Mortality in the DDS Prisons in Chad, 1985–1988

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1 Introduction

This report analyzes the daily mortality in the prisons of the Documentation and Security Directorate (DDS) of the Chadian government. The analysis is limited to the period for which data are available, 1985–1988. The data used are the DDS's daily situation reports which cover various detention locations managed by the BSIR,[1] and the DDS. All of the documents were found in the Chadian judicial archives.

The report builds on two earlier reports, Cruz et al. (2003) and Silva et al. (2010). It is more limited than either of the preceding reports because it considers only mortality in detention; no other questions are considered here because there has been insufficient time since access was granted to the original documents (see Section 2). This report is based exclusively on documents obtained from the Chadian government's judicial archives.

In this report, we find that the level of mortality in DDS detention was extraordinarily high, with averages between 0.2 and 0.6 deaths per 100 prisoners per day during the highest period of mortality from September, 1985, through January, 1987. This rate is hundreds of times greater than mortality for adult men in Chad in the same period, and substantially higher than some of the worst recorded twentieth-century prisoner-of-war mortality.

Numbers in this report are formatted according to the International Standards Organization 31-0. The thousands separator is a small space used in numbers of five or more digits, and the decimal is marked by a point. Dates follow ISO 8601, for example, the date Hissène Habré became President of Chad is 1982-06-07, that is, June 7, 1982. Technical jargon and French words are shown in *italics*; the names of specific computer programs, variables and fields used in the analysis are shown in the font used in `typewriter`. Links within the document are shown in red, and links to external websites are shown in blue.

2 Data

The data for this report come from 796 DDS daily situation reports found in the Chadian government archives. We obtained authenticated, notarized copies of the

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[1]The detention facility of the *Brigade Spéciale d'Intervention Rapide*, Chad's Special Rapid Action Brigade.

documents, and high-resolution photographs of the documents, during a visit to N'Djamena from 2014-06-01 through 2014-06-05. The reports cover the period 1983-01-14 through 1988-05-23. Figure 1 shows an example of one report. For the purposes of this analysis, the key elements in the report are the date (1986-08-11), the number of detainees at the beginning of the day (283), and the number of deaths (5).

Figure 1: Example DDS Daily Situation Report

Prior to 1985, many of the reports are missing information about the number of prisoners detained. Many of forms omit the field for the number of prisoners who have died, yet some forms imply by handwritten notes that one or more prisoners died. Consequently, this analysis focuses on the period for which the daily situation reports are consistent. There are 518 complete reports for the 1085 days from 1985-05-31 to 1988-05-31.

2.1 Findings

In the 518 DDS daily situation reports found in the archive between 1985-05-31 and 1988-05-31, the number of prisoners recorded varied from a minimum of 77 to a maximum of 571. The number of prisoners held each day is shown in Figure 2.

In Figure 2, each day is represented by a vertical line. The height of the line indicates the number of prisoners on each day. The reports for many days are missing, and consequently, the pattern of bars shows spaces that correspond to days for which there was no data.

It is worth noting that the daily situation reports for approximately half the days in the period from 1985-05-31 to 1988-05-31 are missing. We do not know what fraction of the prisoners died on the days for which the reports are unavailable. However, there is reason to believe that the daily counts presented in Figure 2 and the rates presented in Figure 3 are consistent with the true patterns during the period of highest mortality from 1985-09-01 to 1987-01-31. Note that during this period in Figure 2, there is a generally smooth decline from the peak when many prisoners arrive in early March, 1986. From that peak, there is a generally continuous decline of the number of prisoners until there is a substantial change on 1986-10-25. The daily situation report indicates that the day begins with 297 prisoners and ends with 189: it notes that three died; 41 are noted as released; six were "expelled" (without further explanation); 30 were transferred to the *P.J.* (without further explanation); two were transfered to the *HCFANT* (without further explanation); and 26 were transferred to the *P.M.* (without further explanation).

With the exception of a few extraordinary days like 1986-10-25, the declines in the number of prisoners recorded each day tend to be smooth. Similarly, for the days that are known, the rate at which prisoners die tends to be very approximately consistent. For this reason, we consider it unlikely that there are substantial differences in the numbers of prisoners or in the proportion who died among the

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Figure 2: Number of Prisoners Counted in DDS Daily Situation Reports
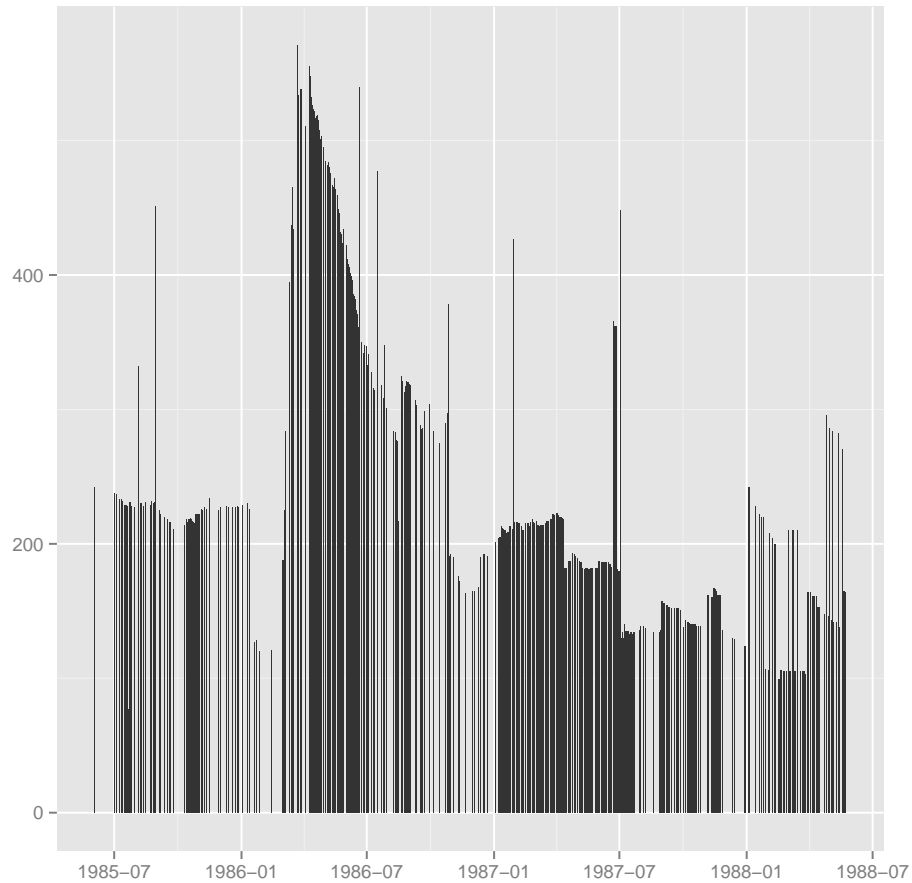
daily situation reports that are not preserved in the archives compared to the daily reports evaluated here. The death rate is considered in Section 2.2.

2.2   Analysis

To analyze the deaths in detention, we calculate the rate at which people died in detention. Demographers call this a *crude mortality rate* (CMR). The CMR includes deaths from all causes, and it does not take into account the ages of the prisoners. The CMR is simply the number of deaths each day divided by the number of prisoners in detention at the beginning of the day. When multiplied by 100, this rate is equivalent to a percentage, and can be interpreted as the number of prisoners who died from each group of 100 prisoners each day.

During the period from 1985-05-31 to 1988-05-31, the maximum number of deaths in one day during this period is 10. The maximum CMR per 100 prisoners was 2.37, and it occurred on 1988-05-23.[2]

Figure 3: Daily Crude Mortality Rate (smoothed; per 100) Among Prisoners in DDS Daily Situation Reports
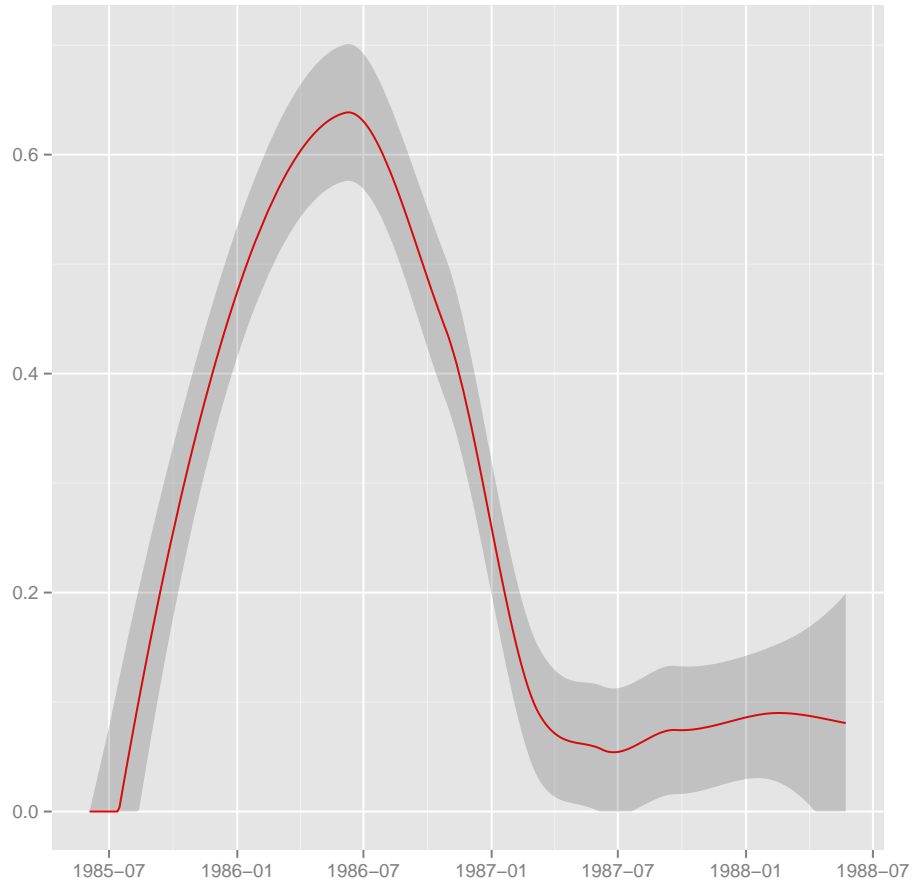
In Figure 3 we present the smoothed daily crude mortality rate per 100 prisoners for the period from 1985-05-31 to 1988-05-31. The rate is *smoothed* which means that the rate shown at each point is an average of surrounding points.[3] The smoothing makes the pattern of mortality over time easier to see. The gray

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[2]Note that the maximum does not appear in Figure 3 because Figure 3 shows the weighted average of each day and its neighbors slightly before and after.

[3]More formally, the curve shown is a *loess curve*, also called *local regression*. The curve plotted by the ggplot2 package in the statistical software R. In loess, a different curve is fit to each point. The points are weighted such that the points closer to the point being fitted have higher weights, with points farther in the future or the past having much weaker weights. The result is a smooth curve over all points that takes into account the change over each local area in the pattern, while minimizing the effect of outliers.

band around the red line shows the standard error of the smoothing, that is, the approximate average range within which the average varies as the line moves from left to right.

Figure 3 begins in June, 1985, at the point at which there are sufficient data, and when the CMR is zero. The smoothed average rises quickly through late 1985 to over 0.2, then to a peak of 0.64. It remains above 0.2 until January, 1987. The smoothed CMR settles at a relatively lower rate of approximately 0.08 deaths per 100 prisoners per day through the end of the available data on 1988-05-31.

3 Comparison to Other Mortality Measures

During the 1980s, adult male crude mortality in Chad was between approximately 0.001144 per 100 men per day and 0.00225 per 100 men per day.[4] This means that from 1985-09-01 to 1987-01-31, the mortality in the DDS prisons ranged approximately from 90 to 540 times greater than normal adult male mortality in Chad.

Many of the men in the DDS prisons were prisoners of war (POWs), so a comparison to severe mortality in historical POW contexts might be illuminating.[5] The total mortality for US prisoners in Japanese custody in 1941–1945 (during World War Two) was between 32.9% and 41.6%.[6] On average, prisoners were held for 275 days,[7] so the daily crude mortality rate per 100 prisoners was 0.151. Thus the mortality in DDS prisons in the peak period 1985-09-01 to 1987-01-31 was 1.3 to 4.1 times greater than the mortality of US POWs in Japanese custody.

Another context in which POWs suffered severe mortality is German prisoners in Soviet custody in 1942–1952, where the daily crude mortality rate was between

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[4]The different estimates come from different indirect calculation methods. First, the 45q15 calculation in Timaeus and Jasseh (2004) estimates the probability of a Chadian man dying between ages 15–60. To create a daily rate per 100 people, we normalized the probability over the entire period by multiplying by $\frac{100}{45\cdot365}$. Similarly, the 35q15 calculation in United Nations, Department of Economic and Social Affairs, Population Division (2013) estimates the probability of a Chadian man dying between ages 15–50, which we normalized by multiplying by $\frac{100}{35\cdot365}$.

[5]The comparisons here are all of *crude mortality rates*, that is, rates that do not account for the ages of the prisoner populations. We have not found systematic or official data on the ages of the prisoners in either the historical contexts or those in the Chadian prisons, so we have been unable to calculate age-specific mortality. Since these are all prisoners of war, it is likely that the historical contexts and the prisoners in the Chadian prisons are adult men between ages 15–50.

[6]The first estimate comes from Pritchard et al. (1981) and was used in the Tokyo War Crimes trials in the 1940s. The second comes from Kerr (1985).

[7]See Reynolds (2002) for the numbers of days for which former US prisoners were compensated, which we will take as a measure of the time prisoners were held.

0.116 and 0.130 per 100 prisoners per day.[8] This means that mortality in the DDS prisons in the peak period from 1985-09-01 to 1987-01-31 was 1.5 to 5.3 times greater than for mortality among German POWs in Soviet custody.

4   Conclusion

Using the daily situation reports from the DDS, this study has established the daily crude mortality rate for the DDS prisons during the period from 1985-05-31 to 1988-05-31. The mortality in the DDS prisons, especially during the peak period from 1985-09-01 to 1987-01-31, was hundreds of times higher than normal mortality for adult men in Chad during the same period. Furthermore, mortality in the DDS prisons was substantially higher than some of the twentieth century's worst POW contexts.

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[8]The mortality estimates come from MacKenzie (1994) and Overmans (1995). Some German POWs were held by the Soviet Union for over ten years. However, most mortality among POWs occurs in the first months of their imprisonment, so we have calculated the daily mortality rate for German POWs assuming that they were imprisoned for only nine months. This assumption overstates the Germans' daily mortality, which will tend to understate the comparison to the DDS prisons.

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About HRDAG

The Human Rights Data Analysis Group is a non-profit, non-partisan organization that applies scientific methods to the analysis of human rights violations around the world.[9] This work began in 1991 when Patrick Ball began developing databases for human rights groups in El Salvador. HRDAG grew at the American Association for the Advancement of Science from 1994–2003, and at the Benetech Initiative from 2003–2013. In February 2013, HRDAG became an independent organization based in San Francisco, California; contact details and more information are available on HRDAG's website (https://hrdag.org) and Facebook page.

HRDAG is composed of applied and mathematical statisticians, computer scientists, demographers, and social scientists. HRDAG supports the protections established in the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and other international human rights treaties and instruments. HRDAG believes that statistics about violence need to be as true as possible, using the best possible data and scientific methods.

This project was done by Dr. Patrick Ball, including the project design, identifying and copying the DDS documents, writing the necessary software, conducting the analysis, and writing the report. Technical ideas were developed in collaboration with Dr. Romesh Silva and Dr. Megan Price. The photographic enhancement and coding from the DDS images was done by HRDAG data consultant Anne-Marie Cowsill. Additional research was done by Emily Carter at The Johns Hopkins University and Suzanne Nathans at HRDAG. Comments were provided by Dr. Romesh Silva, Prof. David Banks, Suzanne Nathans, Dr. Megan Price, and Christine Grillo.

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[9]Formally, HRDAG is a fiscally sponsored project of Community Partners.