

## Ten years of evolution of noise conflicts in Montevideo, Uruguay

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### ABSTRACT

The concept of Ombudsman was originated in Sweden in 1809: a public server with a significant degree of independence, whose mandate is to monitor and control public authorities in the event of possible deviations from their duties, through action or omission. Uruguay has been significantly late in entering the ombudsman culture: the first of such institutions, the "Defensoría del Vecino" (Office of the Public Defender) in Montevideo was created in December, 2003. Thus, with limited budget and support, and many obligations, the first Ombudsman in Montevideo took up his duties in December, 2006. In compliance with the Decree which created the Office, it keeps record of all queries received in a database that classifies them according to different perspectives. The analysis of such data allows for the identification of trends and variations which take place slowly in time in the profiles of both claims and claimants. A comprehensive database analysis of cases dating from 2006 to 2016 was carried out. Some interesting interpretations could be made from this set of information about noise pollution place in the life of Montevideo citizens and about communication issues between the Ombudsman and the people.

**Keywords:** Noise claims; noise conflicts; annoyance

**I-INCE Classification of Subject Number:** 66

### 1. INTRODUCTION

The concept of Ombudsman was originated in Sweden in 1809: a public server with a significant degree of independence, whose mandate is "to monitor and control public authorities in the event of possible deviations from their duties, through action or omission" (Goiriena and Guinovart, 2012).

Worldwide it is a widely consolidated figure at national, provincial, regional, municipal and even international level (as it is the case of the Ombudsman in the European Community). In South America, almost all countries have one or more ombudsmen, Argentina and Mexico being the countries with the longest tradition and the most ombudsman institutions enshrined by laws and by their national, provincial and state Constitutions.

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In this regard, Uruguay has been significantly late in entering the ombudsman culture: the first of such institutions, the "Defensoría del Vecino" (Office of the Public Defender, DVM by its acronym in Spanish) in Montevideo, was created in December, 2003, in Decree No. 30592 from Montevideo's "Junta Departamental" (Departmental Board), yet, it came into force only three years later. Additionally, the "Junta Departamental" made some adjustments to this decree, by means of Decree No. 34844. This new decree sets out the concepts of self government and independence from public authorities for the DVM, as well as the scope of its competence:

*"The Ombudsman shall not be instructed by any authority, and shall fulfil his/her duties with the broadest possible technical autonomy, objectivity and neutrality"* (Article 7)

At the same time, and in order to ensure fulfilment of its duties, Article 9 provides that:

*"All agencies of the Departmental Government shall support and collaborate with the Ombudsman in his/her duties."*

Thus, under the motto *"Let rights become facts"*, with limited budget and support, and many obligations, the first Ombudsman in Montevideo took up his duties in December, 2006. His scope of competence was defined as *"[...] all services under Departmental Administration, directly or indirectly granted, whichever their legal nature. Functional relationship between the government of Montevideo and its officers shall be excluded from such scope."* (Article 7)

In compliance with Article 14 of the Decree which created the institution of Public Defender, DVM keeps record of all queries received in a database that classifies them according to different perspectives. The analysis of such data allows for the identification of trends and variations which take place slowly in time in the profiles of both claims and claimants. Nevertheless, it is worth mentioning that, after ten years of its enforcement, many citizens -including local government officers- still do not have a clear idea of the purposes of the institution, which determines that claims keep being submitted without any preliminary processing before local authorities such as Departmental Authorities, local Municipalities or Zonal Community Centres. Additionally, it must be always borne in mind that residents who turn to DVM usually do so under the feeling that their rights have been violated by the Administration, which determines logical frustration and dissatisfaction as a consequence.

A comprehensive database analysis of cases dating from 2006 to 2011 was carried out in 2012. This means that it comprised cases from the very creation and enforcement of the institution, all through the end of fiscal year 2011 (González, 2012a); some interesting interpretations could then be made from this set of information. That study is now taken as the starting point for a new analysis which covers all available data up to December, 2016.

## **2. CLASSIFICATION OF CLAIMS**

Claims related to noise pollution have been the most frequent ones since the beginning of DVM until 2015, the most common ones related to Environmental Pollution, and more common than claims on any other sub-topic under other sections such as Urban Trees, Taxes or Fines. The start-up of a Mediation Unit in the DVM made it possible to significantly reduce the number of claims, bringing the parties closer and reaching

agreements to prevent conflicts from evolving. This is especially reflected in the fall in the number of complaints that is recorded in 2016: although during the year, as usual, more than a hundred queries were received, only 9 of them managed to set up claims.

## 2.1 Categories

A wide variety of topics may be found under Noise Pollution. These topics have been grouped into three different categories for better studying:

- Work: industry, trade and services, small workshops, loading and unloading of goods
- Recreation: nightlife, Carnival activities, sports
- Others: environmental noise (traffic noise, alarms), neighbourhood issues, religious rituals, animal voices; cases with incomplete data are also included in this category.

The apparent variety of topics under the third category is such, simply because, even when combined, the data adds up to a set which is quantitatively smaller than any of the other two categories.

## 2.2 Evolution in time

Figure 1 shows the evolution in terms of number of cases and as percentages of the annual noise pollution total cases. At first glance, the distribution of cases along each year seems to follow no specific time pattern (Figure 2).

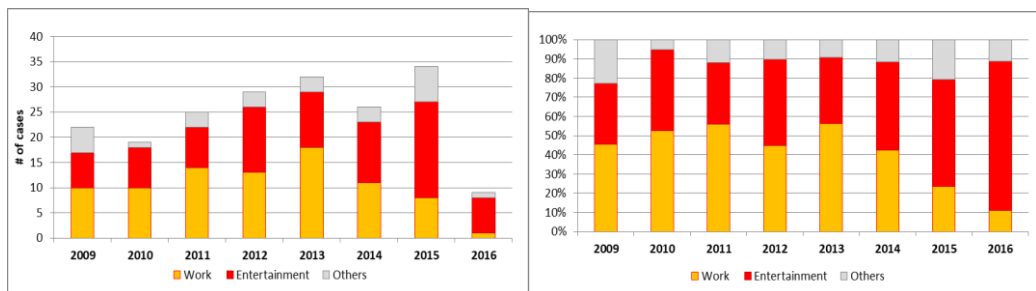


Figure 1. Cases by year, broken down by category (left: No. of cases; right: percentages)

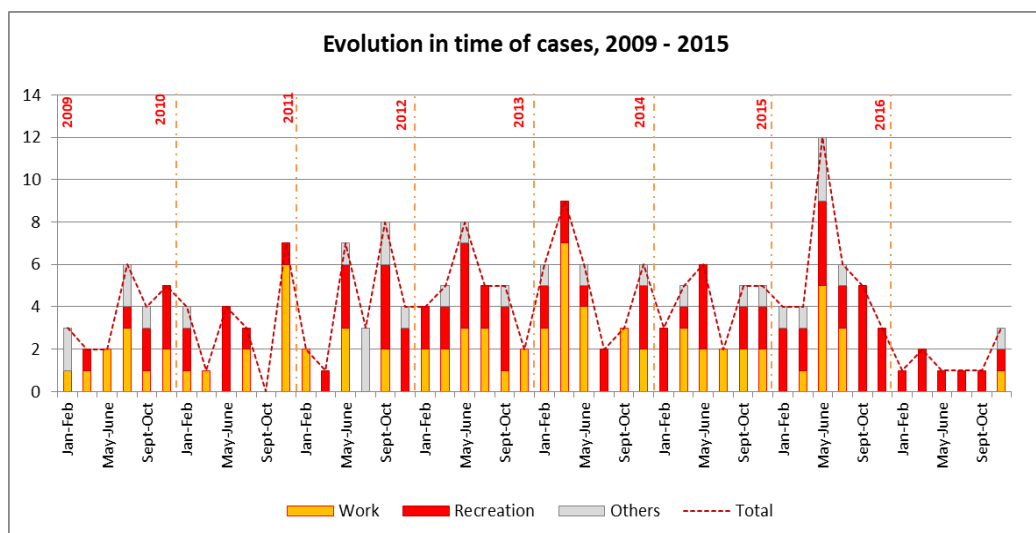


Figure 2. Evolution in time of cases (bimonthly, starting January, 2009)

### 2.3 Distribution along the year

When trends are analysed bimonthly, it can be observed that the distribution of claims is not uniform throughout the year (Figure 3). The highest number of cases happen during May-June, this being the result of a particular increase in claims associated with recreational activities during this period; such result coincides with that of the 2012 analysis (González, 2012a).

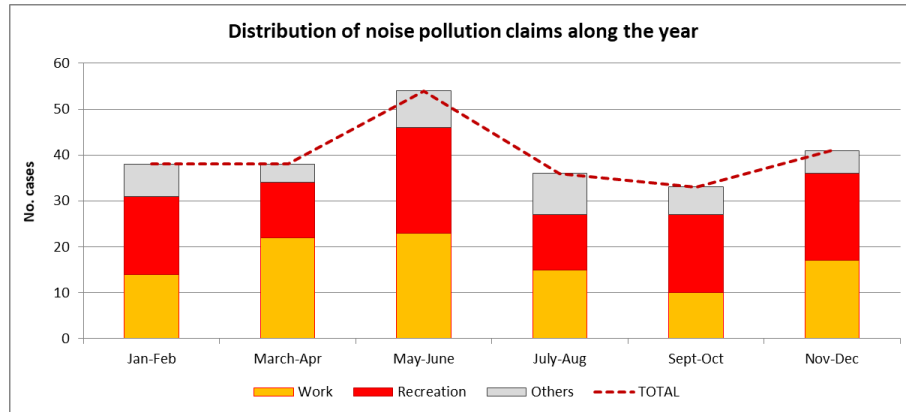


Figure 3. Cases by category along the year (bimonthly, starting January, 2009)

When a Friedman statistical test (Sachs, 1978) is applied to the data, it is verified that not all two-month periods are equivalent at a 95 % confidence interval. Moreover, it is also verified that the misalignment is produced precisely by data from the May-June period. Although these are cold months in Uruguay with mean temperatures usually not higher than 14 °C, having a few days of significantly higher temperatures is also typical at this time of the year (an "Indian Summer" phenomenon locally known as "Veranillo de San Juan"), where temperatures have sometimes reached 29.6 °C. A possible explanation for this could then be that claims might be related to evenings with nicer temperatures when people may choose to have a little recreation time in the open air, or when those who remain at home would rather keep their windows open during rest time.

### 2.4 Geographical distribution of claims

The Montevideo Department has been recently divided into eight Municipal Administrations called "Municipios". Municipios B, C, CH and E correspond to the areas with the highest population density, particularly in the case of Municipios CH and E, which comprise neighbourhoods with the highest purchasing power (Figure 4).



Figure 4. Municipal administration division in Montevideo (source: <http://www.mapademontevideo.org/>)

### 2.4.1 Number of claims by Municipio

The number of noise pollution cases submitted to DVM has been generally increasing over time. However, this growth has been uneven in the different areas of the city, as it has also been the case with the geographical distribution of the complaints or their subjects. Figure 5 shows the annual evolution of noise pollution cases taken before DVM and classified by municipality. It can be observed that the three municipalities maintaining a leading role over time are B, C and CH, with a total of 50 % to 85 % of annual cases. Municipios E and G maintain some minor presence over time, while Municipios A, D and F have had some years without noise pollution cases, and each of them has had less than 10 complaints between 2009 and 2015.

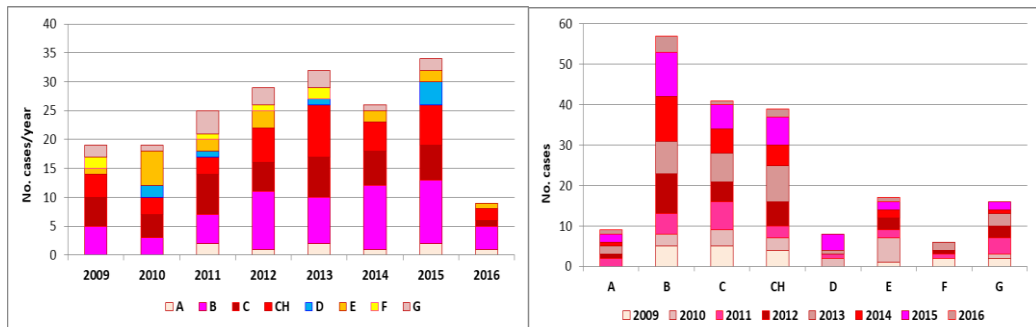


Figure 5. Annual evolution of noise pollution cases: by year and by Municipio (left) and by Municipio and by year (right)

Cases in each Municipio are different. In Municipios B and CH the amount of noise claims related to recreational activities is the highest, which is consistent with the analysis of the first years of DMV administration (Figure 6).

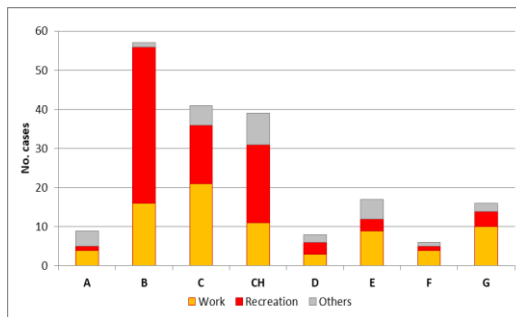


Figure 6. Cases by category and by Municipio

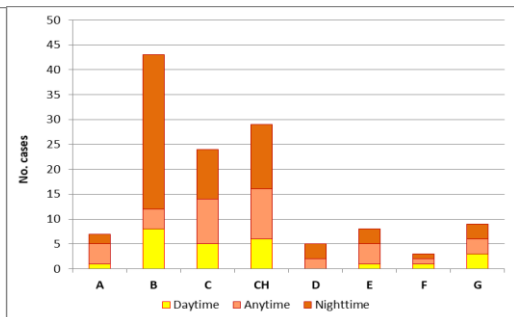


Figure 7. Annoyance hours, by Municipio

Annoyances taking place exclusively during daytime are a minority; particularly in Municipios with higher noise conflicts (B, C and CH), this represents 20 % of claims in each of them (Figures 7 and 8).

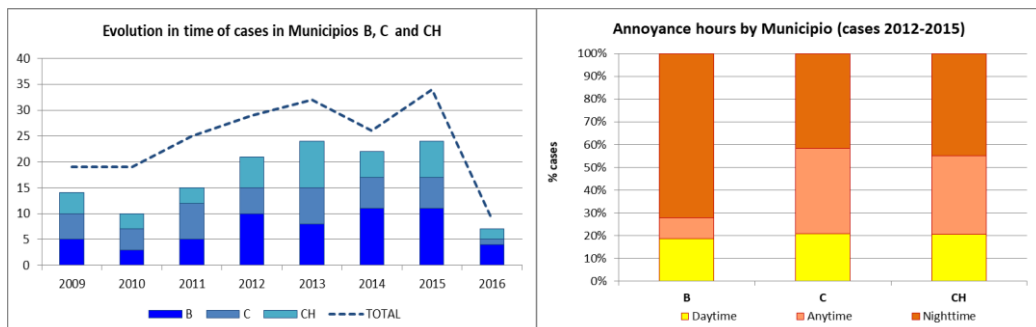


Figure 8. Cases in Municipios B, C and CH

### 2.4.2 Claims in Municipios with the highest number of cases

The three municipios which have shown the highest amount of noise conflicts over time are B, C and CH. Each of them shows a different profile (Figure 9):

- In several opportunities, Municipio B has been the one with the highest number of annual cases. If cases under "Others" are excluded, such primacy remains uninterrupted since 2012. This Municipio shows cases both under "Work" and "Recreation" categories. Additionally, the impact of each category has been similar from 2011 to 2013. In 2014 and 2015, however, the amount of cases under "Recreation" has risen considerably, the ratio being 10 to 1 for the present year.
- Municipio C has had a consistent amount of six annual cases, with a constant of no less than two cases under sub-topic "Work". During the last three years, cases under "Recreation" have been on a stable upward trend, unlike the fluctuations of the four previous years.
- Municipio CH has always shown some "Recreation" case in each of the seven years under consideration, though without any clear trend. It is here where the majority of cases under "Others" have occurred.

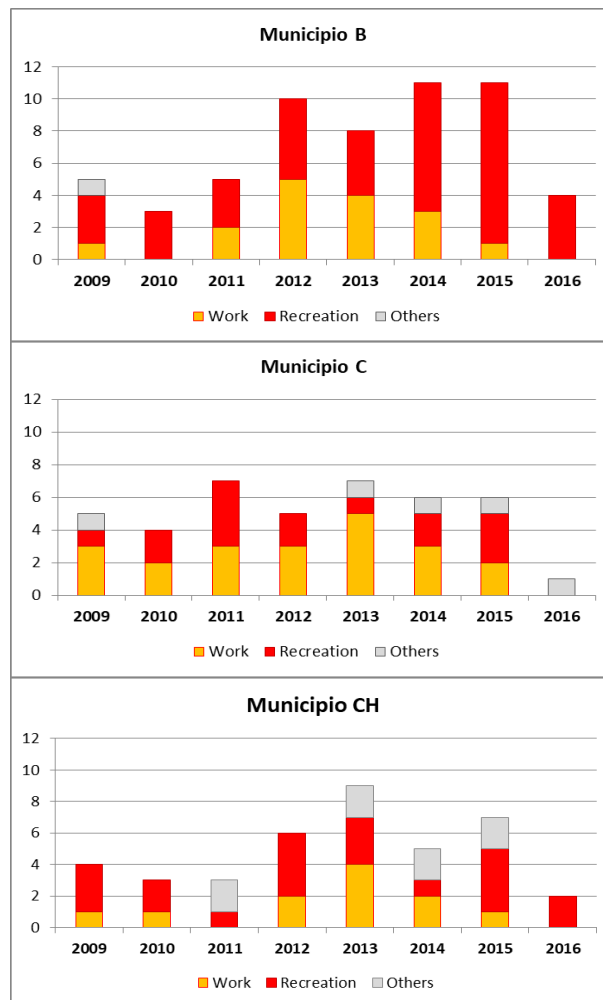


Figure 9. Annual evolution of noise pollution cases in Municipios B, C and CH, by category

Statistical analysis (Friedman test, Sachs 1987) was applied to annual cases submitted in each of these Municipios between 2009 and 2016, the intention being to

verify whether significant changes had occurred for the issues reported. Only data from Municipio C showed comparable results at 95 % confidence interval.

If year 2010 and 2011 are removed, the annual distribution of cases under "Work", "Recreation" and "Others" for Municipios B and CH become comparable at a 95 % confidence interval. If account is taken of the causes, it can be observed that during 2009 and 2010 the local authorities ("Intendencia Departamental") ordered a few but exemplary closures, which may well be the reason for such a drastic decrease in cases submitted to DVM during the period (González, 2012b). From 2011 to 2015, the amount of cases has resumed the general upward trend, though maintaining some fluctuations both at departmental level and in the three Municipios with the highest number of cases. The number of cases in 2016 is the smallest one, reflecting the successful management of the Mediation Unit of the DVM.

### 3 CLASSIFICATION OF CLAIMANTS

One possible criterion for classifying the profile of claimants is according to gender and age.

#### 3.1 According to Gender

Figure 10 shows that the annual growth of the number of cases has not determined a significant modification in the amount of cases brought by men and women: the predominance is in cases put forward by women, with a historical average of 56 % of the total annual cases.

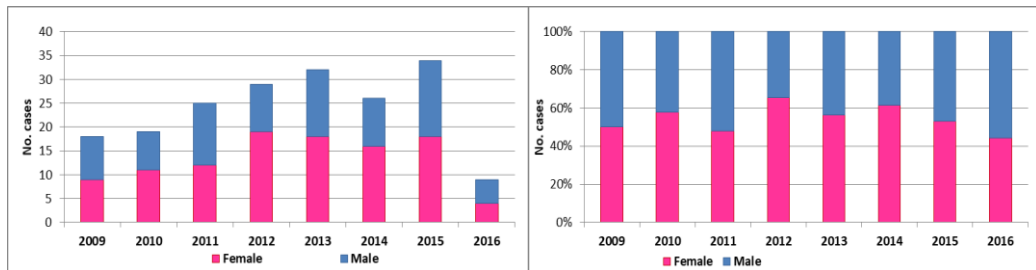


Figure 10. Annual cases according to gender of claimant (left: No. of cases; right: percentages)

#### 3.2 According to Age

Distribution according to age of cases brought to DVM over the last seven years (Figure 11) shows no statistically significant differences at 95 % confidence interval.

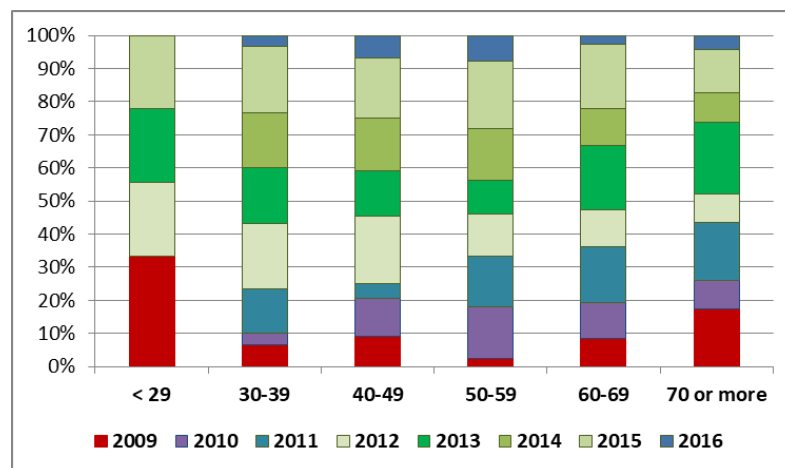


Figure 11. Percentage of cases by year, according to age of claimant

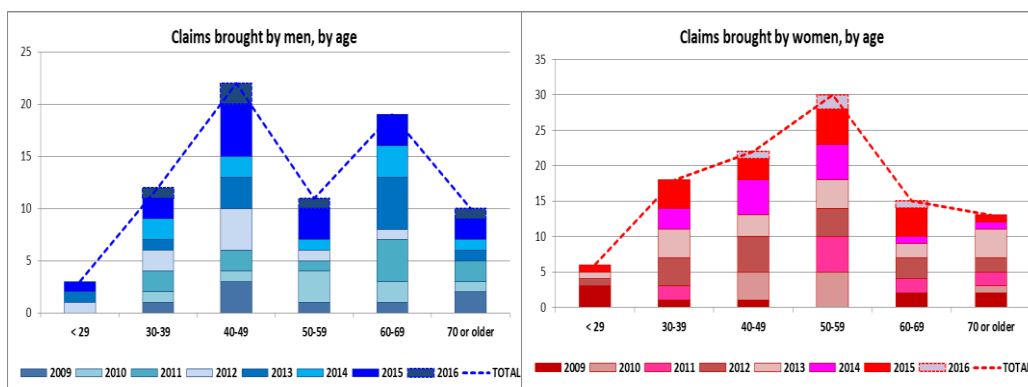


Figure 13. Cases by year, according to age and gender of claimant (left: Male; right: Female)

Nevertheless, distribution according to age within claimants when discriminated by gender is not the same. While the amount of claims brought by female claimants increases between the ages of 20 and 59 and then drops, there is an increase of cases brought by male claimants below 49 years of age, followed by a peak between the ages 60 and 69. However significant drop is observed between ages 50 and 59, which is the area in which claims brought by women show the highest numbers.

Although this is most probably caused by a number of factors, if we consider that recent studies in Montevideo have shown that noise annoyances increase with age in women, unlike in men (Gianoli and Cunha, 2014), it is possible that this may be one of the factors with an impact on the results. According to Heinonen-Guzejev et al. (2012), noise sensitivity is different in men and women, and it significantly correlates with hostility, self-control, neurosis, consumption of analgesic substances, anger, depression and stress. In a previous study, these authors showed that noise sensitivity is genetically conditioned (Heinonen-Guzejev et al., 2005). Schreckenberget al. (2010) warn against taking this as a general indicator of general environmental perception in people.

Furthermore, retirement age in Uruguay is slightly earlier in women. This could determine that a greater number of women retire before the age of 60 and would hence have an impact on the amount of claims for such age group; something that could actually become evident for men above 60, in the next data group.

## 5. FINAL SUMMARY

The main results of the analysis of the cases submitted to DVM during its first decade indicate that:

- The main noise problems in Montevideo occur in three of its eight Municipios.
- Most of the claims refer to recreational activities, particularly to night time annoyances.
- A higher number of cases remains constant in claims submitted by women.
- In statistical terms, distribution of claimants according to age has not changed significantly, although age composition is different between male and female claimants.
- The Mediation Unit of DVM has had successful results in its first period of existence: it has generated a drastic reduction in the number of claims.



## 6. ACKNOWLEDGEMENTS

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