Virtual Medical Communication in English. A Corpus-based Analysis of Inclusive *we*, *us* and *our* in the Intercultural *Clinical Blog*

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Abstract
Blogs play a very important role in web-based communication as they represent ever-increasing worldwide tools in both everyday and professional interaction (Crystal 2007; Herring 1996, 2007). Similarly to all writers in general, bloggers use persuasive techniques to attract readers' attention and make them share their points of view and opinions. The use of inclusive pronouns and possessives fulfils pragmatic persuasive functions. The aim of this study was to investigate how the first-person plural personal pronouns *we* and *us* and the first-person plural possessive adjective *our* were used in an intercultural blog in the medical field, namely *Clinical blog*, of the British Medical Journal (BMJ). The use of these words revealed itself to function as both the blogger's expression of a sense of belonging to the same professional community and a persuasive technique to draw their peers' attention to their statements and opinions. The three words were investigated by means of a concordancing analysis of a corpus of 199 posts published between 2009 and 2011.

Keywords: inclusive language, medical communication, intercultural blogs, persuasive techniques.

1. Introduction

Bloggers often make use of a wide range of persuasive techniques when they want to draw the readers' attention to their points of view. To limit the boundaries of the research, this study focused on the linguistic investigation of inclusive first-person plural personal pronouns *we* and *us* and the first-person plural possessive adjective *our* as they were used in an intercultural professional blog in the medical field[1]. Inclusive *we*, *us* and *our* position the reader to feel

[1] The starting point for this work was offered by a study of the medical blogsphere carried out by Kovic *et al.* (2008), who noted that "two of the major motivations

involved in the issue under discussion and contribute in encouraging them to agree with the writer's point of view. The writer's opinion appeals to a sense of community and is presumably shared by the group as a whole (Breuer and Napthine 2011: 77, 91). By reducing the distance between the reader and the writer, inclusive *we*, *us* and *our* create a bond between members of the same community. Most importantly, the use of these words serves rhetorical ends. The ultimate aim of the writer is, after all, to secure ratification for their claims (Gilbert 1977; Latour 1987, quoted in Harwood 2005). "The writer will be trying to get the readers to see things their way, and to accept their hypotheses" (Harwood 2005: 347).

We, *us* and *our* can either be inclusive or exclusive. As far as *we*, in particular, is concerned, Skelton (2002: 485) distinguishes three types of use of the pronoun by doctors in primary care consultations. A first use includes the patient to mean "you and I"; the second use excludes the patient as it refers to "we doctors"; the third use identifies the meaning "all of us as human beings".

Examples of inclusive and exclusive occurrences of *we*, *us* and *our* in the present study of doctor-doctor interaction in *Clinical blog* will be given in the findings section.

2. Description of the corpus and methodology

This study used a self-compiled 144,710-word corpus containing 199 posts from the blog *Clinical blog* of *doc2doc*, the BMJ's global online clinical community. *Doc2doc*, launched in 2009 by BMJ Group, includes forums, an e-library, and twelve blogs divided into two main groups[2].

Of the twelve blogs, *Clinical blog* was chosen for three main reasons. First, it showed itself to be the most significant and complete as to professional exchange about symptomatology, diagnoses, and corresponding therapies in a very wide range of medical specialities.

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for blogging in the medical field are to share practical knowledge and skills, and to influence the way other people think".

[2] The first group is made up of eight blogs, i.e. "Doctor's blog", "News blog", "Food for thought", "Medical Students' blog", "Medical bytes", "Artsy docs blogs", "Clinical blog", and "Community blog". The second group is represented by four blogs, each focusing on a specific medical issue. They are "Cardiology blogs", "Diabetes blogs", "Respiratory medicine blog", and "Stroke medicine blog".

Second, the bloggers were all physicians. Third, *Clinical blog* was joined by professionals from all over the world[3].

At the point of data collection, the number of bloggers posting in *Clinical blog* was 63, and the number of posts published was 201. The corpus, however, included only 61 bloggers and 199 posts, as information about the nationality of two bloggers was not available. The monitored period covered a span of three years, from 2009 to 2011, with no posts having been published between January and May 2012.

The bloggers came from 19 different countries. As to their distribution in the five continents, see Table 1 below:

TABLE 1
Distribution of bloggers of *Clinical blog* in the five continents

Europe (33)	UK (26)	Italy (3)	Portugal (2)	Denmark (1)	Ireland (1)	
Asia (11)	India (6)	Iran (1)	Israel (1)	Nepal (1)	Pakistan (1)	Singapore (1)
Africa (5)	Egypt (4)	Nigeria (1)				
America (7)	USA (4)	Cuba (1)	Mexico (1)	Nicaragua (1)		
Oceania (5)	Australia (4)	Papua New Guinea (1)				

WordSmith (5.0 version) concordancing software was used to search the corpus for the frequency of *we*, *us* and *our* in the five continents, as well as the clusters for each of the three words. The analysis also provided measurement of their density of use and a description of

[3] The other blogs of *doc2doc* lacked at least one of the three mentioned features. To give only two examples, *Doctor's blog* offered thoughts and opinions about events that occurred during practice in hospitals, without dealing with specific medical topics, and *Medical student's blog* was mainly an exchange of impressions and insights about health-related experiences from the medical students' point of view.

how the three words were employed in the doctor-doctor interaction in the blog examined.

3. Results

The word *we* showed 640 occurrences in the posts investigated, accounting for 0.4% of total running words. It was found in 107 texts, accounting for 53.8% of all texts. *We* was used by 32 bloggers, accounting for 52.5% of all bloggers. It occurred 513 times in texts written by one blogger, from the UK, accounting for 80.2% of all occurrences. Of the other 31 bloggers, 50.8%, used *we* at least once, for a total of 127 occurrences, accounting for 19.8% of all occurrences. Distribution of the frequency (%) of *we* in the countries grouped by continent is described in Table 2 below:

TABLE 2
Distribution of frequency of use of *we* in the five continents

Europe	UK 40.6%	
	Italy 9.4%	
	Denmark 3.2%	
	Portugal 3.2%	
Total		**56.4%**
Asia	India 9.4%	
	Israel 3.1%	
	Nepal 3.1%	
	Pakistan 3.1%	
Total		**18.7%**
America	Cuba 3.1%	
	Mexico 3.1%	
	Nicaragua 3.1%	
	USA 3.1%	
Total		**12.4%**
Oceania	Australia 6.3%	
Total		**6.3%**
Africa	Egypt 3.1%	
	Nigeria 3.1%	
Total		**6.2%**

A search for 3-word clusters for *we* also contributed to highlighting the sense of community the bloggers' point of view appealed to, as emphasised by such text strings as *we know that*, *we need to*, *we have to*, and *we are supposed to*. *We know that* and *we have to* were the most frequent clusters; the former was always used by one blogger, from the UK, while the latter was used by four different bloggers, 2 from the UK, 1 from India, and 1 from Israel.

The concordance for *us* showed 156 occurrences, 32 of which referred to "US" as a proper name of country (United States of America). Occurrences of *us* as a personal pronoun were 124, accounting for 0.08% of total running words. It was found in 59 texts, accounting for 29.6% of all texts. *Us* (pronoun) was used by 9 bloggers, accounting for 14.7% of all bloggers. Similarly to what happened for *we*, *us* also showed a major concentration of occurrences, 104, in texts written by one blogger, from the UK, accounting for 83.9% of all occurrences. The other 8 bloggers used *us* at least once, for a total number of 20 occurrences, accounting for 16.1% of all occurrences.

Distribution of the frequency of use (%) of *us* in the countries grouped by continent is described in Table 3 below:

TABLE 3
Distribution of frequency of use of *us* in the five continents

Europe	UK 44.5% Denmark 11.1%	
Total		**55.6%**
Africa	Egypt 11.1% Nigeria 11.1%	
Total		**22.2%**
Oceania	Australia 11.1%	
Total		**11.1%**
Asia	India 11.1%	
Total		**11.1%**

A search for 3-word clusters for *us* produced *most of us* as the most frequent cluster, always used by one blogger, from the UK.

Finally, the concordance for *our* showed 167 occurrences, accounting for 0.1% of running words. It was found in 67 texts, accounting for 33.7% of all texts. *Our* was used by 14 bloggers, accounting for 22.9% of all bloggers. The phenomenon identified for the concordance of *we* and *us* also occurred for *our*, and was represented by a higher concentration of occurrences, 127, in texts by one blogger, from the UK, accounting for 76.1% of all occurrences. The other 13 bloggers used *our* at least once, for a total number of 40 occurrences, accounting for 23.9% of all occurrences. The distribution of the frequency of use (%) of *our* in the countries grouped by continent is described in Table 4 below:

TABLE 4
Distribution of the frequency of use of *our* in the five continents

Europe	UK 28.7% Italy 14.3% Denmark 7.1% Portugal 14.3%	
Total		**64.4%**
Oceania	Australia 14.3%	
Total		**14.3%**
Asia	Israel 7.1% Pakistan 7.1%	
Total		**14.2%**
America	USA 7.1%	
Total		**7.1%**

As for *our*, *our understanding of* was the only string obtained, always used by one blogger, from the UK.

A close analysis of strings of text where *we*, *us* and *our* occur highlights the effect that their use intends to have on the reader, namely, positioning them to feel part of the same professional community. The following utterances may serve as examples:

(1) *Group-belonging*: (dealing with acute heart failure) "**We know that**

oxygen is a dangerously reactive chemical and not always the best thing to feed into areas of acute cell damage".
(2) *Responsibility*: (dealing with diabetes) "**We have to** help these patients while they are alive with whatever approach seems most rational at the time".
(3) *Group-belonging*: (dealing with infectious diseases) "All this might – perhaps – change when we get a point-of-care test that **enables us** to determine which patients have bacterial infections and which don't".
(4) *Responsibility*: (dealing with hyperparathyroidism) "Should we be more on the look out for this condition, which so **few of us** pause to consider in the hurly-burly of daily life? We should probably be checking the serum calcium more often than we do".
(5) *Group-belonging*: (dealing with chronic inflammatory conditions) "For a good update on **our understanding** of the mechanisms of psoriasis this piece is worth browsing through".
(6) *Responsibility*: (dealing with smoke addiction) "The biggest favour we can do for **our patients** who smoke is to help them break their lethal addiction, which amongst all its other harms is associated with a 2-3 fold increase in suicidal behaviour".

As can be seen, in the first two examples with *we* the writers appeal to shared knowledge and sense of responsibility, respectively underlined by the use of *we* associated with the verb of thinking *know* and with the semi-modal *have to*. More precisely, the association of *we* and *know* in the first utterance serves the pragmatic function of highlighting a concept which is known among physicians, and that is the characteristic of oxygen to be a "dangerously reactive" chemical, the use of which is not always appropriate in the case of serious cell damage. In the second sentence, the writer is involving the community of physicians by recalling them of their duty to help patients who, in this case, suffer from diabetes. A sense of community and duty also emerge in the following sentences with the use of *us* and *our* as inclusive language. In the first example where *us* appears (3), the use of the pronoun highlights the writer's will to alert their peers of the need for this test for diagnosing patients suffering from bacterial infections, whereas in (4) the pronoun is incorporated in a sort of reproach addressed by the writer to the community of physicians about the scarce importance given to the condition, hyperparathyroidism. The same phenomenon can be identified in the examples where *our* is used. In (5) the writer involves their peers by suggesting that they refer to a text for new information about

psoriasis, whereas in (6) emphasis is given again to the duty and responsibility towards patients (in this specific case, patients who smoke).

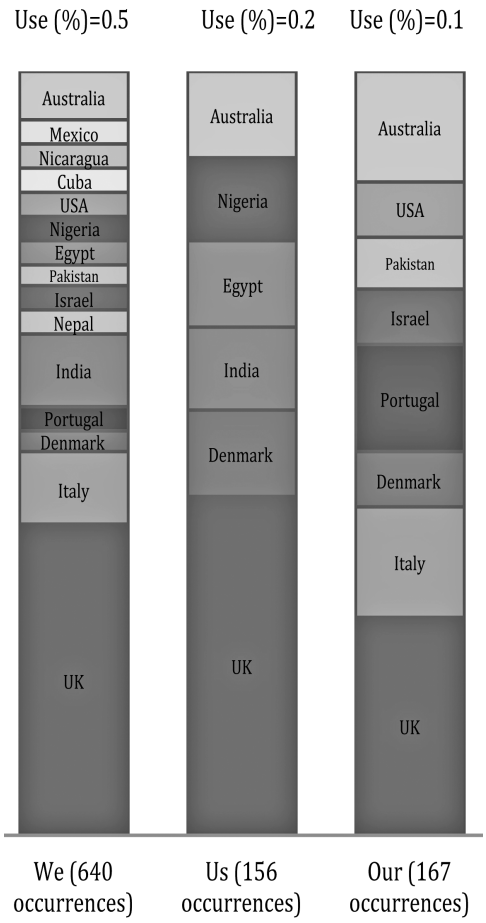
The pronoun *we* was found to be used mostly in European countries, and the least in African countries (see Table 2). Europeans mostly selected *we* in association with thinking verbs such as *know* and *be supposed to*, a modal auxiliary verb such as *must*, *may*, *might*, *will*, *can*, *should, need*, or the semi-modal *have to*. All these verbs, except those of thinking, were generally followed by a doing verb such as *help*, *do*, *make*, *give*, etc. The general effect was not only that of making the reader feel part of the same professional community but also of making them share the sense of duty and responsibility expected from a doctor.

African countries mostly used *we* in association with *need*, *can* and *should*. In most cases, inclusive *we* was part of a rhetorical question, the effect of which was to encourage the community to agree with the writer and feel involved in the topic treated (e.g. *Do we need a newer version of RECIST for anatomic tumor response assessment? It is time to say good-bye to anatomic imaging and welcome functional imaging…*). Furthermore, there were a few cases of *we* where the pronoun was not used as "we as doctors" (or "we as a practice") but more broadly as "we as human beings" (e.g. *We all have our deficiencies, and in the case of people living in the British Isles, these generally include vitamin D).*

As far as *us* is concerned, it was mostly used by bloggers in European countries, whereas those in Asia and Oceania used it the least. No use of *us* was found among American bloggers (see Table 3). In most cases, all groups of bloggers who used *us* referred to the community of physicians, thus using the pronoun with the meaning of "us as doctors". There were some cases where *us* was inclusive but it was used to mean "us as human beings" (e.g. *I commend you on being brave enough to mention your depression which afflicts many of us. We are fortunate enough to live in an age where such can be treated well…*). *Our* was mostly used by bloggers in European countries, whereas those in America used it the least. No use of *our* was seen to be made by African bloggers (see Table 4). The occurrences of *our*, too, showed a few cases where the possessive did not refer only to the medical profession but to humans more in general (e.g. *Millions of our own cells contain viruses that live in quiet equilibrium with*

our own DNA and RNA.). Of the three words examined, *we* proved to be the only word used in all five continents. Europe was the continent which used all three terms most. In the all-inclusive sense examined in the corpus, *we* occurred the most (640 occurrences), followed by *our* (167 occurrences) and *us* (156 occurrences). As far as the density of terms investigated is concerned, it was observed that *we* remains in the first place, followed by *us* and *our*, as illustrated by the percentages in Table 5:

TABLE 5
Percentages of use of *we*, *us* and *our* in the texts where they occurred



4. Conclusions

The findings of the study concerning of the doctor-doctor interaction in *Clinical blog* suggest that a major use of the personal pronouns *we* and *us* and of the possessive adjective *our* is to highlight a sense of group-belonging and knowledge sharing, as well as a sense of duty and responsibility. The identity of the group as an international professional community is particularly accentuated by the pronoun *we*, in most cases occurring with the meaning of "we as doctors". At the same time, the association of *we* with verbs of thinking, modal auxiliaries and semi-modals makes readers feel involved in the discussion and performs the persuasive communicative function of getting them to share the writer's point of view.

A reference corpus of professional medical blogs should be started for future research to enhance interest in the language used in blogs, and, more in general, in web-based professional medical documents. In this respect, social media such as Facebook and Twitter could represent useful resources for collecting material, as they include various asynchronous communication tools in different professional fields, including medicine.

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