25.3%	21.1%	20.0%
	1	68.0%	60.3%	60.0%	66.7%	62.7%
	2	4.0%	26.5%	14.7%	8.8%	15.6%
3	-	2.9%	-	3.5%	1.8%	

Abbreviations: BMI: body mass index; SD: standard deviation; ECOG-PS: Eastern Cooperative Oncology Group Performance Status.

* Alcohol consumption: Heavy drinker = men drinking more than 4 standard drinks per day/women drinking more than 3 standard drinks a day; Occasional drinker = men drinking less than 4 standard drinks per day/women less than 4 standard drinks a day; Abstinent = never drinks alcohol
 ** ECOG-PS: 0= Fully active, able to carry on all pre-disease performance without restriction; 1 = Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work; 2 = Ambulatory and capable of all self-care but unable to carry out any work activities; up and about more than 50% of waking hours; 3 = Capable of only limited self-care; confined to bed or chair more than 50% of waking hours; 4 = Completely disabled; cannot carry on any self-care; totally confined to bed or chair 5 = Dead

Figure 2. Drugs received in 2L Treatment



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Healthcare Resource Utilization

- Mean days of hospitalization were 3.1 (8.7) per 100 patient-days, ranging from 2.2 (7.4) in Italy to 3.8 (9.0) in Canada (Table 2).
- Overall, 0.02 (0.4) and 0.1 (0.5) mean days of ICU stay and emergency visits per 100 patient-days were respectively reported.
- Mean outpatient visits per 100 patient-days were 4.1 (6.3), ranging from 1.9 (4.6) in Canada to 6.5 (6.8) in Italy.
- Mean number of individual concomitant prescriptions per 100 patient-days was 2.4 (4.1), ranging from 1.6 (2.1) in Australia to 3.0 (4.0) in Italy.
- Mean laboratory and imaging tests performed per 100 patient-days were 26.3 (33.0) and 1.7 (3.5), respectively.
- Laboratory tests ranged from 21.1 (23.8) in Australia to 29.1 (32.4) in UK, whereas, imaging tests ranged from 0.6 (1.2) in Italy to 2.6 (4.4) in Canada.

Table 2. Healthcare Resource Utilization in 2L Treatment

	Australia (N=34)	Canada (N=100)	Italy (N=84)	UK (N=62)	Overall (N=280)		
Hospitalization / Inpatient stay days	2.66 (7.73)	3.77 (9.04)	2.20 (7.42)	3.66 (10.37)	3.13 (8.71)		
ICU stay days	0.00 (0.00)	0.06 (0.63)	0.00 (0.00)	0.00 (0.00)	0.02 (0.37)		
Emergency room visits	0.12 (0.41)	0.25 (0.59)	0.05 (0.34)	0.11 (0.32)	0.14 (0.46)		
Outpatient (visit for follow-up)	3.29 (3.78)	1.90 (4.62)	5.44 (7.43)	6.47 (6.83)	4.14 (6.28)		
Concomitant medication	1.62 (2.14)	2.39 (2.83)	2.99 (4.03)	2.21 (6.31)	2.44 (4.14)		
Laboratory tests	21.12 (23.82)	24.94 (39.34)	28.12 (28.39)	29.06 (32.39)	26.34 (33.05)		
	Blood cell count	3.81 (4.97)	5.69 (9.05)	6.22 (6.30)	6.00 (6.87)	5.69 (7.39)	
	Biochemistry test	3.79 (4.97)	5.27 (8.80)	6.08 (6.17)	6.00 (6.38)	5.50 (7.15)	
	Liver function test	3.62 (4.53)	5.05 (8.80)	5.91 (6.13)	5.80 (6.39)	5.30 (7.11)	
	Renal function test	3.78 (4.98)	5.43 (8.75)	5.81 (6.13)	5.64 (6.41)	5.39 (7.12)	
	Blood pressure reading	5.90 (8.99)	3.15 (6.74)	3.71 (7.06)	5.32 (6.97)	4.13 (7.23)	
	Electrocardiogram	0.21 (0.62)	0.35 (1.64)	0.39 (1.11)	0.30 (0.98)	0.34 (1.25)	
	Imaging tests	2.09 (5.41)	2.59 (4.40)	0.57 (1.22)	1.42 (2.12)	1.67 (3.53)	
		X-ray	0.95 (4.33)	1.21 (2.83)	0.26 (0.76)	0.33 (1.21)	0.70 (2.40)
		Ultrasound	0.23 (0.71)	0.48 (1.36)	0.04 (0.18)	0.13 (0.40)	0.24 (0.89)
CT		0.73 (0.75)	0.82 (1.38)	0.21 (0.44)	0.87 (0.84)	0.64 (1.02)	
MRI		0.01 (0.05)	0.04 (0.24)	0.00 (0.05)	0.03 (0.21)	0.03 (0.18)	
PET	0.00 (0.00)	0.00 (0.03)	0.00 (0.00)	0.00 (0.03)	0.00 (0.02)		
PET-CT scan	0.01 (0.05)	0.04 (0.24)	0.00 (0.05)	0.03 (0.21)	0.03 (0.18)		
Endoscopy	0.12 (0.58)	0.03 (0.11)	0.04 (0.31)	0.04 (0.15)	0.05 (0.28)		
Colonoscopy	0.00 (0.00)	0.00 (0.03)	0.00 (0.05)	0.00 (0.00)	0.00 (0.03)		

Abbreviations: CT, computed tomography; HCRU, healthcare resource utilization; ICU, intensive care unit; MRI, magnetic resonance imaging; PET, Positron emission tomography; PET-CT scan, Fluorodeoxyglucose-PET-CT scan SD, standard deviation.

CONCLUSION

- This study describes the high burden associated with managing metastatic / unresectable gastric and GEJ cancer patients receiving 2LT and highlights the need of effective new treatments that could decrease this burden.

DISCLOSURES

This study is funded by Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA

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