Dutch Metaphor Extraction from Cancer Patients' Interviews and Forum Data using LLMs and Human in the Loop

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Abstract

Metaphors and Metaphorical Languages (MLs) play an important role in healthcare for the information communication between clinicians, patients, and patients' family members. In this work, we focus on the Dutch language and cancer patients' data. We extract the metaphors used by patients using two data resources: 1) cancer patient storytelling interview data, 2) online forum, data including cancer patients' posts, comments, and questions to professionals. We investigate how current state of the art LLMs and perform on this task by exploring different prompting strategies such as Chain of Thought, few-shot learning, and self-prompting. With human in the loop, we verify the extracted metaphors and collect the output as a corpus, named "**HealthQuote.NL**". We believe the extracted metaphors can be useful for supporting better patient care, e.g. shared decision making, helping communication between patients and clinicians, patient health literacy, etc. It can also be integrated into the design of a care path. We share our prompts and related resources at https://github.com/aaronlifenghan/HealthQuote.NL.

1. Introduction

According to the Contemporary theory of metaphor, a metaphor is "a cross-domain mapping in the conceptual system" (Lakoff, 1993). Metaphor can be expressed in different linguistic units, such as words, phrases, or sentence levels. People use metaphors in daily life with or without realising them.

In the healthcare domain, metaphors can play a helpful role in the communication between caregivers and cancer patients (Semino et al., 2017b; Harrington, 2012; Liu et al., 2024): patients can be helped by comparing their cancer treatment process to e.g. journeys or battles. In the UK, the Metaphor Menu has been a successful project, publishing a pamphlet of potentially helpful metaphors for patients living with cancer.[1]

In this paper, we take the first steps in collecting a set of Dutch-language metaphors related to living with cancer. We extract these metaphors from patient utterances, both spoken (transcribed) and written. To this end, we analyse two distinct corpora of Dutch patient narratives: interviews and blog posts (kanker.nl). We experiment with a suite of small, local LLMs and a range of prompting techniques to extract metaphors from texts. After analysing the output with simple instruction prompts, we identify 7 challenges for this task, including hallucination of

metaphors, figurative language or idioms mistaken as metaphors, and abstraction instead of extraction of the originally mentioned metaphors. With more advanced prompting techniques, including chain-of-thought and iterative self-prompting, we were able to address these challenges to some extent and extract useful metaphors from the two datasets.

In summary, our contributions are: (1) We have developed an advanced prompting strategy for small LLMs to extract and analyse metaphors from patient narratives successfully; (2) Using this strategy, we collect a set of 65 Dutch metaphors related to living with cancer from patient interview transcription data; (3) We used alternative prompts for patient forum data and extracted another 65 distinctive metaphors from the written text data. Furthermore, we mapped some of the metaphors from forum data to the original English Metaphor Menu. This collection can be the starting point for a Dutch metaphor menu to help patients and caregivers communicate about their illness, treatment, and wellbeing.[2]

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[1]https://wp.lancs.ac.uk/melc/the-metaphor-menu/

[2]Regarding data sharing of HealthQuote.NL, to protect patients' privacy, we generate paraphrased and synthetic examples using the metaphors we extracted from online forum text.

2. Related Work

In this section, we introduce works from three perspectives: metaphor identification in Dutch, metaphor cancer, and metaphors in Dutch healthcare.

2.1. Metaphor Identification in Dutch

Regarding metaphor identification and extraction methods in Dutch, to the best of our knowledge, little work has been done. One PhD thesis by Pasma (2011) focused on metaphor and register variation in Dutch news discourse. They extended the metaphor identification procedure (MIP) from Group (2007) by adapting it to some new situation when "cross-domain mapping" appears for certain words, including "direct metaphor", "implicit metaphor", and "metaphor flag". This adaptation has been applied to the Dutch discourse corpus on news texts. The MIP principle is a symbolic text examination on a word-by-word basis. Later on, there have been a few works published as book chapters (non-open-access books) by the same research group, following the PhD thesis project, including (Pasma, 2012, 2019).

Another loosely related work is from De Knop and Perrez (2014), which studies the conceptual metaphors of Dutch and German for efficient teaching and, alternatively, aims at verifying them.

Our work will be the first exploring and investigating LLMs for Dutch metaphor identification and extraction.

2.2. Metaphors in Cancer

Various researchers have conducted metaphor studies within the cancer domain. Review articles in this topic include Harrington (2012); Liu et al. (2024). Semino et al. (2017a) carried out comparative studies on metaphors used by cancer patients vs health professionals at online forums in the UK between 2007 and 2013. It included 56 patients and 307 health professionals. The study showed that "violence" and "journey" related metaphors are not necessarily negative or positive by default. It depends on how they are used. The "violence" metaphors were further studied and discussed in their following work on communicating nuanced results in Language Consultancy (Demjén and Semino, 2020). Similar work was conducted by Declercq et al. (2023) on metaphors use of machines, journeys, and prisons for chronic pain patients in consultations to describe pain, illness, and medicines.

There are courses designed, e.g. "Cancer as Metaphor" by Penson et al. (2004) for explaining the strengths and weaknesses of using metaphor in patient-caregiver relationships. The instructions covered different roles, including facilitator, oncologist, psychiatrist, and psychologist.

Focusing on the staging, researchers studied "imprisonment", "burden", "battle", and "journey" metaphors on patients living with *advanced cancer* using blog posts (Hommerberg et al., 2020), and a focus group design with eighteen people on cancer *survivor* (Appleton and Flynn, 2014).

From a gender perspective, Gibbs Jr and Franks (2002) studied the relation between language use and thoughts from 6 females who live with cancer. From cancer types, Pfeifer et al. (2024) conducted a study on how metaphors can help the communication of information exchange from breast cancer patients about depressive symptoms.

There are also focused studies on language or region-specific, e.g. Spanish (online forum) (Magaña and Matlock, 2018), the UK (corpus-based) (Semino et al., 2017b), American and Nigerian (self-help books) on "military, journey, personification, and sports" (Nwankwo, 2024).

Most work has focused on one source of data, e.g. either online data, interviews, or books. However, we aim to *explore the difference between verbal and online-written data*. Similar to (Semino et al., 2017b), in the interview data we have, there are 3 roles (patient, significant other, and interviewer), but in Dutch (the Netherlands) instead of English (UK).

2.3. Metaphors in Dutch Healthcare

To our best knowledge, there is no prior work on Dutch-language metaphors in the cancer domain. However, there is some work on metaphor-related research in other Dutch healthcare domains that we list here.

To better understand the stigma toward *dementia* patients, Creten et al. (2022) conducted sentiment analysis of Dutch language using tweets from 2019 to 2020 into seven dimensions, including joke and metaphor, in addition to others such as information, organization, personal experience, politics, and ridicule. The authors identified 10% of the tweets were metaphorical during manual coding.

To study the needs of *hypertensive* patients expressing themselves using metaphors, analogies, and symbols, such as the causes and consequences of the illness, Schuster et al. (2011) used 55 patients of three ethnic groups in the Netherlands, including Creole, Dutch, and Hindustani descent, for in-depth interviews. The finding shows that patients use machine and enemy-related metaphors to explain the origins and consequences of hypertension, with its characteristics of silence, invisibility, and uncontrollability.

In another study by Hillen et al. (2025), the authors investigated the usage of metaphoric language by clinicians for family members of *ICU* pa-

tients. They sampled 36 neonatal, pediatric, and adult patients, together with 104 of their family members. Using the transcribed and anonymised audio recording of conversations, the findings show that metaphors were used frequently and predominantly by clinicians to share clinical information and the awareness of using metaphors by clinicians can improve effective information exchange. However, the authors also discussed that both harms and benefits arise from clinicians using metaphors, e.g. shared decision making (SDM) might be hindered if clinicians actively and consciously use metaphor to steer the families into a direction they consider as the best for patients.

In contrast to this, in our work, we aim to *identify and extract metaphors used by **patients** and their **family** members* (significant others), for better support of patient care.

3. Methods Design and Development

To identify metaphors used in texts in patient records, we explore different kinds of techniques on prompting LLMs, including Persona (Lutz et al., 2025), chain of thought (CoT) (Saparov and He, 2023), iterative self-prompting (ISP, *aka* LLM-assisted prompting) (Romero et al., 2025; Ren et al., 2025), and knowledge-inserted prompting (Dong et al., 2024). To analyse if the structure, size of LLMs, and their pre-trained domain knowledge matter, we use LLMs from different sizes and structures, as well as domain-specific ones, including models pre-trained on medical knowledge.

As shown in Figure 1, the initial prompt we used is the "Instruction Prompt (**I.inP**)" using Persona, role of "system" and "user", without CoTs. Messages we used for prompting are:

- "role": "system", "content": "You are an assistant that processes and analyses documents."

- "role": "user", "content": "Here is the document: ⟨*document-content*⟩ Please tell me metaphors that people used in the conversation in this document and list them in bullet points. Can you offer the English translation version too? Can you also offer the full sentences in which the metaphors were used?"

Then, in the refined prompts (**RPs**), we added CoT and ISP by asking LLMs to generate prompts for such a task. After a few iterations of refinement, the LLM-assisted long and structured prompt message for this task includes the following key components[3]:

- Persona: an expert linguist

- Strict Extraction Protocol

  - Document Scanning
  - Metaphor Identification, CoTs with examples
  - Verification Requirements, different levels
  - Data Extraction Format
  - Structured Output (Population)

- Quality Control Rules

- Final Instructions

Among the Refined Prompts (RP v1 and v2), the difference is that for v1, we only gave three simple and short metaphorical sentences for few-shot prompting:

- "This treatment is a journey" (medical process → travel)

- "Fighting cancer" (disease → war)

- "The tumor is growing like a weed" (cancer → plant)

For v2, we inserted the entire English Metaphor Menu list (17 from the public website (Metaphor Menu, Lancaster University, 2025)) with our categorisation. The different settings for RP-v1 and RP-v2 are to investigate 1) if the English Metaphor Menu can guide the LLMs to extract better metaphors; 2) if the English Metaphor Menu will introduce bias to LLMs to extract only metaphors like the English metaphors.

For automatic verification (auto.verify), we implemented an external checklist tool for LLMs: if they are able to find the exact text in the document that expresses the metaphor, identify the exact section, identify the speaker's role (when there are multiple roles), and identify the metaphor (not literal medical terms).

For extracted metaphors, we ask LLMs to group them into 1) types: word, phrase, sentence, and extended, 2) source domain: violence, journey, nature (garden), games, music, fairground, unwanted guests, religion, control, building, machine, and other, and 3) function in context: explanation, coping, empowerment, relationship, prognosis, treatment, emotion, and humour.

For security and privacy reasons on processing patients' data, even though they are already anonymised, we prioritise to use local LLMs through the ollama platform[4] over commercial models. The open-source models we used include both medical and general domains.

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[3]We share the detailed prompts at a public GitHub page https://github.com/aaronlifenghan/HealthQuote.NL
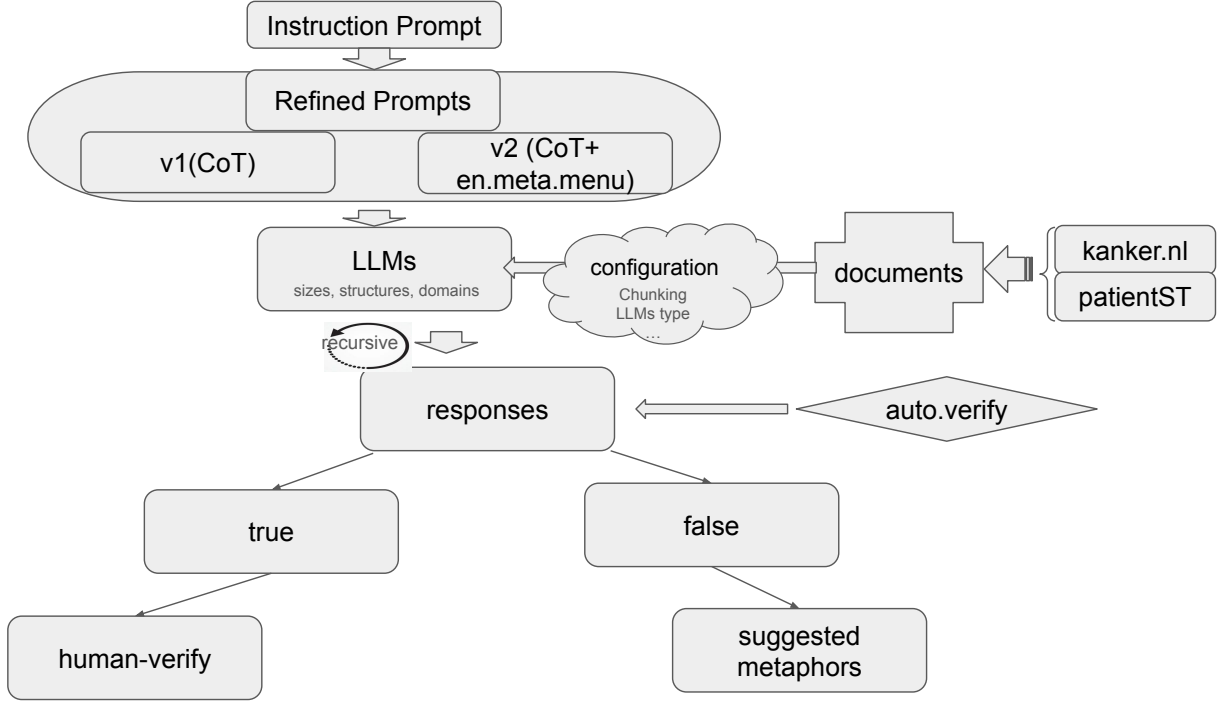
[4]https://ollama.com/library

Figure 1: HEALTHQUOTE.NL: Extraction Framework using LLMs and Human in the Loop.

4.   Experiments

4.1.   Data

For **Patient Story Telling (patientST) Interview data**, we used the transcriptions of 13 documents from 13 interviews in an oncology setting obtained from (Griffioen et al., 2021). There are three roles for each interview: cancer patient, a family member or friend of the patient (significant other), and interviewer (researcher). They are specified as P (Patiënt), N (Naaste), and O (Onderzoeker) in the free text. The largest document has 13,777 words and 32 pages, while the smallest document has 5,596 words and 16 pages. See Figure 2 for statistics per document.

For **cancer patient forum data**, we have a collection in Dutch of 15,653 blogs, 17,290 comments, 2,246 group discussions, 5,777 "ask a professional" items in which experts answer questions from patients, and 10,134 reactions on "ask a professional" from three cancer types: breast cancer (3,524), prostate cancer (2,613), and melanoma (614). The patient content includes treatment phases, treatments, and long-term consequences.

We have approval to use both the two sets of data for research. We can not disclose the original forum text. Considering this, instead of displaying the original text, we will give paraphrases or synthetic example texts generated from the extracted metaphors.
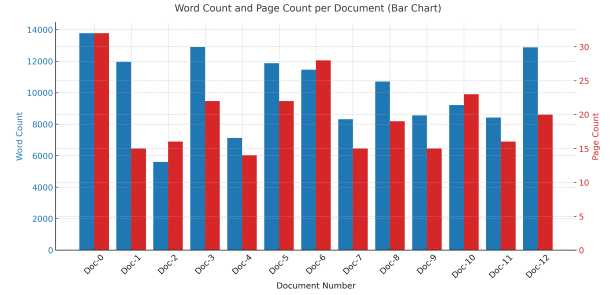

Figure 2: Interview Data Statistics.

4.2.   Model Parameter Settings

The models, parameters, and their values we explored (model configuration) are:

- **Prompts**: Instruction Prompt (IP), RP-v1, RP-v2

- **Text split**: max-token=4000, overlap-token: 40, char-per-token: 4

- **Models**: qwen3:8b, gemma3:12b, gemma3:27b, llama3.1:8b, mistral:7b, deepseek-r1:8b, meditron:7b, medllama2:7b

- **Options**: context size window=32768, temperature=0.8, top-k=40, top-p=0.9

Among these parameters, higher temperature allows LLMs to generate more diverse or creative outputs, but also increase the chance of nonsensical, irrelevant, or factually incorrect outputs. The

rationale we set up the temperature higher (0.8) is that we expect the LLMs to suggest alternative metaphors for some situations whenever there is a chance for better communication, when there are no actual metaphors used in some text.

4.3. Output with initial instruction prompt

We first list some challenges with example outputs using llama3.1:8b and only initial Instruction Prompt (I.InP) without CoT on interview data:

1) Some **abstractive or paraphrased** summarised metaphors, instead of extractive: e.g. a) from Doc-6: "Een strijd voeren voor je lijf" (Fighting a battle for your body) from Full sentence: "Dat doe je ook deels voor je familie. Want die vinden, ja die willen graag dat je blijft en dan zegt het lijf vanzelf 'ja ik ga knokken'." (You do it also partly for your family. Because they want to stay and then your body says itself "yes I'll fight"); and another one b) from Doc-12: "Het is alsof je in de nacht ziet en je weet niet wat er aan de hand is" (It's like seeing things in the dark and not knowing what's going on) from Full sentence: "Maar het was alsof ik in de nacht stond en niets zag. Ik wist niet wat er aan de hand was." ("But it was like standing in the night and seeing nothing. I didn't know what was going on.")

2) **Fail to translate** simple sentences: e.g. from Doc-8: De zonsondergang van zijn leven" ("no direct English translation" from LLM, shall be "the sunset of his life") but it gave an explanation of the metaphor: "using sunset as a metaphor for the end of one's life".

3) **Suggesting metaphors output** plain text: e.g. from Doc-9: For the original text in Dutch: "Het is heel belangrijk dat patiënten heel positief blijven en de familie ook - niet alleen familie, vrienden-meepraten en vooral niet bang zijn" (translation in English: "It's very important for patients to stay positive and for the family too - not just family, friends - to discuss things and especially not be afraid"), LLM suggests the following metaphor: "Comparing the patient's journey to a ship navigating through stormy waters. The speaker emphasises the importance of staying positive and discussing things openly.", which can be useful in communication to support patients illustratively.

4) **Figurative language** rather than strict metaphors: e.g. in Doc-9: the original Dutch text "Ik denk dat we allemaal een beetje te vroeg geboren zijn" (translation in English: "I think we're all a bit too early born"). It was interpreted as metaphor by LLM "Comparing human beings to products that are not yet ready for use. The speaker humorously suggests that they and their family members are still learning how to navigate the healthcare system." However, this is more as a figurative language expression, instead of metaphor mapping A to B.

5) **Over-Interpreting metaphors**: e.g. from Doc-10, a metaphor "een klein schip in de storm" (English Translation: "A small ship in a storm") is suggested from "het wachten" ("the waiting"), although the context did not say much about this metaphor. Instead, the researcher was asking the patient about the concern of process, as quoted below. "O: Heel goed, dank u. Wat in het hele traject vond u eng of vervelend? P: Het wachten. O: Wat waren met name de momenten van het wachten?" (translation: "O: Very good, thank you. What did you find scary or annoying about the whole process? P: The waiting. O: What were the specific moments of waiting?")

Despite these issues, we were able to extract and collect 28 metaphors from the 13 interviews after human verification using the initial instruction prompt. They reflect some of the source domains we defined later for the refined prompts, including journey, religion, control, machine, nature, and violence. From a functional perspective, they can help communicate: feeling, hospital, process, dealing, life. These also reflect our function design in RPs (Section 3).

We also explored I.inP with verification tool (**I.inP.VT**) control and the original English Metaphor Menu webpage link (I.inP.V.L). Overall, 7 were re-identified by the model, however, there are also 3 variations and 13 new ones generated, together with the original 28 resulting in **41 in total from the initial instruction prompts**. For examples of variations, e.g. from Doc-1, the full sentence "P: Ja, die morfine maakt dat je, die die heeft me ook wel angstig gemaakt." ("P: Yes, that morphine makes you, that made me anxious too."), I.inP generated "Morfine brengt angstgevoelens naar boven" (Morphine brings anxiety feelings to the surface), while the I.inP.VT generated more indirect and figurative expression "Er zit een morfine achter je" (There's morphine behind you). The metaphor is that the morphine is a physical presence that's affecting their behaviour.

In the outputs using the verification tool and the English Metaphor Menu website page link, we have new findings that we list here following the aforementioned list.

6) The LLM extracted **idioms instead of metaphors**. For instance, from Doc-1 "Een baby-hoeveelheid" (A baby-amount) is extracted to express the dietary change from the patients, from the full sentence: "Het is maar een baby-hoeveelheid. Nog niet eens de helft van hij vroeger at." ("It's only a baby's amount. Not even half of what he used to eat.)

7) The LLM **hallucinated metaphors**, e.g. from Doc-5, LLM generates a metaphor "De dokter is een dominee" (The doctor is a preacher), from the original sentence: "Die arts-assistent was echt 0

komma 0." (English translation: "That doctor's assistant was 0 point 0."). LLM explains "The speaker compares the doctor to a preacher, implying they were ineffective and unhelpful." Firstly, it switched the role from "doctor's assistant" to "the doctor". Secondly, "preacher" was not used in the context. The difference between Point 5 and Point 7 is that, Over-interpreting metaphors is more than suggestive metaphors but still try to interpret the situation; however, Hallucinated metaphors even misinterpreted the roles in the context, e.g. "doctor" to the "assistant".

4.4. Output with Refined Prompts

We applied Refined Prompts (RPs) with CoTs (v1 and v2) and English metaphor menu as inserted knowledge (full text, instead of webpage link), in-context learning for v2. We applied these two RPs on the interview data, and the collected metaphors are categorised into types (word, phrase, sentence), source domains, and functions.

With RPs and inserted knowledge, **24 metaphors** are collected after human verification from collective LLMs, Table 1. The output metaphors from RPs are more closely related to the original context and have less hallucination. Thus, in total, the initial instruction prompts and PRs have **collected 65** (41+24) metaphors from interview data.

However, it is still not possible to totally avoid it. For instance, from Doc-3, LLMs (mistral:7b) attempt to create a metaphor out of the original phrase "Volle melk, volle yoghurt.." ("Full milk, full yoghurt..."). It describes "The patient compares their current state to a full milk or yogurt container, possibly emphasising the feeling of being overwhelmed.", with "reasoning": "This is metaphorical because the context suggests an emotional burden that goes beyond physical nourishment." However, the original context has only talked about food.

4.5. Application to blog data

As a pilot study, applying our automatic metaphor extraction method with Gemma to the first 100 blog posts on *Kanker.nl* produced a diverse set of figurative expressions related to the lived experience of cancer. The raw output contained both **novel metaphors** and **frequent idiomatic expressions** that are part of everyday Dutch. Examples of these **conventionalised or dead metaphors** include *"te horen krijgen"* ("to be told"), *"meten is weten"* ("to measure is to know"), *"ik baal als een stekker"* ("I'm as annoyed as a plug"), and *"laten we hopen dat alles met een sisser afloopt"* ("let's hope it all blows over quietly"). While these idioms are emotionally expressive, they are generic and not specific to the cancer experience.

In total, out of the 100 posts, the model (*gemma3:27b, olllama*) identified 39 posts that contained at least one metaphorical expression, yielding **65 distinct metaphor** instances. Of these, approximately **ten** were identified as particularly vivid and conceptually rich, reaching a level that could be considered for inclusion in a future *metaphor menu*–a curated set of expressive metaphors for therapeutic or communication purposes. These most salient examples demonstrate how patients and relatives employ creative language to express emotion, reframe vulnerability, and negotiate meaning in relation to illness.

During the manual post-filtering phase, the analysis focused on **novel metaphors**: linguistically creative and context-specific expressions that reveal how patients conceptualise illness, identity, and recovery. The selected metaphors, grouped below by their **metaphorical vehicle**, illustrate how individuals on *Kanker.nl* use figurative language to articulate emotion, reclaim agency, and construct meaning in the face of illness.[5]

The Party   Here, cancer is personified as an uninvited celebrant. The party metaphor conveys irony and defiance, transforming fear into dark humor. This creative reversal allows the writer to express anger and regain narrative control by reframing the illness as something absurd rather than purely tragic.

> *"I was told not to use worrying titles anymore, so this time I've decided to make it a celebration instead – my cancer is having a party of its own.""*

The Car   The damaged car serves as a vivid metaphor for physical and emotional wear. It conveys the experience of being battered but not beyond repair, blending vulnerability with resilience. The detailed imagery grounds the illness experience in tangible, everyday language that conveys fatigue and determination simultaneously.

> *"I feel like an old wreck of a car, the kind that can't be patched up with filler anymore – it needs entirely new bodywork, like the rusty 2CV sitting in someone's garden."*

The Lighthouse   The lighthouse represents guidance, stability, and safety. It evokes the dependable presence of loved ones who provide light and orientation amid uncertainty. This metaphor articulates the relational and emotional support structures crucial for coping with illness.

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[5]Note that we do not release patient's literal words here but rephrased them to protect patient privacy.

Overall	Qwen	Mistral	MedLlama	DeepSeek	Llama3.1:8B	Gemma3:12B	Gemma3:27B
24	5	8	1	0	5	1	4

Table 1: Metaphor counts from collective LLMs using RPs on interview data.

"A lighthouse – someone solid and constant, always there to guide you through the dark."

The Storm The storm metaphor externalizes psychological turmoil and intrusive thoughts. By likening mental distress to turbulent weather, the speaker gives form to anxiety and confusion, making inner chaos visible and easier to communicate.

"It feels as if a wild storm is roaring through my head."

The Train The train functions as a metaphor for relentless motion and loss of control. These images capture the unstoppable pace of medical treatment and the sense that life continues regardless of one's readiness, balancing fatigue with perseverance.

"Just when you think you've stepped off one speeding train, you realize you're already on the next one.""

"Life keeps pounding along like a fast-moving train – whether I'm ready to get on or not."

The Painting Referring to the red surgical markings before an operation, the painting metaphor reinterprets the medicalized body as a canvas. It reframes vulnerability as something that can hold meaning and even beauty, allowing patients to reclaim agency over their altered bodies.

"My stomach looks like a work of art now, covered with careful red lines and circles drawn before surgery."

The Final Chord The musical metaphor of the *final chord* transforms death into a form of completion rather than cessation. It provides emotional and narrative closure, allowing grief to be expressed through harmony and resolution.

"This feels like the final note in the song of our journey together – the moment of closure that sends everything gently into silence."

These selected metaphors show how writers on *Kanker.nl* employ creative figurative language to convey themes of control, damage, support, turbulence, transformation, and closure. The combination of automatic extraction and qualitative interpretation reveals how metaphor functions as a key tool

for emotional expression and meaning-making in online narratives of illness.

4.6. GPT on forum data

To compare with the open-source LLMs, we also used GPT models from OpenAI on the forum data for the metaphor extraction task and prompted GPT5 to map the extracted metaphors to the English Metaphor Menu and provide a confidence score. We list some of our extracted metaphors using GPT5 (*paraphrased*) in this section, which align with the original English metaphor menu, as in Figures 3 and 4.

5. Discussion

Firstly, without the CoTs and verification tools we implemented, the initial instruction prompts produced abstractive and suggestive metaphors, paraphrased from what was said in the interview data, instead of word-for-word extractions. With the refined prompts and the inserted English metaphor menu knowledge, the LLM-generated metaphors are more closely reflecting the transcription content, but also less diverse or creative than the initial prompting outputs.

Regarding the corpus **HealthQuote.NL** we generated, it can be useful for multiple purposes, as a whole or a subset of columns. For instance, users can focus on the Dutch metaphors column for Dutch-focused patient care support. The Dutch-English bilingual metaphors can be used for non-Dutch native speakers but who speak English in the care setting. The categorisation, description, and reasoning of metaphors can be used to conduct a metaphor study itself and the relations within. The prompts we used and the corresponding varied outputs from LLMs can be explored by AI and NLP practitioners who are interested in exploring prompt engineering for better analysis of non-literal language use.

For the phrase-level and word-level metaphors, we always add the context sentence as examples to the dataset for understanding and usage. For instance, at word level, the pair of original quote "balletje" and translation "ball", is accompanied with the context "O: dan gaat het balletje heel snel rollen." (*O: Then the ball starts rolling very quickly.*.) We also give the description "In this case "balletje" means ball, like a golf ball or football. Here it means that cancer treatment is like a fast rolling ball, so that's the metaphor".

Blog text (paraphrased)	Metaphor (in Dutch)	map	Confidence Score	Explanation
Daar zit je dan… in de wachtkamer bij dokter De Leeuw. Goede naam, denk ik nog, hopelijk vecht ze ook als een leeuw. Mijn man zit zenuwachtig zijn handen samen te knijpen. O, wat had ik hem dit graag bespaard. ... De dokter vertelt waar ik een groot litteken zal krijgen. Ik maak een stom grapje: ik ben toch al gelukkig getrouwd. … Mijn gedachten dwalen af. Lymfeklieren, overal in je lichaam… Ineens raakt het me volledig, heel kort maar glashelder. De brok in mijn keel voel ik, maar ik druk de tranen weg. Nee, dat sta ik mezelf niet toe. De kinderen… denk aan de kinderen. We gaan gewoon voor goede uitslagen. Ik zal vechten als een leeuw. Als je wilt, kan ik er ook een meer literaire, bijna poëtische versie van maken, die de spanning en emoties nóg sterker benadrukt, zonder dat het te zwaar wordt. Wil je dat?	Hopelijk vecht ze als een leeuw.	7	0.95	Explicit simile of fighting like a lion — directly expresses a combat/fight frame, matching item 7 (I don't intend to give up; I want to fight).
	een groot litteken	13	0.72	A scar functions as a lasting trace/after-effect of illness/treatment; thematically closest to item 13 (cancer as an unwelcome lodger that leaves a mess / lasting memory/residue).
	Ineens raakt het me volledig, heel kort maar glashelder.	2	0.85	This describes sudden clarity and heightened perception; maps best to item 2 (the illness makes you look up and take notice of the scenery / increased appreciation/awareness)
	Ik zal vechten als een leeuw.	7	0.99	Straightforward, first-person battle metaphor — very strong direct fit with item 7 (determined combat).
Na een week wachten mochten we eindelijk de uitslag van het biopt van een vlekje in mijn mond horen. Volgens Dokter Google zou het zomaar een onschuldige "amalgaamtattoo" kunnen zijn, maar stiekem bleef in mijn achterhoofd het idee rondspoken dat het ook een melanoom kon zijn. .... Dankzij hem konden we snel weer naar huis. Nu op naar woensdag: het intakegesprek over de immunotherapie, waarvan de eerste behandeling donderdag al op het programma staat.	Volgens Dokter Google kon het een onschuldige 'amalgaamtattoo' zijn, … melanoom kon zijn.	1	0.65	The 'haunting in the back of my mind' gives a feeling of fear and uncertainty that is temporary, which fits item 1 (scary fairground ride)
	konden we snel weer naar huis	5	0.25	Returning home after reassurance suggests social/support element; loosely aligns with item 5 (the rocks in our path are easier with others who help you). Low confidence because the phrase is largely literal (going home) and not a clear metaphor of shared burden.
	Op naar woensdag, het intakegesprek over de immunotherapie...	3	0.30	Phrase implying forward motion toward a next step; loosely maps to a journey metaphor. Best (but weak) fit is item 3 (journeys vary in length; what matters is how we walk the journey) because it signals continuing along a process. Low confidence because the expression is mostly temporal/planning rather than an explicit journey metaphor.

Figure 3: Metaphor identification using GPT5 on forum data (paraphrased) with model confidence scores: part-1 ('map' column refers to the value in original English Metaphor menu)

We have collected metaphors that patients can use not only in the cancer treatment process but also for hospitals, clinicians, and families, which can be very useful in a diverse way.

From the interview transcriptions, there are many broken and incomplete sentences, e.g. from Doc-0, Original sentence: "En, maar met [naam arts] nu, dat gaat een stuk beter en we hebben sinds dat wij, dat hij in [plaatsnaam] is gaan kuren, heb je zo'n oncologieverpleegkundige en daar kan je wel je vragen aan kwijt en zij... (*But now with [name of doctor], it goes a lot better and since we've been at [place name] to cure, you have an oncology nurse there where you can put your questions and she...*)". The metaphors we collected using two data sets are also different in the domain words that people used to map to (the vehicle).

From our experimental outputs, different LLMs can extract and suggest different metaphors from the same data we used even though the overlaps happen sometimes. So, it is useful to have a *collective of LLMs* to carry out such a task from our findings.

6. Conclusions and Future Work

In this work, we explored different kinds of prompting techniques for Dutch metaphor identification and extraction in cancer domain using two data sets including interview data transcription (oral language) and forum data (written language). We collected 130 metaphors (65 each) from two data

Blog text (paraphrased)	Metaphor (in Dutch)	map	Conf. Score	Explanation
... Ik ben de afgelopen weken druk geweest met alles rondom mijn reconstructie, gesprekken met mijn psycholoog, rebalancing en andere dingen om alles een plek te geven, en ook om mijn werkuren langzaam weer op te bouwen. Voor mijn gevoel heb ik behoorlijk wat stappen gezet, en 70% van de tijd gaat het eigenlijk best goed. ... Dat blijft nog steeds het meest onwerkelijke van alles: zo heb je er twee, en ineens nog maar één. ... Toen ik gisteren naar de fysio reed en langs het ziekenhuis kwam, kreeg ik ineens flashbacks van de rit naar het ziekenhuis voor de amputatie, inclusief de angst en het verdriet die ik toen voelde, en de terugweg na de operatie, toen mijn plezier in het leven ineens leek te verdwijnen tegelijk met mijn borst. Het rauwe verdriet kwam ineens terug. ... Het helpt ook niet dat ik vaak droom dat ik op de operatietafel lig, wachtend op de chirurg, of dat ik me probeer te verstoppen. Sinds de amputatie droom ik regelmatig over geopereerd worden. Het zijn geen fijne dromen. Soms vind ik het gewoon zo'n raar idee. Mijn borst heeft me vanaf mijn puberteit vergezeld, een groot deel van mijn leven, en binnen een uur haalt een chirurg hem weg. ... Het onwerkelijke gevoel blijft ook. Soms lijkt het alsof mijn brein achterloopt, alsof het denkt: ... Ik was er immers bij, maar soms voelt het alsof het niet echt mij is overkomen, of alsof ik het niet volledig kan bevatten. Ik zie een lege plek, en fysiek weet ik dat ik een operatie heb gehad, maar het voelt soms alsof ik nog in een droom of nachtmerrie zit waaruit ik moet ontwaken. ... De plastisch chirurg legde uit dat dit normaal is: het brein communiceert met alle lichaamsdelen en ontvangt signalen terug, maar niet van de delen die weg zijn, waardoor het brein concludeert dat er iets niet klopt. .... Toch kijk ik uit naar het moment dat het emotionele "balletje" wat minder hard stuitert.	om alles een plek te geven	3	0.65	Putting things in place = processing and moving along; maps reasonably to type 3 (the journey and how we walk it — making steps and arranging things emotionally).
	wat stappen gezet	3	0.95	'Steps' is a clear journey/process metaphor — strong match to type 3.
	zo heb je er twee, en ineens nog maar één	1	0.75	The suddenness/disorientation evokes abrupt jolting change—loosely like type 1 (scary ride/abrupt experience).
	mijn plezier in het leven ineens leek te verdwijnen tegelijk met mijn borst	9	0.45	Equating loss of pleasure with loss of the breast suggests ongoing relationship/ebb-and-flow of experience; type 9 (cancer as relationship with shifting control) is a loose interpretive fit.
	droom dat ik op de operatietafel lig	14	0.50	Dreams and hiding suggest alienation from the body and invasive experience; relates to type 14 (initial alien-invasion/feeling not connected to changed body)
	mijn borst heeft me ... vergezeld	13	0.75	Breast as a companion/personified presence resonates with type 13 (cancer/part as an unwelcome/lingering lodger/stranger) — emphasizes loss and relationship to the body-part.
	binnen een uur haalt een chirurg hem weg	13	0.80	Reduction of a breast to 'a piece of tissue' / discarded object implies dispossession and stranger/other framing — aligns with type 13 (unwanted lodger/alien presence and loss).
	alsof mijn brein achterloopt	14	0.80	The 'brain lagging' image captures disconnection between mind and changed body — a strong match to type 14 (feeling alienated/not connected to bodily change).
	ik zie een lege plek	6	0.60	An ongoing felt absence (empty place) causing discomfort resonates with type 6 (persistent irritant/limitation after cancer — stone in the shoe metaphor for ongoing ache/discomfort).
	het brein communiceert ... maar niet van de delen die weg zijn, waardoor het brein concludeert dat er iets niet klopt	14	0.70	This physiological personification (brain-body dialogue) highlights disconnection and 'not right' sensation — thematically fits type 14 (initial alienation / not integrated).
	dat emotionele 'balletje' wat minder hard stuitert	1	0.92	Same bouncing-ball image; explicitly about calming emotional oscillation — strong match to type 1.

Figure 4: Metaphor identification using GPT5 on forum data (paraphrased) with model confidence scores: part-2 ('map' column refers to the value in original English Metaphor menu)

sets after human verification and mapped some of the metaphors to the original English Metaphor Menu. Translation of metaphors between languages doesn't work. However, the collected metaphors cover all the categories that the original English metaphor menu has, with extended new types, and are further grouped into word, phrase, and sentence levels. This collection of Dutch metaphors can be applied to support cancer patient care by integrating them into the care-path. For the current study, we only used 100 posts of the forum data we have. For future work, we will explore more data from the blog post for extended experiments. We will look into some of the MWEs identified by LLMs, since they always overlap with idioms and metaphors ((Han et al., 2025)). We also plan to explore the interpretability and explainability LLMs.

7. Ethical Statement

For both storytelling data (interviews) and kanker.nl data, we have gained ethical approvals within the research project to use. For the forum data, we used the secure version of OpenAI GPT5 established by the agreement between the University and OpenAI

on anonymised and paraphrased data.

8. Acknowledgement

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