**Annotation guidelines for OncQA content categorization**

These guidelines describe how to label replies to patient question for different content categories. Label the presence or absence of the following content categories in the reply to the patient question. Replies may be labeled with none, some, or all the categories. Please note that AnyEdu and ExtentEdu are mutually exclusive, and UrgentVisit and NonurgentVisit are mutually exclusive).

Value set (same for all categories):

* 1: Present
* 0: Absent

Note: In some cases, there will be ambiguity or different ways to interpret a reply. Use your best judgement and common sense, considering the most likely way a patient would interpret the response.

Hedging language such as “might”, “perhaps”, “could”, etc. should not be considered definitive recommendations.

**Content Categories**

**Any Education (AnyEdu)** – Writer provides simple education about the patient’s condition/question, directly related to the patient’s question. For example, “hair loss is a doxorubicin side effect”. *AnyEdu and ExtentEdu are mutually exclusive (if AnyEdu = 1, ExtentEdu = 0).*

**Extensive Education (ExtentEdu)** – Writer provides extensive education about the patient’s condition/question. (e.g., “hair loss is a side effect of chemo because it causes damage to hair follicles”). *AnyEdu and ExtentEdu are mutually exclusive (If ExtentEdu = 1, AnyEdu = 0).*

**Manage** – Writer provides recommendations for the patient to self-manage at home. Statements that the writer will prescribe medication is Act, not Manage.

**Inform** – Writer instructs patient to inform/contact any provider. Note that instructions to be seen in person should be labeled as UrgentVisit or NonurgentVisit, not Inform. Calling an office to make an appointment is similarly UrgentVisit or NonurgentVisit, not Inform.

**UrgentVisit** – Writer recommends patient go to urgent care/ED *or* come into clinic with same-day urgency (e.g., an explicit recommendation to come to clinic the same day, “today”). Telling someone to come in if something gets worse should be labeled Contingency; it should not be labeled as Urgent or Nonurgent. *UrgentVisit and NonurgentVisit are mutually exclusive (if both are mentioned, UrgentVisit takes priority).*

**NonurgentVisit** – Writer recommends patient comes into clinic without urgency. Telling someone to come in if something gets worse should be labeled Contingency; it should not be labeled as Urgent or Nonurgent. *UrgentVisit and NonurgentVisit are mutually exclusive (if both are mentioned, UrgentVisit takes priority).* Visits referred to explicitly as “telephone consultations” count as NonurgentVisit. Telling patients that it can be discussed at an already scheduled visit but that a visit does not need to be scheduled particularly for this question is not NonurgentVisit, although sometimes this difference can be subtle. In these cases, use your best judgement and common sense on the most likely way a patient would interpret the response.

**Clarify** – Writer asks clarifying questions about the question or patient’s condition

**Delegate** – Writer will delegate an action to someone else (e.g., “someone from my team will call you”)

**Act** – Writer will take a clinical action other than seeing the patient for a visit (e.g., order a test, prescribe a medication, etc). Includes actions that the MD states will they take when the patient comes in for a recommended visit. Includes writer saying they will inform another clinician about the condition. Does not include contingency actions (e.g., “depending on your clinical exam, I will order an XR”). Taking a history, getting vitals, and doing a physical exam do not count as Act. If there is only vague reference to an unspecified action “we will provide information”, do not label as Act. Actions that may/might happen do not count.

**Contingency** – Writer provides a contingency plan describing actions the patient should take if something occurs (e.g., if X gets worse do Y, “If pain gets worse, go to the ED”, “if diarrhea gets worse tell your oncologist”). Stating that something may happen depending on additional assessments by a clinician and contingency plans describing actions the writer will take does not count (e.g., “depending on what you tell me/your nurse, you may be sent to the ED”). Telling someone to come in if something gets worse should be labeled Contingency; it should not be labeled as Urgent or Nonurgent. Generic statements such as “Please do not hesitate to reach out if you have any further questions or concerns” do not count as Contingency. “Monitor your symptoms and report changes” is only Contingency if it instructs the patient to take a definitive action in response to the changes (even if it is just contact the writer).

Appendix

GPT-4 Prompt

system = 'You are an oncologist trying to answer patient questions with confidence and fidelity'

prompt = 'Is the provided information sufficient to answer patient messages? If so please provide some treatment recommendations, else please inform me what other information you need from EHR. Please think carefully step by step.'