# Adaptation Datasheets for Plain Language in Health: A Pragmatics-Centered Traceability Schema

Rémi Cardon Lourdes Moreno Paloma Martínez
Computer Science & Engineering Department
Universidad Carlos III de Madrid, Spain
{rcardon, lmoreno, pmf}@inf.uc3m.es

RÉSUMÉ

L'adaptation en langage simple (LS) de textes médicaux implique des décisions pragmatiques (relevant des notions de pertinence, ordre, mise en relief, exploitabilité) qui affectent la compréhension et la sécurité. La traçabilité se limite souvent au texte avant/après et à des métriques globales de lisibilité, rendant ces décisions difficiles à auditer. Nous proposons un schéma léger consignant les décisions pragmatiques sous forme de champs structurés liés à des *spans* textuels, conçu comme couche d'annotation pour les corpus LS existants et comme artefact de documentation pour les flux assistés par LLM. Nous l'illustrons sur une note clinique espagnole post-consultation adaptée pour patients et aidants, reportons des statistiques descriptives et positionnons le schéma par rapport aux cadres d'annotation basés sur les opérations existants.

ABSTRACT

**Adaptation Datasheets for Plain Language in Health**

Plain Language (PL) adaptation of healthcare texts involves pragmatic decisions (linked to relevance, ordering, prominence, actionability) that affect comprehension and safety. Traceability is often limited to before-and-after text and global readability metrics, making these decisions hard to audit. We propose a lightweight schema that records pragmatic decisions as structured, span-linked fields, intended as an annotation layer for existing PL corpora and as a documentation artifact for LLM-assisted workflows. We illustrate the schema on a Spanish post-consultation clinical note adapted for patients/caregivers, report descriptive statistics, and position it with respect to existing operation-based annotation frameworks.

MOTS-CLÉS : simplification, pragmatique, traçabilité, NLP pour la santé.

KEYWORDS: simplification, pragmatics, traceability, healthcare NLP.

## 1 Introduction

Text simplification rewrites a text to make it easier to understand while preserving meaning (Saggion, 2017; Shardlow, 2014; Alva-Manchego *et al.*, 2025). Plain Language (PL) targets broad audiences, while Easy-to-Read targets readers with comprehension difficulties (Inclusion Europe, 2009; Nomura *et al.*, 2010). We focus on traceability of PL adaptations (PLAs) in healthcare, where comprehension and safe use are critical (ISO, 2023; UNE, 2024); Spanish institutions already redesign appointment letters, consent forms, and test instructions to reduce confusion and improve adherence (Hospital Gregorio Marañón, 2024; Torres López, 2025). In real-world workflows, we can compare original

| Block | Fields (summary) |
|---|---|
| A. Metadata | ID/version ; language ; document type ; target audience ; PL guidance (ISO 24495-1). |
| B. Intended use | Intended/non-intended use ; purpose ; channel/length constraints ; gate if audience or purpose is unknown. |
| C. Pragmatics | Relevance ; ordering and prominence ; actionability ; discourse structure ; temporal framing (with span links). |
| D. Checks | Critical spans ; risk flags ; test outcome (pass/fail/warn). |
| E. Evidence | Review type ; gate decision (block/review/flag) ; limitations and re-check conditions. |

TABLE 1 – Adaptation Datasheet structure (summary).

and PL versions, but typically lack a record of the decisions behind the final output, making it hard to inspect what was changed and why. This need aligns with responsible-AI guidance on documentation, transparency, and human oversight (EU, 2024; European Commission, 2025; AESIA, 2025), and is amplified for LLM-assisted PLA, where outputs may be fluent but the underlying decisions remain opaque. Following Gebru *et al.* (2021), we adapt the datasheet format to individual adaptation *instances*, replacing data-provenance fields with pragmatics-centered decision fields.

PLA goes beyond lexical/syntactic simplification : it involves deciding what to remove as redundant vs irrelevant (Yamaguchi *et al.*, 2023), reordering for prominence, and restructuring with headings or lists, especially at the document level (Sun *et al.*, 2021; Cripwell *et al.*, 2023; Laban *et al.*, 2023), where simplification can break cohesion (Wilkens *et al.*, 2020). Operation- and edit-based frameworks describe *what* systems do (Cardon & Bibal, 2023; Cardon *et al.*, 2022; Heineman *et al.*, 2023; Gonzalez-Dios *et al.*, 2018), but do not make adaptation *rationales* explicit and auditable. Work on AI for medical-report comprehensibility (Koťátková & Miralles Hernández, 2025) and structured human oversight for LLM-supported communication (Moreno & Martínez, 2026) stress this need ; we extend that perspective with PLA-specific pragmatic fields.

**Contribution and intended use.** We propose a framework composed of (i) an *annotation schema* for retrospectively documenting decisions in existing PL corpora, and (ii) a *lightweight documentation artifact* attached to model-assisted or human PLAs in production. We target high-stakes domains where decisions carry safety implications. The schema was developed jointly by NLP researchers and a PL specialist. This work is in its early stages : the next step is to use the schema to annotate a larger dataset.

## 2 Adaptation Datasheets

The unit of documentation is one adaptation *instance* (one pair of texts : original and plain language adaptation).

**Datasheet structure (Table 1).** Block C records pragmatic decisions as span-linked structured fields (see below). Block D flags *critical spans* (dosage, frequency, negations, warnings) and risk types ; safety-relevant test failures trigger a *gate* (block release or require human review), keeping documentation separate from safety judgement (ISO, 2023; UNE, 2024). The *operation log* is the low-level evidence layer : edits are labelled span-aligned operations (macro : KEEP, DEL, ADD,

| Block | Example (pilot excerpt) |
|---|---|
| A. Metadata | ID : `Casoclinico2022-48-99` (v1). Type : post-consultation clinical note (Spanish, ca. 375 words). Audience : adult patient and caregiver. |
| B. Use | Purpose : inform and support safe action after consultation. Gate : PASS. |
| C. Pragmatics | (1) **PROMINENCE_TOP** [Ordering/prominence]. OR : *Anamnesis* (key facts embedded) → PL : *Motivo de consulta* (key facts at top).<br>(2) **LIST** [Discourse structure]. OR : *Historia clínica* as running text → PL : bullet list.<br>(3) **REORDER_CHRONO** [Temporal framing]. OR : temporal details embedded → PL : chronological order. |
| D. Checks | Critical spans : N/A. Test outcome : PASS. Gate : FLAG (human spot-check). |
| E. Evidence | Span links in the operation log. |

TABLE 2 – Datasheet excerpt : three of five Block C fields instantiated on the pilot (relevance and actionability not triggered).

MOVE, TRANSFORM ; fine : e.g., DEL_REDUNDANT, PROMINENCE_TOP, LIST) that populate Block C by pragmatic rationale, feed Block D test outcomes, and are pointed to from Block E. Minimum : blocks A–C ; D and E mature incrementally (Moreno & Martínez, 2026).

**Pragmatics-centered fields (Block C).** Existing frameworks (CBST (Gonzalez-Dios *et al.*, 2018), $\text{ASSET}_{\text{ann}}$ (Cardon *et al.*, 2022), SALSA (Heineman *et al.*, 2023)) describe lexical/syntactic changes but do not capture the *pragmatic rationale* behind document-level decisions. Block C targets exactly this gap via structured, span-linked fields (Table 2) :

— **Relevance :** what is removed (redundant vs irrelevant) or moved to a "More information" block.
— **Ordering/prominence :** elements moved earlier for scanability/safety (*warning-before-action*).
— **Actionability :** descriptions rewritten as actionable guidance with evidence link (e.g., "Hydration is recommended" → "Drink water").
— **Discourse structure :** headings, lists, task-grouping.
— **Temporal framing :** steps reordered for coherence while keeping the timeline faithful.

# 3 Proof-of-concept and descriptive results

We illustrate the schema on a Spanish post-consultation clinical note (`Casoclinico2022-48-99`) adapted for adult patients and caregivers (OR 375 w./2547 ch. ; PL 289 w./1703 ch. ; −22.9% words, −33.1% chars ; Table 2). [1] The operation distribution (TRANSFORM 69.1% ; DEL 20.6% ; MOVE 5.9% ; KEEP 2.9% ; ADD 1.5% ; 55 alignments, avg. 1.24 labels/alignment) is consistent with PLA as rewriting plus relevance-oriented pruning. Annotation of the pilot took approximately 45 min, mostly dedicated to Block C annotation. We are annotating a larger Spanish healthcare PL corpus with two annotators and plan to release it with operation logs and datasheet fields to enable transparent auditing of PL systems, and contribute to research on the subject.

1. Pilot materials will be released in the camera-ready version.

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# Références


AESIA (2025). Guides : Resources for using AI. Spanish Agency for the Supervision of Artificial Intelligence (AESIA).

ALVA-MANCHEGO F., STODDEN R., IMPERIAL J. M., BARAYAN A., NORTH K. & MADABUSHI H. T. (2025). Findings of the TSAR 2025 shared task on readability-controlled text simplification. In *Proceedings of the Workshop on Text Simplification, Accessibility, and Readability (TSAR 2025)*.

CARDON R. & BIBAL A. (2023). On operations in automatic text simplification. In *Proceedings of the Second Workshop on Text Simplification, Accessibility and Readability*, p. 116–130, Varna, Bulgaria : INCOMA Ltd., Shoumen, Bulgaria.

CARDON R., BIBAL A., WILKENS R., ALFTER D., NORRÉ M., MÜLLER A., WATRIN P. & FRANÇOIS T. (2022). Linguistic corpus annotation for automatic text simplification evaluation. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing* : Association for Computational Linguistics. DOI : 10.18653/v1/2022.emnlp-main.121.

CRIPWELL L., LEGRAND J. & GARDENT C. (2023). Document-level planning for text simplification. In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics*, p. 993–1006, Dubrovnik, Croatia : Association for Computational Linguistics. DOI : 10.18653/v1/2023.eacl-main.70.

EU (2024). Regulation (eu) 2024/1689 laying down harmonised rules on artificial intelligence (artificial intelligence act). OJ L, 2024/1689, 12 July 2024. Full author : European Union.

EUROPEAN COMMISSION (2025). Ai act explorer (ai act service desk). Official support resource for navigating the AI Act.

GEBRU T., MORGENSTERN J., VECCHIONE B., VAUGHAN J. W., WALLACH H., DAUMÉ III H. & CRAWFORD K. (2021). Datasheets for datasets. *Communications of the ACM*, **64**(12), 86–92. DOI : 10.1145/3458723.

GONZALEZ-DIOS I., ARANZABE M. J. & DÍAZ DE ILARRAZA A. (2018). The corpus of basque simplified texts (cbst). *Language Resources & Evaluation*, **52**, 217–247. DOI : 10.1007/s10579-017-9407-6.

HEINEMAN D., DOU Y., MADDELA M. & XU W. (2023). Dancing between success and failure : Edit-level simplification evaluation using salsa. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing* : Association for Computational Linguistics. DOI : 10.18653/v1/2023.emnlp-main.211.

HOSPITAL GREGORIO MARAÑÓN (2024). The right to understand : Transforming healthcare towards a more human and accessible system. Report in Spanish (PDF), produced with Prodigioso Volcán. Original title : “El derecho a entender, la transformación de la salud : Un sistema sanitario más humano y accesible”.

INCLUSION EUROPE (2009). Information for all : European standards for making information easy to read and understand. Accessed 2026-03-01.

ISO (2023). ISO 24495-1 :2023 Plain language — part 1 : Governing principles and guidelines. Accessed 2026-02-28.

KOŤÁTKOVÁ A. & MIRALLES HERNÁNDEZ M. (2025). Artificial intelligence at the service of patients : Using chatgpt to make medical reports easier to understand. *Mètode Science Studies Journal*, **15**(2). DOI : 10.7203/metode.15.28177.

LABAN P., VIG J., KRYSCINSKI W., JOTY S., XIONG C. & WU C.-S. J. (2023). Swipe : A dataset for document-level simplification of wikipedia pages. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1 : Long Papers)*, p. 10674–10695, Toronto, Canada : Association for Computational Linguistics. DOI : 10.18653/v1/2023.acl-long.596.

MORENO L. & MARTÍNEZ P. (2026). A human-in/on-the-loop framework for accessible text generation. In *Proceedings of the Language Resources and Evaluation Conference (LREC 2026)*, Mallorca, Spain. In press. Preprint available at arXiv :2603.18879.

NOMURA M., NIELSEN G. S. & TRONBACKE B. (2010). Guidelines for easy-to-read materials. Accessed 2026-03-01.

SAGGION H. (2017). *Automatic Text Simplification*. Synthesis Lectures on Human Language Technologies. Morgan & Claypool Publishers.

SHARDLOW M. (2014). A survey of automated text simplification. *International Journal of Advanced Computer Science and Applications*. DOI : 10.14569/SpecialIssue.2014.040109.

SUN R., JIN H. & WAN X. (2021). Document-level text simplification : Dataset, criteria and baseline. In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing*, p. 7997–8013, Online and Punta Cana, Dominican Republic : Association for Computational Linguistics. DOI : 10.18653/v1/2021.emnlp-main.630.

TORRES LÓPEZ P. (2025). Lenguaje claro en salud y traducción intergenérica : una guía para la adaptación de textos médicos. *Mutatis Mutandis. Revista Latinoamericana de Traducción*, **18**(1), 153–181. DOI : 10.17533/udea.mut.v18n1a09.

UNE (2024). UNE-ISO 24495-1 :2024 lenguaje claro. parte 1 : Principios rectores y directrices (versión bilingüe español-inglés). Identical to ISO 24495-1 :2023.

WILKENS R., OBERLE B. & TODIRASCU A. (2020). Coreference-based text simplification. In *Proceedings of the 1st Workshop on Tools and Resources to Empower People with REAding DIfficulties (READI)*, p. 93–100.

YAMAGUCHI D., MIYATA R., SHIMADA S. & SATO S. (2023). Gauging the gap between human and machine text simplification through analytical evaluation of simplification strategies and errors. In *Findings of the Association for Computational Linguistics : EACL 2023*, p. 359–375, Dubrovnik, Croatia : Association for Computational Linguistics. DOI : 10.18653/v1/2023.findings-eacl.27.