Disease Management Costs in Late-line Metastatic Colorectal Cancer: A Portuguese Perspective Using Structured Expert Elicitation

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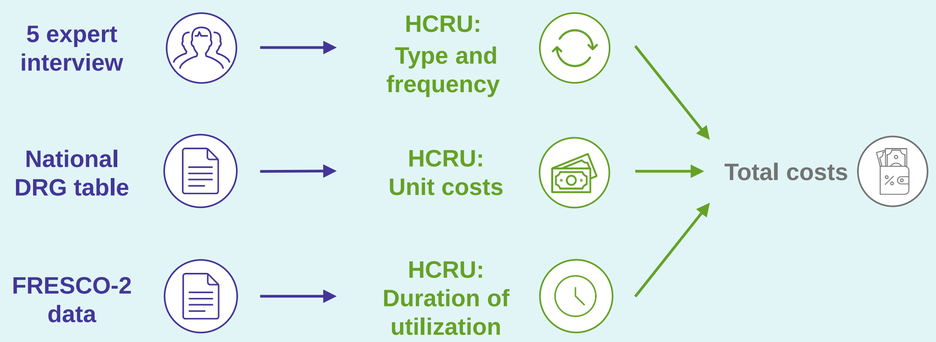
Question

What is the healthcare resource utilization (HCRU) consumed by late-stage metastatic colorectal cancer (mCRC) patients in best supportive care (BSC) in Portugal and how much does it cost to manage these patients?

Study design



Results

Figure 1: Type, frequency, and unitary cost of HRs

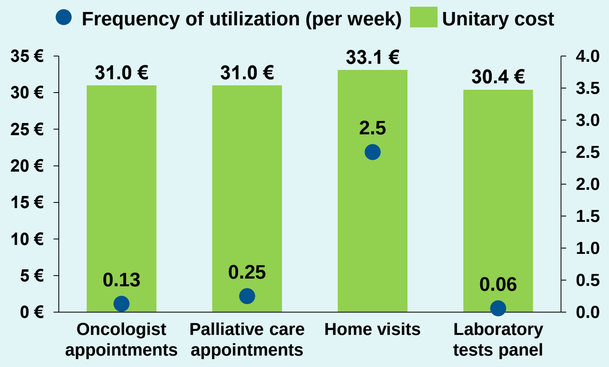
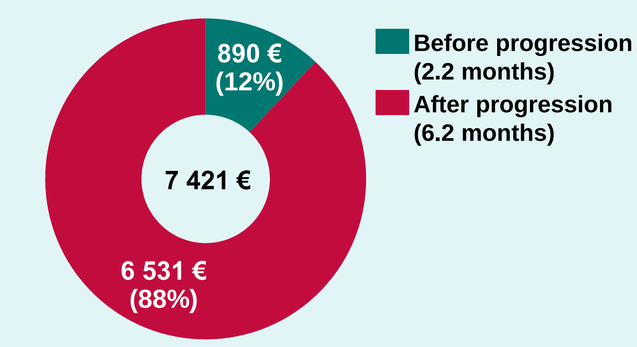


Figure 2: Total management costs for a single mCRC patient



Key take aways

It is estimated that it costs € 7,421 to manage a single mCRC patient who is in BSC in Portugal.
The majority of expenses (88%; €6,531) occur after disease progression, and terminal care costs account for about half (53%; €3,938) of all expenses.

Background

- Colorectal cancer (CRC) has the highest incidence of all cancer types (15.2%, with 10,575 new diagnosis) and is the second leading cause of cancer-related death (14.2%, with 4,809 deaths) in Portugal[1]
- The economic burden of treating metastatic CRC (mCRC) varies greatly across countries, and it has been increasing substantially in recent years, partly due to the introduction of biologics and new therapies in early lines of treatment[2]
- Apart from drug-related costs, other treatment-related expenses – such as healthcare resource utilization (HCRU) – also significantly impact overall costs[3]
- To our knowledge, there are no studies that identify and quantify HCRU used in advanced mCRC settings , for patients receiving Best Supportive Care (BSC) in Portugal

Objectives

- Understand what is the typical management approach for late-line metastatic CRC (mCRC) patients under BSC in Portugal
- Estimate the costs of disease management of these patients

Methods

- Five oncologists experienced in the management of mCRC patients in Portugal provided clinical insights on HCRU employed in late-line settings (4L+)
  - Experts detailed the frequency of appointments, monitoring tests/exams, and at-home support (home visits)
  - HCRU were estimated through structured elicitation based on the Sheffield Elicitation Framework (SHELF) via a standardized questionnaire
- Progression and survival timings for the Portuguese population were derived from the FRESCO-2 trial [4]
  - The time spent progression free was given by the average of progression-free survival (PFS) time of the FRESCO-2 BSC group, and post-progression survival time was obtained from the subtraction of the average of overall survival (OS) time minus the average PFS time
- Unit costs for each healthcare resource (HR) were derived from the national Diagnosis Related Groups (DRG) table
  - Costs were exposed to a 4% discount (following INFARMED's guidelines for economic evaluation)
- Final results are reported as median estimates with 95% confidence intervals
- Costs were assessed from the perspective of public hospitals within the Portuguese NHS, using the Euro (€) as the reference currency

Results

Table 1: Frequency of utilization of HRs for patients in BSC (per month)

	Before progression	After progression
Oncologist appointment	0.52	0.52
Nutritionist appointment	0	0
Palliative care appointment	1	1
Nurse appointment	0	0
Home visit	10	10
Laboratory tests panel	0.24	0.24
Carcinoembryonic antigen (CEA)	0	0
CT scan	0	0

The responses from the surveyed oncologists to the questionnaire indicated that:

- For patients already in BSC, disease progression does not lead to any change in in the management strategy
- Patients in BSC are typically not followed by a nutritionist nor by a hospital nurse; instead, they have oncologist and palliative care appointments and at-home visits
- Patients in BSC are usually not submitted to monitoring exams (such as CT scans), and only perform laboratory tests very rarely

Table 2: Unit costs of HRs (in €, without discount)

	Cost (€)
Oncologist appointment	31.0
Palliative care appointment	31.0
Home visit	33.1
Laboratory tests panel	30.4

Table 3: Duration of utilization of HRs (in months)

	Before progression	After progression
Duration of utilization of HRs	2.2	6.2

Table 4: Terminal care cost (in €, without discount)

	Cost (€)
Terminal care*	4,064

*This cost was given by averaging grades 3 and 4 for hospitalization of DRG 862

Table 5: Total costs (in €, with a 4% discount)

	BSC	
	Before progression	**After progression**
Healthcare resources	€ 890	€ 2,593
Terminal care	NA	€ 3,938
Total (95% CI)	**€ 890** (€ 836 – € 920)	**€ 6,531** (€ 6,137 – € 6,983)
	€ 7,421 (€ 6,973 – € 7,903)	

Conclusions

- The elicitation-based approach provides robust estimates of healthcare resource utilization, offering a methodological contribution to the economic evaluation of late-line mCRC in Portugal.
- Patients with late-line mCRC represent a significant cost to the Portuguese national health system, including those treated with BSC, reserved for when all therapeutic options have failed
- This may inform cost-effectiveness assessments of novel therapies by contextualizing the economic burden of BSC within the Portuguese healthcare system.
- Our findings underscore the need for available therapies that delay disease progression and potentially reduce overall disease management costs

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Disclosures

Nothing to declare

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