Human Rights Data Analysis Group
2020 year in review

Beyond statistics: Readiness in the face of uncertainty

HRDAG
Statisticians
for human rights

Ready and relentless

At HRDAG, we are responding to a period of incessant uncertainty and chaos with readiness, focus and determination. Experience has taught us to remain relentless in the pursuit of undeniable truth — and so, we are. Statistics deliver insight, and our insights pave the way to clarity, accountability and ultimately, justice.

We know that perpetrators of human rights violations create false narratives, hiding evidence of crimes by distorting data, creating gaps. **We illuminate those gaps.** We know that science can confuse the public when vital data on pandemic risk and safety is unclear. **We clarify the facts and explain the science.** We know that justice-seeking truth commissions require reliable evidence of undocumented deaths and abuses. **We calculate what's missing — and provide the scientific evidence.**

We start with what is known, determine what is missing, and provide what is desperately needed: clear answers to urgent questions in the midst of uncertainty. We are equally relentless in preparing for our next challenge. We innovate new statistical methods, monitor world events, and initiate dialogues with prospective partner organizations. When an opening appears, we move rapidly to organize, preserve and protect relevant data. We achieve our goal when legitimate questions of fact yield to informed demands for justice and accountability.

At HRDAG, we are passionate about data and relentless in the pursuit of a better future.

The lack of rigorous data on killings by police is confounding — but not for HRDAG statisticians. Applying the same methodologies used to estimate undocumented violence in international conflicts, HRDAG was able to establish that 1/3 of all people killed by strangers in the US are killed by police.

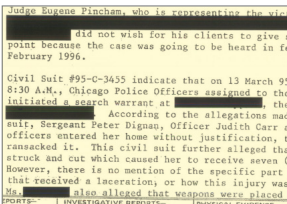photo: Tony Webster, CC BY 2.0

2020: Urgent questions

How widespread – and deadly – is police violence? The question took on new urgency this year during worldwide protests of police brutality. Progress, long-hindered by incomplete reporting, seemed newly possible.

But first, the public needed the facts.

HRDAG statisticians Patrick Ball and Kristian Lum tackled one underlying question in 2015: How many people in the US have been killed by police, including undocumented homicides? Using statistical estimation, we calculated: nearly 10,000 Americans over an 8-year period.

Communities deserve access to information about police misconduct. Buried in hundreds of thousands of pages of complaint records is nuanced information about interactions with police. HRDAG and the Invisible Institute are working together, using natural language processing and machine learning, to get past official categorizations of complaints, accurately depict the underlying details, and generate more systematic analyses of police misconduct.

Redacted Chicago Police document; public domain

In 2019, newly-available data created an opportunity for us to analyze police misconduct more broadly. Following a multi-year battle, our partners at the Invisible Institute gained access to records of citizen complaints against police in Chicago. We worked with them to design and maintain a data pipeline to process enormous "data dumps" of hundreds of thousands of documents. These complaints typically contain large blocks of text, which make quantitative analysis challenging, but not impossible. Our combined efforts are linking formal complaints to individual officers, making it possible to quantify the number and types of complaints-per-officer.

The result? The most accurate, comprehensive picture yet of police misconduct in Chicago.

That is only the beginning.

We anticipate a substantial influx of new data on police behavior in response to lawsuits, legislation, and formal requests. New York State just repealed a section of its legal code, thereby making police misconduct records more accessible. California is strengthening legislation to make information about police use of force publicly available. More and more records of this type are going to become available in the months and years to come.

Alongside our partners, we will be ready to uncover the truth — bringing facts into sharp focus, and demands for justice and reform to the forefront.

Life, death and probabilities

How reliable are Covid-19 test results? In the chaos of a worldwide pandemic, fueled by the spread of misinformation, we all feel an urgent need for accurate, understandable information. The appearance of scientific uncertainty feeds public confusion — hindering individual decision-making, and rippling out in invisible waves of community impact. How can HRDAG help? We bring clarity to the uncertainty.

First, we focus on asking the right question: How many people are infected? Public health departments can only measure how many people receive a positive test result, which is not the same thing. Raw tallies of diagnosed infections reflect some combination of the number of infections in the population, the rate of testing in the population, and the proportion of infections that cause symptoms. Nothing in these variables holds constant from city-to-city or state-to-state.

Test results are also difficult to interpret on an individual level. A positive result does not prove sickness; nor does a negative one ensure health. But, a specific mathematical equation, called *Bayes Theorem*, helps explain both results.

Consider screening tests looking for SARS-CoV-2 proteins or antibodies (potential indicators of a past infection, but not a current one). What does a positive test result indicate? What is the likelihood that it is correct and accurately recognizes antibodies? Answering these questions requires knowledge of the test (its "sensitivity" and "specificity") AND the infection rate within a community. Counterintuitively, the lower the infection rate in the community, the higher the odds that a positive test is incorrect. Our team unpacked all the math in an essay in *Granta* magazine in April 2020.

While the implications for public policy are debated nationwide, our essay sidesteps the politics to provide a valuable public service: equipping individuals to interpret their own test results accurately, and make informed personal decisions.

The outpouring of concern about inadequate Covid testing made the interpretation of test results a public issue. HRDAG responded with articles that explained the statistical variables and methods being used by health science experts when crafting public policy.

photo: Marco Verch, CC BY 2.0

And finally, justice

What does justice require? Countries managing the transition from injustice-in-conflict to accountability-in-peace require data to determine patterns of violence, assess culpability, and prescribe justice. We have a long history of contributing to these transitions; Patrick Ball's 2015 testimony in the trial of Chad's former president Hissène Habré is just one recent example.

This year, we are in the midst of advising two projects in countries as they end long civil wars. The sensitive process necessitates discretion; we cannot identify our partners currently. While our role is straightforward — we clarify questions, analyze data, provide reliably precise answers, and (when necessary) testify to them — the transitional justice efforts are complicated and long-term. This is often the case. Our analyses cited by the judges when they found Habré guilty of crimes against humanity were decades in the making.

Memory and an insistence to know the true story motivate our partners, who are themselves often exposed to personal risk and physical violence. We are honored to join our partners with a deep commitment to work that has been used by 10 truth commissions, 6 local and international court cases, 5 UN missions, and dozens and dozens of NGOs.

photo: ©Raffy Lerma

We may not know yet the specific outcomes of our current international projects. But we do know that inaccurate statistics can damage the credibility of human rights claims — and that is why we strive to ensure that statistics about human rights violations are generated with as much scientific rigor as possible.

The evidence we produce for our partners is just that: *evidence*. Documented in its methodologies, conclusive in its results, sufficient for courtrooms and the press. Ready for delivery at those pivotal moments when what seemed impossible becomes possible: resolution and accountability.

HRDAG is relentless in our pursuit of human rights and seeking justice around the world. This work is at the foundation of who we are. As we witness funding for and attention to such critical work shrinking, we remain passionately committed to partnering with truth commissions and international peace processes in the years to come.

HRDAG by the numbers

A THREE YEAR SUMMARY

HRDAG's fiscal year is July 1–June 30		2019-20		2018–19		2017–18
Beginning cash balance	$	527,801	$	213,428	$	102,145
Income						
Foundation grants		955,452		1,386,971		981,186
Revenue from contracts		10,700		22,474		90,812
Direct public support		95,968		89,555		35,043
Total income	$	**1,062,120**	$	1,499,00	$	1,107,041
Expenses						
Salaries and consultants		1,073,492		946,281		787,618
Travel and conferences		16,468		34,350		44,358
Rent, utilities, and technology		36,359		47,745		42,438
Supplies and other direct costs		28,411		19,892		23,083
Administration [1]		95,608		136,359		98,260
Total expenses	$	**1,250,338**	$	1,184,627	$	995,757
Ending cash balance [2]	$	**339,583**	$	527,801	$	213,428

[1] HRDAG operates as a fiscally sponsored project of Community Partners (communitypartners.org), a nonprofit organization that helps community leaders build and sustain effective programs that benefit the public good. Administrative fees to Community Partners support their back-office services and the legal framework that allows HRDAG to focus on our mission.

[2] We strive to close every fiscal year with a non-zero cash balance. A portion of this balance constitutes our reserves which we maintain year-to-year for financial stability and programmatic agility. The majority of this non-zero cash balance represents funds with donor restrictions, meant to be spent over a specific period of time and/or on a specific project. The size of this balance varies year-to-year, depending on when grant funds are received.

The people behind HRDAG

HRDAG's team includes Executive Director Megan Price, Director of Research Patrick Ball, Data Scientist Tarak Shah, Statistician Maria Gargiulo, Foundation Relations and Strategy Lead Kristen Yawitz, Operations Coordinator Suzanne Nathans, as well consultants, interns, and fellows.

Our team is based in San Francisco, and our partners are located in countries around the world. We are supported by an advisory board composed of Julie Broome, Margot Gerritsen, Michael Bear Kleinman, and Dinah PoKempner.

2020 is more than statistics

The central tenet of HRDAG's work is a deep-seated commitment to justice, accountability, and truth. Every year, the pursuit of these fundamental principles becomes more fraught and more necessary. This past year was no exception with extraordinary challenges posed by the Covid-19 pandemic, widespread worldwide protests due to police violence, and the very concept of evidence-based science being questioned by so many people around the world. The times are both unprecedented and uncertain.

In the midst of this uncertainty, I am proud to say that my colleagues and I at HRDAG have been steadily and systematically doing the work we do best — using statistics to advance international human rights and justice. As data scientists in the field we created nearly 30 years ago, we continue our critical work with extraordinary focus and commitment. We are profoundly grateful to our loyal and generous supporters for sharing our belief in rigorous scientific methods and dedication to human rights and justice.

Megan

Megan Price
Executive Director

WE THANK THIS YEAR'S GENEROUS SUPPORTERS

We provide analysis so that our partners — human rights advocates — can build scientifically defensible, evidence-based arguments.

Our work has been used by truth commissions, international criminal tribunals, and non-governmental human rights organizations on five continents. As always, we welcome support from those who share our desire for justice.

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