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## 1. Dictionaries

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A total of 4,627 NEW dictionary entries have been added to the PAHOMTS® dictionaries since version 4.4. The new word counts stand as follows for each language pair:

English-Spanish	264,870	entries (136,909 source entries; 127,961 target entries)
Spanish-English	244,876	entries (129,394 source entries; 115,482 target entries)
English-Portuguese	227,708	entries (115,737 source entries; 111,971 target entries)
Portuguese-English	206,505	entries (108,676 source entries; 97,829 target entries)
Spanish-Portuguese	213,481	entries (109,711 source entries; 103,770 target entries)
Portuguese-Spanish	184,698	entries (87,669 source entries; 97,029 target entries)

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## 2. Format handlers

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The following improvements have been incorporated in version 4.5:

- **Rich Text Format**
  - Improved handling of text stored in fields
  - Improved handling of the translation of text inside text boxes
  - Minor bug fixes

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## 3. English-Spanish translation engine

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- Improved parsing and translation of possessive nominal constructions in present participle tense (*I would appreciate **your advising** the Office...*)
- Improved disambiguation of constructions with the word *preceding*
- Improved handling of constructions that contain hyphenated years
- Improved handling of constructions with dangling prepositions that have other adverbial phrases (*These are paid \*for\* on an fee for service basis*)
- Improvements in the rules that insert *que* in front of a subordinate subject
- Improved parsing and translation of correlative constructions of the type *not only...but* followed by infinitive clauses (*not only to minimize risk, but to support the principles...*)

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- Personal titles (Dr. Prof, Mr, Ms., Lic., etc.) in full sentences are now translated as the full noun in Spanish. (*According to Dr. XXX ... Según el doctor XXX.*) In titles, the abbreviations for the titles are still used.
  - Improved handling of deletion of definite articles. If the target noun is coded to insert an article but it is the object of a verb or preposition that blocks the article, the article is now correctly blocked.
  - Improved insertion of definite articles with plural subjects in titles that end in period
  - Improved insertion of definite articles with singular subjects that are plural in English (*Health workers = El personal sanitario*)
  - Improved parsing and translation of constructions that include verbs inside conjoined dependent clauses (*to ensure that [the standards are maintained] and [a culture of quality is developed]*)
  - Improved disambiguation procedures in partial parses
  - Improved handling of conjoined adjectives that occur after the head noun
  - Improved handling of colons inside parentheses (*...should be addressed at the address above (fax: 202-...)*)
  - Improved parsing and translation of negative verb phrases that contain the pronouns *anything*, *anyone*, or *anybody*. The Spanish construction now has a double negative (*I didn't see anything = No vi nada. It shouldn't be reported to anybody = ... a nadie*)
  - Improved parsing and translation of constructions of the type *have to be*
  - Improved handling of constructions of the type BE + past participle AND past participle (*was presented and justified*)
  - Improved parsing of quantifier constructions of the type *Most of the xxx*
  - Improved parsing of constructions involving sentence nominalizations
  - Improved parsing of constructions involving plural determiners/pronouns and ing forms (*Those working*)
  - Improved parsing of conjoined non-finite verb phrases in subject position with singular verbs (*Addressing and managing the problem IS ...*)
  - Improved gender agreement patterns with partitives (*a broad range of measures is effective*)
  - Improved part of speech resolution for Substitution Units that are both nouns and adjectives but only nouns if the head word is plural: *pre-requisite* is adjective and noun but *pre-requisites* is noun only.
  - Improved parsing of *to* + infinitive constructions governed by adjectives, including constructions with intervening prepositional phrases (*It is important at this stage to avoid discussion of...*)
  - Improved agreement patterns in expressions that contain intensifiers (*low transmission seasons = estaciones de baja transmisión*)

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#### 4. Spanish-English translation engine

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- Improved translation of constructions of the type *XX tiene como fin (general) = The (general) purpose of XX is YY*. This also applies for other structures such as

*tener como objetivo, tener como objetivo fundamental, tener como objetivo general, tener como objetivo principal*

- Improved synthesis of constructions where both *do* and subject pronouns need to be inserted in English
- Improved parsing and translation of prepositional phrases conjoined with modifying adjectives (*participación comunitaria y de otros autores*)
- Improved handling of Transfer Units that check for correlative structures when there are intervening adverbial phrases

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## 5. English-Portuguese translation engine

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- Improved parsing and translation of constructions that include verbs inside conjoined dependent clauses (*to ensure that [the standards are maintained] and [a culture of quality is developed]*)
- Improved disambiguation procedures in partial parses
- Improved handling of conjoined adjectives that occur after the head noun
- Improved disambiguation of constructions with the word *preceding*
- Improved parsing and translation of correlative constructions of the type *not only...but* followed by infinitive clauses (*not only to minimize risk, but to support the principles...*)
- Personal titles (Dr. Prof, Mr, Ms., Lic., etc.) in full sentences are now translated as the full noun in Portuguese (*According to Dr. XXX ... Segundo o doutor XXX.*). In titles, the abbreviations for the titles are still used.
- Improved parsing of quantifier constructions of the type *Most of the xxx*
- Improved parsing of constructions involving sentence nominalizations
- Improved parsing of constructions involving plural determiners/pronouns and ing forms (*Those working*)
- Improved parsing and translation of possessive nominal constructions in present participle tense (*I would appreciate your advising the Office...*)
- Improved gender agreement patterns with partitives (*a broad range of measures is effective*)
- Improved part of speech resolution for Substitution Units that are both nouns and adjectives but only nouns if the head word is plural: *pre-requisite* is adjective and noun but *pre-requisites* is noun only.
- Improved parsing of *to* + infinitive constructions governed by adjectives, including constructions with intervening prepositional phrases (*It is important at this stage to avoid discussion of...*)
- Improved handling of constructions with dangling prepositions that have other adverbial phrases (*These are paid \*for\* on an fee for service basis*)
- Improved handling of deletion of definite articles. If the target noun is coded to insert an article but it is the object of a verb or preposition that blocks the article, the article is now correctly blocked.
- Improved insertion of definite articles with plural subjects in titles that end in period

- Improved insertion of definite articles with singular subjects that are plural in English (*Health workers = O pessoal da saúde*)
- Improved handling of article insertion with Substitution Units that are coded to form the plural on the first word only
- Improved parsing and translation of negative verb phrases that contain the pronouns *anything*, *anyone*, or *anybody*. The Portuguese construction now has a double negative (*I didn't see anything = Não vi nada. It shouldn't be reported to anybody = ... a ninguém*)
- Improved parsing and translation of constructions of the type *have to be*
- Improved handling of constructions of the type BE + past participle AND past participle (*was presented and justified*)
- Improved agreement patterns for marked infinitives, which now agree in number with their own subject (3sing or 3plural if head of subject is a noun) (*The women were asked TO READ the paper. = Pediu-se às mulheres que LESSEM o artigo.*)
- Improved parsing and translation of conjoined clauses where the second verb is elided (*I went to school and he did too*).
- Improved handling of inflected infinitives in subject control constructions (*Many organizations choose TO CONCENTRATE on their core competencies. = Muitas organizações decidem CONCENTRAR nas suas competências centrais.*)
- Improved insertion of “personal A” in passive constructions (*200 PEOPLE were asked to read the morning paper. = Pediu-se A 200 PESSOAS que lessem o jornal da manhã.*)
- Improved synthesis of target nouns coded “Masculine only” in the gender field
- Improved parsing of conjoined non-finite verb phrases in subject position with singular verbs (*Addressing and managing the problem IS ...*)
- Improved agreement patterns in expressions that contain intensifiers (*low transmission seasons = estações de transmissão baixa*)
- Improved agreement patterns in the translation of *be* + present participle constructions (*Canada has been DEVOTING a lot of attention after the SARS outbreak = Canadá tem PRESTADO (not PRESTADA) muita atenção após o surto de SARS.*)
- Improved ordering and agreement patterns of adjectives in constructions of the type adjective (general scope) + noun + noun (*core health functions = funções essenciais de saúde*)
- Improved parsing and translation of constructions of the type Proper Noun + YEAR (*Immunization Award 2009 = Prêmio de imunização de 2009, instead of 2009 de prêmio de imunização*)

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## 6. Portuguese-English translation engine

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- Improved parsing and translation of constructions of the type *mais* + numerative (*mais dois = two more*)
- Improved translation of constructions of the type *XX tem como fim (geral) YY = The (general) purpose of XX is YY*. This also applies for other structures such as

*ter como objetivo, ter como objetivo fundamental, ter como objetivo geral, ter como objetivo principal*

- Improved handling of Transfer Units that check for correlative structures when there are intervening adverbial phrases
  - Improved parsing and translation of prepositional phrases conjoined with modifying adjectives (*participação comunitária e de outros autores*)
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## **7. Spanish-Portuguese translation engine**

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- Improved parsing and translation of prepositional phrases conjoined with modifying adjectives (*participación comunitaria y de otros autores*)
  - Improved handling of Transfer Units that check for correlative structures when there are intervening adverbial phrases
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## **8. Portuguese-Spanish translation engine**

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- Improved parsing and translation of constructions of the type *mais* + numerative (*mais dois = dos más*)
- Improved parsing and translation of prepositional phrases conjoined with modifying adjectives (*participação comunitária e de outros autores*)