

CaliBaja: Emerging Stronger after COVID-19

2020-2021 Report



Edited by
*Rafael Fernández de Castro, Paul Ganster
and Carlos González Gutiérrez*

UC San Diego

SCHOOL OF GLOBAL POLICY AND STRATEGY
Center for U.S.-Mexican Studies

MÉXICO
CONSULADO GENERAL EN SAN DIEGO



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CaliBaja: Emerging Stronger after COVID-19.

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Index

Acknowledgements.....	ix
Introduction	
<i>Rafael Fernández de Castro, Paul Ganster and Carlos González Gutiérrez..</i>	1
The San Diego Region's Transborder Governance History and Future Prospects after the COVID-19 Pandemic	
<i>Paul Ganster.....</i>	9
Healthcare Systems in the Tijuana-San Diego Region during the COVID-19 Pandemic	
<i>Ietza Bojorquez Chapela.....</i>	23
Ports of Entry and Cross-Border Infrastructure for People and Goods: Policies, Practices, and Conditions	
<i>Gustavo De La Fuente.....</i>	35
Integrated Value Chains: Dynamics and Aims for the CaliBaja Region	
<i>Saúl De los Santos and Jorge Carrillo.....</i>	45
COVID-19 and its Impact on the Cultural Economies of Tijuana-San Diego	
<i>Norma Iglesias Prieto</i>	57
The Impacts of COVID-19 on the Tourism Sector in Baja California and San Diego	
<i>Claudia A. Fernández Calleros.....</i>	71
Medical Tourism in the U.S.-Mexico Border: California-Mexico Cooperation after COVID-19	
<i>Arturo Vargas Bustamante.....</i>	83
Towards a Binational Food Security System in the Tijuana-San Diego Border Region	
<i>Yamilett K. Carrillo Guerrero, McKenzie Campbell, Jackelyn Rivas Landaverde and Arden O. Martinez.....</i>	93
The Cali-Baja Region: Emerging Stronger after COVID-19	
<i>Fernando León García.....</i>	110

COVID-19’s Impact on Migration Arrangements in the Tijuana-San Diego Border and the Future of Migration Governance
Rafael Fernández de Castro.....107

Security and Emergency Response
Cecilia Farfán-Méndez.....119

Energy Issues in Baja California
Alan Sweedler.....129

The Baja California State Government’s 2020 Bid Tender for a Solar Energy Project
John McNeece137

About the Editors and Authors.....139

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I would also like to thank our partner in the organization of these meetings, the Consulate General of Mexico in San Diego. Especially, the Consul General Carlos González Gutiérrez, and the team consisting of Natalia Figueroa, Patricia Pinzón, and Mariana Villegas. Together we hosted 16 conversations on the most relevant issues for CaliBaja between June 2020 and July 2021. While the Center for U.S.-Mexican Studies (USMEX) brought together the academics experts on each issue, the Consulate excelled in gathering the professionals leading the fieldwork in local and federal governments, private businesses, and civil society organizations.

Special thanks to Paul Ganster for leading the editing of this report. Paul, who has published numerous articles, chapters, and books about the border region, is a subject expert and a remarkably generous academic. All of us who took part in this report would like to thank him for sharing his decades of experience and knowledge to refine the content of this work.

The authors of each chapter in this report and all the working group’s members have done an exceptional work in their commitment to contribute to the region. Over 65 institutions were represented in our first series of conversations, which have certainly benefited us through the exchange of information and experiences, and the strengthening of networks among regional leaders of different sectors. I would like to highlight the participation of Sempra and Otay-Tijuana Venture, LLC, whose support is essential to continue this project.

Finally, I would like to thank the team at USMEX. Claudia Fernández, for her work in editing this report. Orly Romero and Arturo

Chiquito, for their support in organizing our meetings. And, Mónica Bauer, who recently joined the team to coordinate the project's second stage.

This effort convinced us of the interest and importance of contributing to regional integration. We are very satisfied with the work accomplished thus far and excited to continue these dialogues with a new name that highlights our optimism, "CaliBaja: Moving Forward Together."

Rafael Fernández de Castro
Director, Center for U.S.-Mexican Studies

Introduction

Rafael Fernández de Castro
Center for U.S.-Mexican Studies

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*

CaliBaja is widely acknowledged as a region with exceptional communication and coordination between both sides of the border. It encompasses all of Imperial and San Diego counties, as well as the border municipalities of Mexicali, Tecate, and Tijuana. The phrase “two countries, one region” depicts the aspirational vision, especially from the south of the border: together, we are formidable.

However, the arrival of the COVID-19 pandemic has presented significant challenges that lead us to rethink the effectiveness and resilience of current cooperation mechanisms and regional cross-border dialogue. Are we the best example for the rest of the binational border to follow? How was the state of binational coordination before the pandemic? How was it affected by it, and how can we come out stronger? These are the questions we intend to answer.

To answer these questions, the Center for U.S.-Mexican Studies at the University of California San Diego (USMEX) and the Consulate General of Mexico in San Diego created the “CaliBaja: Emerging Stronger after COVID-19” working group. This group is a space for dialogue between leaders and specialists on both sides of the border about the crucial topics for cooperation during emergencies.

The chapters in this report reflect each virtual conversation that we carried out during the pandemic. The conversations usually consisted of one or two scholars analyzing how the pandemic impacted a specific

cooperation area such as health, border crossings, or medical tourism. These initial regards were followed by comments from public officials or businesspeople from both sides of the border and ended with an open discussion between all participants. Each chapter analyzes the conditions of prepandemic cooperation, the COVID-19 impacts, and the conditions we should aspire to for better regional integration in the coming years. Moreover, the authors also present specific recommendations to achieve these aspirations.

The intense regional dynamism and the asymmetrical conditions between both sides of the border require a conscious, proactive, and self-critical coordination effort. We firmly believe that a better integration will benefit local communities and that this report and the permanent intersectoral dialogue will be essential contributions along the way.

Four general conclusions emerged from this report and our dialogues:

1. Policies imposed from the capital cities of both countries do not necessarily consider regional needs, so these are prone to result in unintended consequences.
2. We need to institutionalize regional governance and dialogue mechanisms that help local decision-making, as well as greater involvement of local leaders in federal decision-making.
3. There is a great diversity of experiences among local communities, which affects how different emergency conditions will impact them. Every governance mechanism must be representative and proactively transparent to ensure its effectiveness. In addition to facilitating the active participation of leaders in the public, private, and social sectors, there must be a constant effort to broaden the scope of dialogue and foster the involvement of civil society in decision-making.
4. Many of the essays in this report clearly document the reactive nature of the response to the COVID-19 pandemic by all levels of government and, to a lesser degree, of other regional transborder stakeholders. The essays also note how transborder collaboration was reduced markedly as the pandemic unfolded in the region. Now is the time to plan proactive transborder coordinated actions for the next border crisis, whether a natural disaster, another pandemic, or other event.

Governance Mechanisms

Public policies coordinated between local authorities are limited by federal decision-making. During the pandemic, governments on both sides of the border focused on their jurisdictions, weakening previous cross-border ties. Cross-border coordination was more effective among organized civil society and private companies. However, many examples of best practices can be replicated to achieve better cooperation mechanisms.

Recommendations

1. Develop a regional coordinating council to exchange information and define priority action areas for the border.
2. Promote specific priorities with a consensus voice in federal legislation and other spaces to institutionalize cross-border management.

Health Systems

The constant interaction of health systems between both states was limited by the partial border closure, even though there was no scientific evidence of the effectiveness of this policy to reduce virus transmission. Additionally, public resources for the care of other diseases were reduced and redirected to respond to the contingency. The pandemic disproportionately impacted vulnerable groups, such as migrants and people without housing, whose care fell largely on organized civil society and international organizations. In general, there was an atmosphere of cross-border cooperation facilitated by the prior existence of formal mechanisms and informal networks.

Recommendations

1. The networks and collaboration between different levels of government, civil society organizations, and international organizations that were driven by the pandemic must be given continuity and formalized.
2. It is undeniable that civil society organizations are vital in caring for vulnerable populations at the border, so there must be more significant government efforts to resume dialogue with them, facilitate their training, and provide them with funds.

Ports of Entry and Cross-Border Infrastructure

Local cross-border cooperation was more prominent than ever in early 2020. However, the pandemic showed the limited capability of both

governments to implement a joint border management strategy. There were contrasting levels between both governments in monitoring to avoid virus transmission at ports of entry. Millions of people were affected by the long waiting times in border crossings and the interruptions of supply chains and trade between local communities. We also observed successful practices, especially in the exchange of information and in the modernization and construction of new ports of entry.

Recommendations

1. Define clear criteria and key performance indicators that justify border restrictions, as well as plan resources and staff management to ensure the reopening does not increase waiting times.
2. Create accessible online mechanisms to optimize documentation, and data collection and processing at land ports of entry.

Integrated Value Chains

The activities of most value appropriation are in California while those related to manufacturing are in Baja California, but this distribution is beginning to change and blur the borderlines. This was especially observed in the case of the medical device industry, which is among the most competitive in the region. Manufacturing chains faced substantial supply challenges during the pandemic, even those in essential industries.

Recommendations

1. Promote long-term coordinated strategies to increase regional competitiveness, especially in technology-intense activities.
2. Encourage binational synergies to promote production and knowledge, including the integration of strategic players (e.g., business clusters) and academic institutions on both sides of the border.

Cultural Economies

The art and culture institutions and projects in the region faced heterogeneous impacts during the pandemic due to unequal preconditions. Despite their social contributions, government participation in recovery and support strategies was not enough, especially in Mexico. The survival chances of cultural units were based on their access to extraordinary grants and their adaptation capabilities, which frequently depended on their own resources and access to technology.

Recommendations

1. Continue taking advantage of the potential of cultural and art events in virtual and hybrid formats, and evaluate the ways in which these activities can help reduce the technological gaps by class, ethnicity, immigration status, age, etc.
2. Value fairly the contributions of cultural and art events in individual and community healing processes such that participation in this kind of event is financially rewarded. This must include increasing public funding for all cultural units, considering tax incentives to promote investment in this sector, and strengthening institutional policies promoting cross-border practices.

Tourism

Tourism was one of the most affected sectors by the health emergency in terms of sales, income and jobs. Although local governments on both sides of the border implemented assistance strategies, it is expected that the ongoing waves of infection continue limiting its recovery. The main opportunity areas for regional collaboration include strategic planning for tourism recovery, strengthening joint decision-making, improving data collection and analysis, and rectifying the sector's job insecurity.

Recommendations

1. Governments must establish clear and transparent criteria, protocols and requirements that allow the private sector to plan its activities in the medium term. To this end, mechanisms for cross-border governance and dialogue are needed to advocate for regional interests.
2. Promote horizontal investment strategies focused on new consumption tendencies that are accessible to small businesses and facilitate a more equitable distribution of tourism revenues.

Medical Tourism

Differences in the costs of health services and the sociocultural proximity between both countries will continue to foster cross-border medical tourism. Challenges to the Mexican health system are expected due to the aging of migrants in the U.S. since it could increase the flow of transnational patients.

Recommendations

1. Plan a strategy that responds to the increase of transnational patients through the collaboration between policy decision-makers and healthcare organizations.

2. Develop a common legal system to solve cases of medical malpractice.

Food Security

The pandemic exposed the lack of infrastructure and collaboration mechanisms to respond to the increasing demand for food access and other basic services given the rise in unemployment and poverty. Although collaboration was present, it mostly centered on informal donations to civil society organizations.

Recommendations

1. Define a joint vision for an integrated food system in the region that addresses the root causes of food insecurity: poverty and unemployment. This requires standards and performance indicators applicable to both sides of the border.
2. Searching for financing solutions to create cross-border food systems that take advantage of current networks between governments, civil society and businesses, as well as guarantee the specific dietary needs of the population, especially those of vulnerable populations with existing health conditions.

Higher Education

Higher education institutions devoted their attention to adjusting rapidly to the new conditions of the health emergency in order to avoid interrupting their activities. Universities must take advantage of this cyclical, long-term crisis and innovate beyond technological adaptations.

Recommendations

1. Higher education institutions must create strategic partnerships and digital literacy plans to prepare for future crises.
2. Students must be equipped for the new global challenges. This is an opportunity to foster transnational education with borderless professors that help students be more globally aware and create international networks.

Migration

COVID-19 was the perfect excuse for the Donald Trump Administration to close the border to migrants. Pending asylum cases diminished notably. Metering and the informal waiting lists managed by migrants stopped operating as asylum petitions were suspended and immediate expulsions increased under Title 42. The more humane narrative of the

Joseph R. Biden Administration towards migrants resulted in a new increase in migration that will become an important political challenge for the Democratic Party.

Recommendations

1. The Mexican government must propose a management scheme for the flows of people in the border that facilitates a legal, orderly and safe migration to the U.S. so Biden can implement his ambitious immigration proposals.
2. As Mexico becomes increasingly perceived as an immigration destination, it must develop a policy for immigrant integration with the participation of all levels of government that takes full advantage of the experience of civil society and international organizations.

Security

The excess mortality during the pandemic is not only related directly to the disease. The availability of more potent drugs and lockdowns resulted in more overdose deaths in the U.S. while the number of homicides in Mexico continued to increase. This is an opportunity to rethink the principle of shared responsibility in security issues from a public health perspective.

Recommendations

1. Change the narrative about violence to focus on public health, facilitate equal access to justice for all victims of violence, and provide harm reduction services to drug users.
2. Spearhead binational efforts by creating a joint taskforce on fentanyl disruption and promoting the professionalization of law enforcement agencies.

Energy

There is a long history of energy trade between Baja California and California. However, Baja California's participation has changed in the last years because it has not been able to cover its own energy demand. Currently, Baja California largely depends on natural gas from the U.S. despite the regional potential for solar and wind power.

Recommendations

1. Baja California needs to increase its power supply and upgrade its energy infrastructure, which requires long-term investments and commitments.

2. The main alternative for energy development in the state is to use its advantages on renewable resources, as has been done in California.

The working group will continue its conversations to follow up on the pandemic's development as well as strengthen transborder dialogue and cooperation. Now, with a name that highlights our optimism and spirit of collaboration, "CaliBaja: Moving Forward Together."

The San Diego Region's Transborder Governance History and Future Prospects after the COVID-19 Pandemic

Paul Ganster

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*

The COVID-19 pandemic that arrived in the San Diego-Tijuana region early in 2020 exposed deficiencies in transborder governance and coordination. Rather than local governments joining in a shared response for the binational emergency, the two sides of the border followed different paths. Robust and timely coordination for a regional governmental approach across the border was lacking, despite decades of cross-border cooperation on a range of issues. The pandemic enfeebled transborder ties and relationships that had evolved over the past 3 decades. Effective transborder response instead came from the non-profit, civil society, and private sectors that quickly organized donations of medical supplies as well as food to feed the growing number of unemployed in the region.

Local, state, and federal governments on both sides of the border overlooked the binational border region in favor of their own defined jurisdictions to address the pandemic. The “we versus them” narrative re-emerged at times. Some in San Diego blamed Mexico for hospital saturation; politicians and others in Baja California and Mexico linked the pandemic to the United States. Border restrictions had a huge impact on local economies in San Ysidro, but Baja California’s state government and Tijuana business chambers were pleased that the restrictions benefited retail sales south of the border. There were few public statements from governments in greater San Diego about the pandemic as a shared transborder emergency and calling for joint action. The essential workers who live in Tijuana and are employed in San Diego were largely ignored.

Public health authorities did continue to share information and consult, but an immediate coordinated binational response to the pandemic was absent. Federal policies were imposed on border crossing without local input and with unintended consequences. The lack of planning and anticipation for dealing with the binational crisis was evident at all levels of government. Simply reacting to border challenges is not efficient and unnecessarily delays mitigation and resolution efforts. The realities and complexities of the greater San Diego-Tijuana transborder region have advanced well beyond the capacities of its communities, transborder governments, and governance mechanisms to anticipate and respond to large and small contingencies.

This essay examines aspects of the historic growth of the greater San Diego-Tijuana region including economic development, population expansion, and unfolding of local government. Efforts by local governments in San Diego to work across the border are reviewed. Finally, options are suggested for the San Diego region to be better prepared when the next, and inevitable, crisis unfolds at the border. The focus is on San Diego local governments and what they can accomplish within the limits of federalism.

Transborder Governance

Governance of the transborder San Diego-Tijuana metropolitan region includes formal and informal governmental and nongovernmental actions that together manage or guide the complex relationships that transcend the boundary. The informal international relations and activities by governments are often referred to as paradiplomacy. Formal federal government-to-government international relationships are at the core of the transborder regional governance structure. State and local levels of government also participate in transborder cooperative actions, primarily in an informal and ad hoc fashion. Formal California state or local government interactions with any or all of the three levels of Mexican government require approval of U.S. and Mexican foreign relations departments. An essential component of governance in the San Diego-Tijuana region is the active participation of nongovernmental stakeholders, including the business sector, civil society, philanthropies, arts and culture organizations, the academic sector, environmental groups, and many others.

The main duty of government in a democratic system is to assure the safety and wellbeing of its citizens through laws, regulations, and actions by departments of the government. Subnational governments—local and state entities—are based on specific territories and extending their activities beyond administrative geographical boundaries is complicated. When

significant issues or opportunities spill across administrative boundaries, mechanisms to span these boundaries must be developed for the benefit of local residents. Local governments in the San Diego-Tijuana region have not proactively institutionalized international transborder actions to address predictable transborder problems and opportunities, even when the benefits to local communities are obvious. Frequently voters do not support activities of their local or state governments outside of district boundaries, especially when international engagement is involved. In some cases, the inability of local governments to respond quickly to an international transborder issue means that these agencies are limited in meeting some basic obligations for constituents.

U.S. federal agencies do span the international boundary in the San Diego area formally as in the case of the U.S. Department of State (through its local consulates) and the International Boundary and Water Commission. Federal agencies regularly cooperate across the border through agreements approved by the respective foreign relations departments. The U.S. Environmental Protection Agency works with its Mexican counterpart environmental agency on the U.S.-Mexico Border Environmental Program that emerged as part of the activities related to the North American Free Trade Agreement (NAFTA) in the 1990s and has developed a series of 5-year programs; the most current is Border 2025 (Border 2025, 2020). The U.S. Department of Transportation and its California-Baja California Border Master Plan process that encompasses three levels of government on each side of the border is another example of effective transborder collaboration that also includes wide stakeholder input (California-Baja California Border Master Plan, 2021). The binational environmental infrastructure financing institution, the North American Development Bank, works seamlessly along and across the international boundary (NADB, 2021). However, most federal governmental entities that are based far from the border are more often than not slow to respond to local exigencies.

Transborder local government cooperation does have the potential to be efficient and proactive and is most evolved in some areas of the European Union (Blatter & Clement, 2000; Joenniemi & Sergunin, 2012; Ganster & Collins, 2017). For example, Tornio and Haparanda on the Finnish-Swedish border have merged their municipal planning departments (Ludén & Zalamans, 2001). The Danish-German border demonstrates successful business and economic cooperation with local governments for transborder governance (Klatt & Winkler, 2020). Economic symmetries along with strong policy and funding support from

the European Union have facilitated these transborder collaborative efforts that might serve as a relevant example for the San Diego region.

Many barriers to effective transborder governance are present in the CaliBaja area and these impede binational collaboration for governments and other stakeholders (Ganster, 2022; Ganster & Collins, 2021). Federal constraints on international actions by subnational governments bar formal efforts, which lessens continuity and institutionalization of transborder cooperation. Recent proposed legislation in Congress to facilitate subnational diplomacy by cities and states would help overcome the barrier of federalism to local transborder cooperation (Pipa & Bouchet, 2021). Other barriers for local government efforts include economic asymmetries, cultural differences, frequent turnover of elected officials, lack of trust, asymmetrical political and administrative structures, American exceptionalism and Mexican mistrust, perceptions and stereotypes, and others that make boundary spanning efforts more difficult or unfeasible. San Diego local government staff and elected officials often do not share an inclination for sustainable and proactive international engagement. Many public servants are risk averse and hesitant to work beyond their own administrative boundaries, especially the international border. Sustained public leadership for cross-border cooperation has also been absent due in part to the indifference of local communities.

Private sector interest groups that are unconstrained by formal diplomatic protocols have recognized the benefits of cross-border governance and have exercised leadership to improve the border in ways that benefit trade, investment, and commerce. Stakeholder groups from academia, arts and culture, public health, social welfare, the nonprofit sector, environmental organizations, and others have understood the benefits of transborder collaboration, but have generally lacked funding and organizational infrastructure for sustained efforts.

Historical Development of the San Diego-Tijuana Region

As the transborder region has developed over the last century and a half, symmetries and asymmetries emerged along with distinct identities on both sides of the San Diego-Tijuana border. In the early 1900s, San Diego attracted tourism from burgeoning Southern California and Tijuana provided many of these tourists a glimpse of exotic “old Mexico” as well as entertainment such as bullfights that were not available in the United States. The Prohibition era in the United States from 1920 to 1933 produced an economic boom in Tijuana that generated urban growth, economic development, and expansion of local government. Al-

coholic beverages and gambling in bars, restaurants, resorts, and casinos, as well as traditional tourist activities and curio shops, brought new waves of tourists from the north. The investment capital and entrepreneurs for this expansion were often from the United States with business associates from Tijuana. State and local politicians in Tijuana were often silent partners in the lucrative companies (Piñera Ramírez & Rivera, 2014; Arreola, 2021).

The Great Depression years of the 1930s and the end of legal gambling in Mexico in 1935 produced a decline in tourism that shocked Tijuana's economy. The industrial-military economic expansion of San Diego during World War II that was followed by prolonged economic and population growth of the southwestern United States revitalized Tijuana. Postwar prosperity in the United States and Mexico's "economic miracle" that lasted until around 1970 supported San Diego expansion and Tijuana's growing tourism and economic activities. Tijuana's population skyrocketed in the 1960s with a very high birth rate and waves of migration to the northern border. The 1964 *maquiladora* program of the Mexican federal government allowed foreign and Mexican assembly plants for the export of manufactured products to be located in the border region. These took advantage of the huge consumer market in the U.S. and the abundant and cheap labor in Mexico. The *maquiladora* industry brought together important economic and political leaders of San Diego and Tijuana in a symbiotic relationship with shared economic goals rather than making them competitors in the region (Ganster & Collins, 2021).

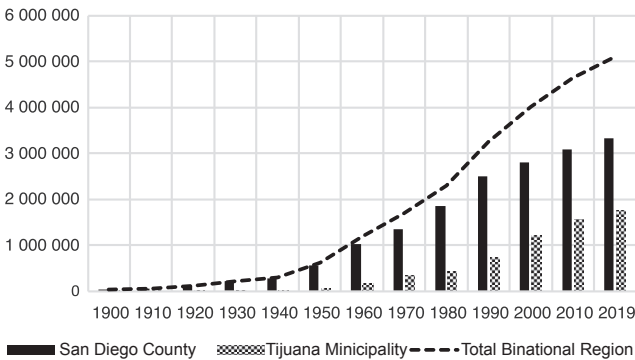
The implementation of the 1994 NAFTA increased the economic integration of San Diego and Tijuana through the growth of manufacturing and trade in goods and services, as well as capital flows. The cross-border business community and local elected officials spoke of the emergence of a globally competitive binational economic region. Tijuana has suffered economically from events in the United States such as imposition of stricter border controls after the terrorist attacks of September 11, 2001, and from reduced demand for Mexican manufactured goods during the Great Recession (2007-2009). Competition from China and of other lower-wage regions as well as insecurity due to crime in Baja California also produced shocks to Tijuana's economy. Nevertheless, Tijuana's manufacturing industry has remained strong and has evolved in terms of sophistication and competitiveness. The United States, Mexico and Canada Agreement (USMCA) replaced NAFTA in July 2020 but does not introduce significant changes in how the regional economy will

function or in the national economic interactions between the United States and Mexico (Ganster & Collins, 2021).

Since the inception of NAFTA, the differences in Gross Regional Product (GRP) per capita between Tijuana and San Diego have increased (Anderson & Gerber, 2017). Tijuana's 2017 GRP was approximately \$16 billion and San Diego's was approximately \$215 billion, or more than 13 times higher (Cali Baja, 2020). The 2019 per capita GRP for San Diego was approximately \$62,405 and for Tijuana, it was approximately \$10,500. The minimum wage in Tijuana is typically one-tenth of the minimum wage in San Diego. These economic differences are obstacles for effective transborder cooperation and governance.

The demographic composition of the two parts of the binational region, however, has been more symmetrical. Graph 1 shows the demographic history of the region, which is especially impressive in the post-World War II period.

Graph 1: San Diego County-Tijuana Municipality Population



SOURCE: U.S. Census and INEGI.

The historical development of the two parts of the region and their governments are distinct. In 1850, California became a state and San Diego County was established with the City of San Diego as the county seat. From the mid-19th century, the San Diego region was part of the U.S. federal system and its local political structure evolved within that context. Baja California became a Mexican state only in 1952. Previously, it was a federal delegation and then a federal territory with political leadership imposed by Mexico City. Tijuana considers 1889 as the date of the founding of the city, but it only slowly acquired institutions and attributes of local government and it was only in 1954 that the first mayor of the new municipality was sworn in (Piñera Ramírez & Rivera, 2014). Government institutions have matured in San Diego for more than a

century and a half; institutional development in the Tijuana region is much more a work in progress.

The evolution of governments in the San Diego metropolitan region was shaped by the growth of eighteen cities and one county government. Delivery of services to citizens is shared by the incorporated cities and the county government through complex arrangements. For example, public health services are provided by the county government. Much of the county's population is provided wastewater services by the City of San Diego, but also some cities provide their own sewage treatment. Potable water is supplied by the San Diego County Water Authority to local water districts for retail service to the consumer. The county Sheriff's Department is responsible for public safety for the unincorporated rural areas and many of the small cities. The City of San Diego and a number of cities such as Chula Vista have their own independent police departments. Regional governance functions are also provided by the San Diego Association of Governments, or SANDAG. It is a public agency formed by the 19 local jurisdictions (the 18 city governments and one county government) within the boundaries of San Diego County. SANDAG is the regional council of governments, the metropolitan planning organization, and the regional transportation commission, among other responsibilities. The local governmental structure in San Diego is complex, even labyrinthine.

Local government in Mexico is based on the municipality, which governs a territorial division along with its urban core and smaller regional population centers. Municipal government delegations provide services to different geographic areas of a large city or to rural settlements within the municipality. Many local urban services such as water and sewage are provided by state agencies (State Water Commission), electricity by a federal agency (Federal Electricity Commission), or arts and culture by federal, state, and municipal entities. Local government structures in Tijuana and San Diego are quite different and agencies often do not have a direct counterpart across the border. This basic asymmetry in administrative structures provides challenges for effective collaboration across the boundary.

Spillover effects across the border multiplied, provoked by expanding urban footprints, population explosion, economic growth and integration, and emergence of the vibrant transborder society. The spillover effects include contaminants that polluted transborder airsheds and surface and groundwater as well as land and the ocean. Labor flows, migration, and crime are also notable spillover effects. Infectious diseases

move back and forth across borders with high numbers of crossers. The outbreak of the H1N1 influenza pandemic (swine flu) in Mexico in March and April 2009 and its rapid spread to the border highlighted the need for direct cooperation between Mexican and U.S. health authorities at the border (Iturralde Arriaga, 2010). Close transborder collaboration of governments is needed to address these binational issues, but development of proactive and durable boundary spanning mechanisms by sub-national governments has been elusive.

Evolving Cooperation, Governance, and Government

By the late 1970s and early 1980s, linkages of governments and other organizations between San Diego and Tijuana began to expand in number and intensity to address surging cross-border flows and issues as well as emerging opportunities (Ganster, 1993). Border academic activity grew in both cities. The establishment of El Colegio de la Frontera Norte (EL COLEF) in Tijuana in 1982 and the emergence of the Universidad Autónoma de Baja California (UABC) as a major center of research on regional and transborder issues created a critical mass of Mexican scholars for interaction with counterparts across the border in San Diego and elsewhere. San Diego State University established the California Border Area Research Center in the late 1970s that was absorbed by the Institute for Regional Studies of the Californias in 1983. The University of California San Diego established the Center for U.S.-Mexican Studies in 1982. At about that same time, the University of San Diego organized the Mexico-U.S. Law Institute and several years later Southwestern College's Small Business and International Trade Center began border-related research, outreach, and training endeavors (Ganster, 1993). All of these educational centers cooperated with counterparts in Tijuana and Baja California.

Other regional stakeholders simultaneously expanded cooperation across the border. Business-related groups were most prominent and significant activities were also seen among social justice groups, arts and cultural organizations, health-related organizations, private philanthropy, religious organizations, and environmental groups, among others (Ganster, 1993).

The late 1970s saw a notable expansion of San Diego local government transborder efforts, a trend that continued into the 1980s with attempts to institutionalize cooperation across the border (Chatten, 1981; Duemling, 1983). At times, closer interactions with Mexico developed from initiatives of professional staff at the department level. Often, the

interactions unfolded from the need to address a specific problem such as excessive border wait times, border incidents, renegade sewage flows, public health concerns, or shared emergency services. In other cases, they were the result of decisions by elected leaders who recognized that San Diego would need a closer working relationship with Tijuana for a range of border-related problems and opportunities.

In 1986, the City Council of San Diego established the Department of Binational Affairs as a central contact for coordination of issues with transborder implications. The department addressed economic development, tourism, disaster preparedness, border sanitation, and other issues. It organized meetings between the mayors of San Diego and Tijuana as well as a joint meeting of the two city councils. By 1988, however, the department was moved to the mayor's office where it functioned more as a protocol office with little opportunity for independent proactive and sustained action on important binational issues.

In 1987, the County of San Diego also took steps to enhance its ability to address binational border issues through creation of the Department of Transborder Affairs (Ganster, 1993). The staff had backgrounds in local government, regional planning, and economic development. Over the course of the next 6 years, the department facilitated the interaction of county departments with some Mexican agencies and produced a series of analytical reports on key transborder issues including the costs and benefits of undocumented immigrants in San Diego County, regional public health and health care issues, border crossing alternatives, and others. The department took a lead role in establishing the Border Youth Project, a program to return juvenile criminal offenders to Mexico for disposition of their cases. It also helped develop binational emergency response capabilities. The department was eliminated in 1993 due to budgetary issues and shifting priorities of the Board of Supervisors (Ganster et al., 1993).

The County Office of Border Health was established that same year to facilitate communication and collaboration among local, state, and federal organizations working in the border region (San Diego County Office of Border Health, 2021). Local and cross-border health activities include coordinating binational meetings among public health officials and practitioners, organizing binational symposiums on a variety of shared health topics, facilitating communication around communicable disease control and prevention, and preparing for public health emergencies and threats. The County Office of Border Health works closely with the State of California Office of Binational Border Health. The County Office

now has decades of experience communicating and sharing data with counterpart agencies in Baja California.

The most durable and institutionalized effort of a local/regional government for cross-border governance activities is the SANDAG. Because of its planning functions and proactive leadership, for many years SANDAG has been interested in better coordination with Tijuana and Mexico. The municipal president of Tijuana served as an advisory member of the board from 1974 and in the 1990s was replaced by the Consul General of Mexico in San Diego. From the late 1970s, SANDAG was fully engaged in the planning effort for the new border crossing at Otay Mesa that opened in 1985. In 1989, SANDAG established the Border-Related Issues Task that recommended SANDAG establish the capacity to better interact with Mexico and to develop expertise and services complementary to the City and County offices dealing with Mexico. SANDAG then designated a staff member to be the lead for border matters. Subsequently in 1996, SANDAG created the Committee on Binational Regional Opportunities (COBRO) with binational membership to advise on border-related opportunities.

Five years later in 2001, SANDAG established the first policy advisory committee to outreach and interact with all of its neighboring jurisdictions, the Borders Committee. SANDAG frequently produces publications and studies of the border, including an analysis of the cost of wait times at the border. SANDAG plays an important role in the California-Baja California Border Master Plan (BMP), a binational and bi-state effort to coordinate planning and delivery of projects at land port of entries and the transportation infrastructure serving them (California-Baja California Border Master Plan, 2021). SANDAG has more than 4 decades of cooperation across the border with Tijuana and Baja California.

Transborder Governance Future Possibilities

Much can be accomplished in the next 5 years to move toward improved transborder cooperation for a more effectively functioning border and improved binational governance. The goal should be to initiate a transition from ad hoc, low level, and reactive transborder governance to a more intentional path to institutionalized and proactive transborder government and governance that can react quickly to local needs. The essence of the challenge is organizing major stakeholders and local San Diego governments to incorporate transborder perspectives and cooperation as part of their regular activities. San Diego as a region also needs to agree

on priorities for the border so that the region can speak with one voice on the most important border issues to influence state and federal policies.

A number of general and specific actions could be initiated in the near term to move toward better transborder management. First, a regional San Diego border coordinating council or umbrella structure should be developed for information sharing and achieving agreement on local priorities for the border. Local governments should take the lead and provide long-term continuity. However, active participation of other stakeholder groups including the private sector, the non-profit sector, and academia, among others, is absolutely necessary.

Past and ongoing transborder efforts by the City and County of San Diego and SANDAG provide useful models for regional organization and border policy development. Formation of a Joint Powers Authority (JPA) to provide a viable structure for local governments and border policy could be an important early step. The existing JPA created by the 18 San Diego cities and County in 1961 for response to disasters and major emergencies is a helpful precedent on regional organization (Unified San Diego County, 2018).

The participating local governments would need to support a small professional staff to coordinate activities, first within the County and then across the border. Ongoing work might include regular meetings with local government staff about border priorities and periodic meetings of elected leaders. At the same time, nongovernmental stakeholders should be consistently involved in discussions and setting of priorities.

An important and immediate task for the coordinating mechanism will be to arrange information exchanges with counterpart government and stakeholder groups in Tijuana and Baja California. These exchanges will develop personal connections and help participants to understand differences and similarities across the border as well as to begin to articulate shared priorities. The local U.S. and Mexican consuls general could convene San Diego and Tijuana government representatives for face-to-face meetings as needed.

Second, as the San Diego region develops a coordinating mechanism and can speak with a consensus voice about border issues and opportunities, specific priorities should be advanced at the regional, state, and federal levels. These include: *a)* support U.S. federal legislation to facilitate subnational international diplomacy activities. This would empower San Diego and other U.S. border regions to address local border issues in a timely and efficient fashion (Pipa & Bouchet, 2021); *b)* advocate for revitalization and full funding for the U.S. component of the United States-Mexico Border Health Commission in order to be better prepared

for the next border health crisis (Moya et al., 2021), and *c*) suggest that the Border 2025 Emergencies Policy Workgroup focus on the San Diego-Tijuana region and expand its effort to include planning and binational exercises for all border emergencies (USEPA, 2021).

Current and past regional efforts to institutionalize border management provide useful examples on how to move forward. The City of San Diego's Department of Binational Affairs (1986) and County of San Diego's Department of Transborder Affairs (1987), SANDAG's consistent cross-border engagement since the late 1970s, the experience of the County Office of Border Health, and the ongoing BMP process are relevant cases that suggest ways the region can move forward toward more proactive and inclusive transborder engagement and managing the complex San Diego-Tijuana region.

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Healthcare Systems in the Tijuana-San Diego Region during the COVID-19 Pandemic

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Health is a human right that the healthcare systems of every country seek to guarantee in different ways. In the Tijuana-San Diego region, the Mexican and U.S. healthcare systems interact constantly, be it through the utilization of transborder services by the residents of this region, or through the organization of binational actions or academic and research exchanges. The COVID-19 pandemic, and the partial closure of the land border between the two countries affected this exchange, at the same time creating lessons learned and new opportunities for cooperation.

This document outlines the main aspects of the two healthcare systems and their relationship in the Tijuana-San Diego area. Subsequently, it describes the impact of the pandemic on this relationship and the lessons learned during the contingency. What stands out are aspects of cooperation and conflict, and how these weigh on the response capacity of healthcare systems. The analysis is based on information provided by binational healthcare cooperation actors, gathered during the seminar “Emerging Stronger after COVID-19: CaliBaja Working Group”¹ and on previous research by various authors and other sources of information.

Background: The Interaction of Two Healthcare Systems in the Border Region

One of the most important functions of governments is to provide access to healthcare, including services for individuals and public health

¹ I am thankful to Claudia Fernández-Calleros for her support in the summary of the session “Access to Healthcare Services and Resources on Both Sides of the Border” (13 July 2020) of this seminar.

actions.² Healthcare systems in various countries are organized differently, but we can roughly distinguish between those based mainly on people's ability to pay (be it through direct payment or through the purchase of insurance), and those in which the state intervenes more directly in people's access to health services.³ Healthcare systems in the U.S. and Mexico include a combination of these two types of systems, with both public and private providers, but the organization and regulation of these providers and their payment present different characteristics in each of the countries.

In Mexico, public services are provided by both social security systems related to employment (IMSS, ISSSTE, etc.) and by the federal and state departments of health. According to the 2018-2019 National Health and Nutrition Survey, in Mexico 56.8% of consultations are provided by public agencies, while the rest are by private facilities, including offices located adjacent to drugstores that provide 16.8% of consultations.⁴ With the November 2019 reforms to the General Health Law, every person in Mexico who does not have social security has the right to free care in public clinics and hospitals.⁵ However, the budgets allocated to these services have historically been low, which, added to various organizational problems, has resulted in drug shortages, staff shortages, and long waiting times and uncertainty for users.⁶ As a result, in practice most people at some point turn to private providers, or pay directly for medicines or other supplies even when visiting a public facility.

Compared to the Mexican system, the U.S. government has a smaller participation in the healthcare system, and the private sector plays a more important role than in Mexico. Most (55%) of those who have health insurance acquire it through private insurance paid for by their employers or by themselves. Public services like Medicare and Medicaid, which provide care for elderly people, low-income persons, and

² Frenk, Julio, 1997, *La salud de la población. Hacia una nueva salud pública*, Mexico, Fondo de Cultura Económica.

³ Julio Frenk, Octavio Gómez-Dantés, Health Systems in Latin America: The Search for Universal Health Coverage, *Archives of Medical Research*, Volume 49, Issue 2, 2018, pp. 79-83: <https://doi.org/10.1016/j.arcmed.2018.06.002>.

⁴ Shamah-Levy T, Vielma-Orozco E, Heredia-Hernández O, Romero-Martínez M, Mojica-Cuevas J, Cuevas-Nasu L, Santaella-Castell JA, Rivera-Dommarco J, Encuesta Nacional de Salud y Nutrición 2018-19: Resultados Nacionales, Cuernavaca, México, Instituto Nacional de Salud Pública, 2020.

⁵ Secretaría de Salud, 2019, 29 November, "Decreto por el que se reforman, adicionan y derogan diversas disposiciones de la Ley General de Salud y de la Ley de los Institutos Nacionales de Salud," *Diario Oficial de la Federación*, pp. 101-117.

⁶ Mendez, J. S., 2019, "La contracción del gasto per capita en salud: 2010-2020." Retrieved from <https://ciep.mx/la-contraccion-del-gasto-per-capita-en-salud-2010-2020/>

other vulnerable populations, cover just over one-third of the population, and about one in ten persons lacks health insurance. While this represents an improvement over the situation before the 2010 Affordable Care Act (ACA), even among those with some form of insurance, premiums and restrictions on service coverage are significant, and the costs of care are high. As a consequence, many people forego seeking care for health problems, or incur impoverishing expenses.⁷

In addition to providing care to people, other important aspects of healthcare are public health actions such as vaccinations or other disease prevention measures, or the detection and management of outbreaks of infectious diseases. Both in Mexico and in the U.S., these tasks are the responsibility of the government, with varying areas of responsibilities between levels of government as well as different decision-making authority. In Mexico, specific departments are in charge of different aspects of public health at the federal, state, and local levels. The local level, represented by the sanitary jurisdiction, may or may not correspond to the administrative level of the municipality, or may encompass more than one municipality. In the U.S., the structure of public healthcare agencies is more complex and decentralized, and also varies between states. The local level may correspond to counties or cities, and the functions of public healthcare can be executed by one or more agencies at these or other levels, or carried out in collaboration with private organizations. The variation in the organization of the public healthcare system is therefore greater than in Mexico, and the scope for decision making at the local and state levels is relatively greater.

In the border region of Mexico and the U.S., these two healthcare systems interact, both in terms of individual care and in public health actions. Among the most important features of this interaction are the cross-border utilization of services, academic exchange, multiple binational initiatives of civil society organizations (CSOs), and joint public health actions.

In terms of cross-border utilization of services, each year hundreds of thousands of people cross the border from the north to the south to purchase medications or use dental or medical services in Baja California. The relatively lower costs and cultural and linguistic features encourage many California residents, especially those of Hispanic origin, to use private services on the south side of the border. These dynamics have encouraged a concentration of private healthcare facilities in Tijuana and

⁷ Rice T, Rosenau P, Unruh LY, Barnes AJ, van Ginneken E, 2020, *United States of America: Health system review. Health Systems in Transition*, 22(4): pp. i-441.

Mexicali.^{8,9} Albeit on a smaller scale, there are also people living in Baja California who are U.S. citizens or residents and have access to U.S. healthcare services.

Additionally, there is a rich academic exchange of students and professors at medical schools and universities, formal collaboration agreements and joint postgraduate programs, as well as joint research projects and multiple exchange and research events. This provides opportunities for people who are involved in the fields of public health and medicine to increase their international contact experiences, enhance their cultural competencies, and establish professional networks on both sides of the border.

The resources associated with cross-border dynamics also enrich and facilitate the actions of various types of CSOs, including religious and nonreligious, philanthropic, national, and international groups that are active on both sides of the border. These CSOs are in contact with each other and with the government health agencies in binational networks with different levels of formality, which transmit information and other resources. In the north-south direction, donations, financing, and volunteer actions frequently help meet the needs of the most disadvantaged populations of Baja California. CSOs on the Mexican side have access to resources that are not available in other parts of Mexico. At the same time, contacts with CSOs in Tijuana facilitate the work of organizations on the other side of the border.

Finally, in the context of the COVID-19 pandemic, exchanges in the area of public health are particularly important. For years, the region has been cooperating in epidemiological surveillance and disease control, as well as in other aspects of prevention and health promotion. Public health officials on both sides of the border are often in contact, exchanging information about infectious disease outbreaks, following up on cases, and collaborating on technical inputs and training. Mechanisms such as the Border Health Commission (BHC), an alliance of the U.S. and Mexican governments existing since 2000, have contributed to these efforts. The BHC has three strategic action areas: prevention and promotion of health, training and research, and communication. Another important initiative, in this case of the U.S. government, is the Bina-

⁸ Manzanares, J. L., 2017, "Does the border matter for health care? A study of medical services provider's location at cities in the Mexican side of the border," *Estudios Fronterizos*, 18(36), 151-168, DOI: 10.21670/ref.2017.36.a07.

⁹ Vargas Bustamante, A., 2020, "U.S.-Mexico cross-border health visitors: How Mexican border cities in the state of Baja California address unmet healthcare needs from U.S. residents," *Journal of Ethnic and Migration Studies*, 46:20, 4230-4247, DOI: 10.1080/1369183X.2019.1597473

tional Infectious Disease Surveillance program (BIDS), which promotes disease control actions in the border region. Other CSOs dedicated to health have collaborated for years with each other and with government agencies in multiple public health actions.

The Impact of the Pandemic on Health and Healthcare Systems

In Baja California, the number of cases¹⁰ increased rapidly from March 2020, reaching a peak of 429 suspected cases on April 13 of that year, with a second wave between November and December, and a third in August-September 2021. The cumulative number of suspected cases on October 26, 2021, was 36,473, but this figure does not represent the total number of cases, because the sentinel surveillance strategy adopted in Mexico is not designed to obtain figures for the total number of cases. In California, the first peak appeared a little later, between June and July 2020, with more than 10,000 reported cases, and the second wave occurred between December 2020 and January 2021, reaching more than 40,000 cases reported on some days. The third wave appeared in a similar period as in Baja California, between August and September 2021, and the number of cases per day was always less than 15,000.¹¹ Although the figures between the two countries are not comparable due to methodological differences in epidemiological surveillance, the dates when the number of cases increased show the close relationship between the states on both sides of the border in terms of health risks.

Some of the consequences of the pandemic in the Tijuana-San Diego area were similar to those observed in other regions. Access to health services was limited due to the closure of services that were converted for the exclusive care of COVID-19 cases, and to people's fear of going to clinics or hospitals during periods of high transmission. In Baja California, public health institutions asked their employees with risk factors (chronic diseases or advanced age) to stay at home. This, along with the concentration of staff on COVID-19 areas, decreased the number of physicians, nurses, and other health professionals available for other health services. During the period with the highest number of cases, the occupancy of hospital beds in services dedicated to this disease in Baja California was close to 70%, and there were weeks in which patients who arrived in ambulances for emergency admissions were turned away or put

¹⁰ Data from the COVID-19 recount in Mexico by CONACYT, available at <https://datos.covid-19.conacyt.mx/> Consulted on 27 October 2021.

¹¹ Data from the CDC-COVID Data Tracker, available at [https://covid.cdc.gov/covid-data-tracker/#-trends_dailycases?New_case\\$select](https://covid.cdc.gov/covid-data-tracker/#-trends_dailycases?New_case$select). Consulted on 27 October 2021.

on hold due to this overcrowding. Since most public health care resources were for the pandemic, resources dedicated to other programs decreased on both sides of the border, including epidemiological surveillance of other diseases, chronic disease control, and vaccination programs.

The pandemic also had particular impacts in the border area. The land border closure in the Tijuana-San Diego region was not total as transit was allowed in both directions for U.S. citizens and noncitizens who were permanent U.S. residents. Therefore, the possibility of cross-border COVID-19 transmission continued, which was made clear by the evolution of the number of cases, as in the course of the entire pandemic the rise on one side of the border was accompanied by a rise on the other. Even if discussion appeared in both countries associating cases to transmission from the neighboring country, there is no evidence of the direction. However, this epidemic behavior proves the importance of an inescapable fact in the region, namely the cross-border life pattern of many of its residents.

In addition to the frequent crossings of some of the region's inhabitants, the population dynamics in the Tijuana-San Diego region are characterized by a high proportion of migrants in transit. The policy of border closures and interruption of asylum application procedures forced many migrants to remain in Mexico for longer than they expected, many of them in shelters, camps, and other spaces unsuitable for long-term residence. In the Mexican migrant shelters, respiratory infections are the most frequent health problem,¹² and studies in other countries show that camps for migrants, asylum seekers, and refugees are risk sites for COVID-19 transmission.¹³

Since the beginning of the pandemic, those responsible for shelters in Tijuana sought information on how to protect their users and the staff and volunteers at the shelters and also participated in trainings provided by international agencies and various organizations. The shelters implemented sanitary protocols that included inspection at the entrances of the facilities, frequent hand washing and use of masks, frequent cleaning of spaces, and physical separation between the shelter residents. During peak periods of the pandemic, many decided to close their shelters to new arrivals, and asked residents not to leave the facility. It is highly likely that this contributed to delay the appearance of COVID-19 cases

¹² Leyva Flores, R., Infante, C., Serván-Mori, E., Quintino, F., & Silverman-Retana, O., 2015, "Acceso a servicios de salud para los migrantes centroamericanos en tránsito por México," Guadalajara, CIESAS.

¹³ Hayward, S. E., Deal, A., Cheng, C., Crawshaw, A., Orcutt, M., Vandrevale, T. F., Migrants, 2021, "Clinical outcomes and risk factors for COVID-19 among migrant populations in high-income countries: A systematic review," *J Migr Health*, 3, 100041. DOI:10.1016/j.jmh.2021.100041

in the shelters. However, at the time of writing this essay, there had been outbreaks in some of these spaces, one resulting in the unfortunate death of the shelter's director. Uncertainty regarding how long the migrants would remain in the city, the separation from their social networks, and having to stay inside the shelters as part of the prevention strategy caused feelings of entrapment as well as anguish and discouragement to many of the migrants. These and other mental health problems became frequent among migrants in shelters during the period.

The homeless are another vulnerable population in the region. Similar to migrants, they tend to be in close contact with others and have limited access to hygiene services, which could make transmission easier. By June 29, 2021, as many as 1170 COVID-19 cases had been identified among the homeless population of San Diego,¹⁴ and it is possible that others might have gone unnoticed. Although no record of cases in this population is available in Tijuana, it is likely that there have also been numerous infections.

People of Mexican or other Latin American origin residing in San Diego also are a vulnerable population in the face of the pandemic with three times the mortality of the white population, according to a report from early 2021.¹⁵ Their socioeconomic conditions make them more likely to have risky jobs (caregivers, workers in factory and workshops without social distancing, service providers in contact with the public), to live in overcrowded spaces (such as multigenerational or multifamily households), and to lack health insurance in comparison with other population groups. It is also common that they are unaware of the health services to which they are entitled, or that because of their status as irregular or unauthorized migrants they avoid contacting these services for fear of being detected and deported. Moreover, during the pandemic, this population faced the increase in xenophobia which, added to the uncertainty caused by the pandemic and the limitation of physical contact with family members on the other side of the border, increased mental health problems.

Beside the impact on these and other populations, the pandemic also affected the interrelation between healthcare systems. Even though the border remained open in the north-south direction, and transit for health

¹⁴ HHSa-San Diego, Summary of Cases among Persons Experiencing Homelessness. Available at <https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/COVID-19%20Homelessness%20Summary.pdf>

¹⁵ Lin, Ryo-Gong, 2021, "Tremendous heartbreak: L.A. Latinos still dying at high rates, even as COVID-19 eases," *Los Angeles Times*, 26 February, 2021: <https://www.latimes.com/california/story/2021-02-26/tremendous-heartbreak-l-a-latino-still-dying-at-very-high-rates-even-as-covid-19-eases>

reasons was allowed in the opposite direction, the cross-border utilization of medical services decreased, which had consequences on the medical tourism industry and on the health of people who had to postpone seeking attention. The training of health human resources continued at a distance, and webinars and other online meetings were held by academics on both sides of the border, but in-person contact was all but suspended during the first year of the pandemic. The San Diego universities which usually sent their students to Tijuana for practicums, volunteer work, or research, cancelled all these activities, which only restarted when transmission decreased, and the share of vaccinated people increased in 2021.

In terms of binational cooperation for health and public healthcare, the resources on which CSOs in Tijuana relied decreased during the pandemic. This was due to difficulties in importing materials (in part because of reduced staffing at customs), and because people engaged in volunteer activities avoided crossing the border during this period. In addition, financial resources from some donors were redirected to the population in the U.S.

Despite these problems, the various governmental and nongovernmental actors that make up the region's health system collaborated to mitigate the impact of the pandemic. In Tijuana, the Red Cross provides 98% of ambulances for emergency services and had to intervene in treating COVID-19 cases even though their national policy indicated they would not. Other organizations, such as Fronteras Unidas ProSalud, continued providing services in the city, supported by resources from both sides of the border. The actions carried out by these organizations facilitated the access to services for more vulnerable people. Since the beginning of the pandemic, the presence of international organizations increased in the region, including the International Organization for Migration (IOM), the United Nations High Commissioner for Refugees (UNHCR), and the United Nations Children's Fund (UNICEF), as well as international CSOs such as Doctors Without Borders, whose actions were directed primarily at migrants, but also covered other vulnerable populations.

Additionally, previously existing collaborations were reoriented to address the emergency. For instance, the network of organizers of the Binational Health Week, a yearly event consisting of health promotion and prevention that takes place in October, decided in March to direct the event's resources to support entities in Tijuana with donations of personal protective equipment. The Border Health Commission organized a series of seminars in which the ten border states exchanged experiences and les-

sons learned. Medical societies on both sides of the border identified the importance of working together. The Baja California Secretariat of Health requested support from San Diego, which led to the implementation of a program in which specialists in critical care medicine and nurses collaborated with hospitals of Tijuana and Mexicali where the largest number of COVID-19 cases were being treated. This collaboration continued with medical support videoconferences and training workshops.

Cooperation in the Pandemic and Lessons for the Years to Come

As described in the previous section, although the COVID-19 pandemic affected all areas of interaction among healthcare systems in the Tijuana-San Diego region, the overall picture was one of cooperation of both government health agencies and CSOs. Maybe the main aspect which facilitated this collaboration is the existence of formal mechanisms and informal networks that have united agents involved in public health and healthcare in the region for years. Alliances such as the BHC, professional and academic networks, CSOs accustomed to working together on both sides of the border, were activated and strengthened during the pandemic.

A project that was facilitated by these alliances was the survey on COVID-19 epidemiology in Baja California, promoted by the Mexican Consulate in San Diego and the Ministry of Health of Baja California and supported by the University of California San Diego, El Colegio de la Frontera Norte, and the Autonomous University of Baja California. The survey showed that only 5.3% of the residents of the major cities of Baja California had crossed the land border during the pandemic, and that the prevalence of COVID-19 among those who had crossed was equal to that of the rest of the population of those cities.¹⁶ Additionally, binational collaborations were subsequently established for the application of COVID-19 vaccines in Baja California, facilitating greater vaccination coverage among the state's population. All of the above shows how previous collaborative networks facilitated the responses to the current emergency and could be the basis for a better integration and response of the healthcare systems in the future.

These mechanisms and networks, operating at the local and state level, nevertheless, found limitations at the federal levels of both countries, which, in many cases, did not take into account or did not understand the particularities of the border region when defining the policy responses to

¹⁶ Ministry of Foreign Affairs, M., 2021, Presentation of the results of the "Survey on Prevalence of COVID-19 in Baja California" [Press release]. Retrieved from <https://consulmex.sre.gob.mx/sandiego/index.php/comunicados-2020/782-survey-on-prevalence-of-covid-19-in-baja-california>

the pandemic. The relationship between the federal, state, and local levels is one of the most relevant themes in the management of the healthcare system in the U.S.-Mexico border region, where the local and state levels most frequently need to work together. This causes conflicts with the respective national levels. In the same vein, the guidelines for epidemiological surveillance and response actions differed between the two countries. The instructions of the Centers for Disease Control (CDC) in the U.S. rarely coincided with those of the Mexican Ministry of Health. The epidemiological data were not easily comparable across the border and may have contributed to the confusion of the population about the relevant measures, which made it more difficult to control the epidemic. As an example, at some point the health authorities of the two countries gave divergent messages regarding the use of masks. In other moments, the measures regarding social distancing were different, as in the case of the reopening of restaurants in Tijuana while they remained closed in San Diego. This may have spurred people to cross the border to enjoy recreational services with the consequent increased risk of contagion.

Additionally, for the various organizations and programs that engage in health care from a binational standpoint, it is a challenge to find resources for long-term work. The case of the Mexican section of the BHC is emblematic in this sense, as it has permanent financial backing from the Mexican government, which has enabled it to remain continuously active and create collaborative networks since its foundation in 2000. This was the basis on which the BHC responded, by promoting collaborative actions during the pandemic, and shows the importance of continuity in this type of collaboration. In contrast, the funding for the U.S. section has been irregular. Other organizations depend on donors who may decide to redirect their resources, threatening continuity.

Another aspect which could be improved is the cooperation between the governments and CSOs on the Mexican side, where these alliances have been weakening over the years. Conversely, on the San Diego side, CSOs play a major role and tend to collaborate with government agencies in actions of healthcare and public health.

In a nutshell, the COVID-19 pandemic highlighted the collaborative capacities of the healthcare systems on both sides of the border in the Tijuana-San Diego region. At the same time, the challenges to this collaboration were documented, most obvious was the lack of understating on the part of the federal governments regarding how the policies implemented by that level impact border dynamics. The lack of harmonization of federal policies across the border created conflicts locally that may pass unnoticed at the national level. The experience of this pandemic

should be used to address these difficulties by improving the response capacity of both systems.

Final Recommendations

Based on the information presented in this essay, the main recommendation for the coming years is to take advantage of the impulse allowed by the pandemic to formalize and strengthen the multiple networks and collaborations in the field of health in the region. This will require the participation of the different levels of government, together with CSOs and international organizations. It is important to identify permanent financial sources in order to provide continuity to these efforts.

One of the collaborations identified, which will be key to maintain and strengthen, is the network of groups associated with the Border Health Commission, both in its U.S. and Mexican components. This organization, which has focused primarily on addressing the needs of Mexican migrants in the U.S. and their return to Mexico, could play an essential role in managing the health problems of people of other nationalities arriving at the border.

Another important collaboration to highlight is that of the Mexican government with the CSOs that support migrants and other vulnerable populations of the border. These organizations have reported in recent years the closing of spaces for dialogue with government agencies. Also, the financial or in-kind support they previously received from the government has been interrupted. Given that CSOs contribute in practice to guaranteeing migrants' right to health (a commitment of the Mexican government), it would be important for the government to renew these spaces and support. The role during the pandemic of international bodies such as the International Organization for Migration, the United Nations High Commissioner for Refugees, or the International Red Cross also showed that these organizations are able to support CSOs with resources and training. These are actors whose presence in the region became more visible during this period, and whose participation in the various collaboration networks should also be encouraged.

Strengthening these and other existing collaborations between health system actors on both sides of the border by formalizing networks and securing funding will allow for the continuity of these activities in the medium and long term. Building on the lessons learned from the pandemic will be one way to be better prepared for future health emergencies.

Ports of Entry and Cross-Border Infrastructure for People and Goods: Policies, Practices and Conditions

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Cross-border mobility is essential to the experiences and dynamics of communities in the binational CaliBaja Megaregion. There are four border crossing facilities for pedestrians and/or vehicles between San Diego County and the Tijuana Metropolitan Area. These include two pedestrian and one vehicular crossing points at the San Ysidro Port of Entry (POE), the Cross Border Xpress (CBX) for pedestrians, Otay Mesa POE for pedestrians, commercial vehicles, and non-commercial vehicles, and Tecate for pedestrians and commercial and noncommercial vehicles (map 1). A fifth border crossing, Otay Mesa East, will be completed late in 2024 and will have facilities for commercial and non-commercial vehicles as well as for pedestrians. In 2019, 112 million people crossed this border north- and southbound (including pedestrian and vehicle crossings), as well as 45 million passenger cars and 2 million cargo trucks with a cargo value of \$51 billion dollars.¹

The COVID-19 pandemic made visible the vulnerabilities of U.S. and Mexican government joint response capabilities at border crossings during times of emergency. The pandemic produced longer wait times, interruptions in supply chains, and negative economic impacts in communities near the border, among other effects. This paper presents policies, practices, and conditions of the regional ports of entry, pre- and post-pandemic. It is argued that there are underlying structural issues that hindered an effective response in this emergency situation and have affected the development of cross-border infrastructure in the last decades.

¹ Customs and Border Protection, San Diego Sector, Passenger Traffic Reports, 2000-2019 only records northbound crossings; Smart Border Coalition assumes that southbound crossings were the same as northbound crossings.

Finally, recommendations are provided to help the region navigate the consequences of the pandemic and prepare it for future shocks to the border ecosystem.

Map 1: Border crossing points between San Diego County and the Tijuana Metropolitan Area



NOTE: Otay Mesa East port of entry for commercial and non-commercial vehicles as well as pedestrians is scheduled to open late in 2024.

SOURCE: Harry Johnson; Smart Border Coalition, n.d., “The border between Baja California and San Diego County,” map available at: <https://smartbordercoalition.com/about-the-border>.

Background

The binational trade community in the CaliBaja Megaregion had high expectations at the beginning of 2020. The unemployment rate in the United States had hit a 50-year low, income growth had doubled, and the economic expansion President Trump inherited was the longest in American history.² The U.S.-Mexico-Canada Agreement (USMCA) that replaced the North American Free Trade Agreement (NAFTA) entered into force in July 2020 and was expected not only to increase trade but also to spur interrelationships on various levels, leading to more port crossings.

Pedestrian and vehicle crossings had just gotten a boost in December 2019, when the major expansion and modernization of the San Ysidro POE had concluded. That year, north- and southbound San Diego-Tijuana-Tecate crossings by pedestrians and vehicle passengers reached 112 million crossings, a level not seen since 2006. The Otay Mesa POE had recently begun its own modernization. However, there was a sense that the project to build the new Otay Mesa East POE, dubbed the advanced “21st Century Port,” would continue to stagnate because of Mexican federal government inaction, although it is scheduled to open in 2024. In

² Lance Lambert, “Trump to leave office with the worst jobs record since Herbert Hoover,” *Fortune*, January 11, 2021: <https://fortune.com/2021/01/11/us-economy-jobs-numbers-trump-compared-past-presidents-worst-record-since-hoover/>

addition, U.S. Customs and Border Protection (CBP), on the one hand, and the Mexican Federal Tax Administration (SAT) and the Mexican Federal Migration Institute (INM), on the other, persistently failed to respond to an unmet need for increased staffing to assure smooth movement of goods and people.

Transborder cooperation on the part of regional local communities was stronger than ever by the beginning of 2020, mainly as a reaction to the previous 3 years of the Trump Administration's rhetoric on migration, its immigration policies (namely the establishment of the Migrant Protection Protocols), wall construction efforts, increased deportations, and threats of tariffs on Mexican imports. Migrant caravans in 2018 and the reassignment of CBP officers away from the CaliBaja region to other ports along the border had already affected trade and had increased wait times for travelers and raised awareness of looming threats. The regional binational communities involved in trade, tourism, routine day-to-day travel, and humanitarian assistance were highly sensitive to changing circumstances at the border.

COVID-19 Context

The realization that the pandemic had arrived in the CaliBaja region in early March 2020 triggered rumors of a full border closure. Thankfully, starting on March 21, joint federal restrictions to non-essential travel, short of full closure, erased these rumors. Nonetheless, a partial closure began, affecting the day-to-day commercial activity in San Diego's San Ysidro community adjacent to the port and broadly in San Diego County as well as in Calexico and the Imperial Valley. Initially, wait times for pedestrians and vehicles ranged from no waits to a maximum of 15 minutes. When compared with April 2019, April 2020 experienced a drop in traffic in the range of 65% to 73%. CBX saw a reduction of up to 92%.³ At San Ysidro, the western pedestrian crossing of PedWest, closed and schedules for passengers at Otay and Tecate were cut by 8 hours per day. CBP reduced staff and closed more lanes than usual at seemingly random times.

Trade was unaffected by the restrictions to nonessential travel at the ports but still suffered a blow, with truck traffic down by 27% in April 2020 when compared with one year earlier. In terms of merchandise value, exports to and imports from Mexico dropped 18%.⁴ Taken as a whole, California-Baja California truck volume decreased by 25%, the value of

³ Customs and Border Protection, San Diego Sector, Passenger Traffic Reports, April 2019 and April 2020.

⁴ Customs and Border Protection, San Diego Sector, Commercial Traffic Reports, 2020 and 2019.

imports from Mexico diminished 10%, and exports to Mexico saw a 26% decline.

The pandemic dramatically highlighted the sensitivities of cross-border trade supply chains in ways not seen previously. Declines in trade resulted in part from demand shocks in the U.S. economy but were primarily driven by Baja California state government health policies. The lack of a common binational agreement on the definition of essential and nonessential business activity in the manufacturing sector and state government business audits, linked to fears of inadequate protections for workers from the virus, triggered sharp output reductions and some plant closures in April and part of May. This unleashed local and federal pressure to protect trade. Two Tijuana business associations, INDEX (the association of *maquiladora* companies) and the Tijuana Economic Development Corporation as well as high-profile business people initiated an emergency dialogue with the State of Baja California labor secretary and Governor Jaime Bonilla.

In the U.S., the Pentagon called on the State Department to speak with Mexican Foreign Ministry leadership to halt state-level actions. Some 300 U.S. companies with manufacturing operations all over Mexico sent a letter to President Andrés Manuel López Obrador urging him to resolve the issue. Though it was resolved through dialogue between Governor Bonilla and the aforementioned business groups in the second half of May, the experience cast doubts on the clear trade rules and raised questions about reliance on manufacturing operations in Mexico.

Stay-at-home measures and the effect of restrictions on commerce devastated small businesses in the San Ysidro community of San Diego and in downtown Tijuana. The San Ysidro Chamber of Commerce reported in May 2021 that over 200 businesses had shut down and that nearly 2000 jobs had been lost in the area closest to the San Ysidro POE. These numbers did not include impacts felt in the rest of San Diego County.

In the fall of 2020, controversy set in when growing numbers of U.S. citizens and U.S. legal permanent residents from Tijuana and Rosarito started to travel to San Diego to be treated for COVID-19 symptoms, increasing hospitalizations in the south county areas of Chula Vista, Otay Mesa, and National City compared with the rest of San Diego County. As San Diego then made a first and later abandoned attempt to reopen for business, traffic from Tijuana surged, and with CBP staff at a fraction of what it was before the pandemic, wait times increased so much that

travelers waited for 8 to 14 hours to cross. Some border crossers were observed sleeping in their vehicles.

Thankfully, port modernization and new port construction continued essentially unabated during the pandemic. The San Ysidro POE expansion and modernization concluded in late 2019. The Otay Mesa POE expansion and modernization construction began on June 1, 2020. The Otay Mesa East POE project made enormous progress on the final phase of connector roads leading to the port as traffic and revenue studies for the port got underway.

The Mexican federal government completed its component of the construction of eight new northbound lanes at San Ysidro. Most importantly, it prioritized the completion of the Otay Mesa East POE. The Mexican government selected a project manager in September 2020 and also assigned the bid to build the route connecting a key industrial area of the City of Tijuana to the new port. U.S. and Mexican authorities have agreed to open the new port in the fall of 2024.

Border agencies showed contrasting levels of virus monitoring and pandemic responses at the ports of entry. However, neither American nor Mexican customs and immigration authorities at any time formally announced sanitation policies for lanes, travelers, agents, or booths, increasing the probability of both agents and travelers contracting the virus. With total flows of almost 150,000 north- and southbound travelers immediately before actions were taken to fight the pandemic, and even under restricted border conditions where upwards of 100,000 people still crossed daily, there has been an obvious need to implement substantive monitoring measures. In the first phase of the pandemic, CBP applied more thorough vetting of travelers who had visited China in the previous 14 days (Tijuana had direct flights to and from China), asking them to go to secondary inspection for questioning. Relevant cases were passed on to the Centers for Disease Control (Global Migration and Quarantines). SAT/INM announced more formal health inspections on the Mexican side of the ports but had little or no capacity to perform them. For all phases, CBP officers have been trained to look for symptoms and continue to refer northbound crossers with symptoms to the CDC. For pedestrians, INM had questionnaires available for when its agents detected travelers with symptoms, but inspections of passengers in vehicles for the virus were nonexistent.

There were several positive governmental actions to help monitor and prevent disease spread. The California Department of Public Health, Office of Binational Border Health through its Infectious Disease Sur-

veillance Program, worked with the State of Baja California's Health Secretariat to notify about binational cases and to share information. The County of San Diego developed a contact tracing program, whereas Tijuana did not due to limited resources. The County of San Diego also implemented a Binational COVID-19 Sector to coordinate cross-border communication and collaboration. In partnership with the State of Baja California Health Services Jurisdiction in Tijuana, the Binational Sector held telebriefings with key binational partners (primarily government agencies) to review epidemiological trends, discuss strategies and maintain an ongoing dialogue regarding COVID-19 in the border region. In addition to regular calls, the Binational Sector shared data, coordinated cross-border personal protective equipment donations, and implemented testing and vaccine strategies for the binational population. The Binational Sector is the only formal cross-border structure formed in response to the COVID-19 pandemic along the entire U.S.-Mexico border region.

The City of San Diego also actively participated in cross-border efforts. It was instrumental in establishing the San Diego Region Border Unified Command consisting of the CBP, the CDC, the U.S. State Department, the County of San Diego, San Diego Fire-Rescue, and other key governmental partners to discuss ambulance transports, data, and other concerns.

Analysis and Aspiration

Underlying structural issues prevent government agencies from better understanding the border. Customs and immigration agencies have an overly focused view of the fluid, multidimensional situation existing at and around the ports of entry and the repercussions of their action and inaction. For CBP, security is its preeminent reason for existing. Trade is in second place and eligible traveler crossings in a distant third place despite huge flows that are critical to communities on both sides of the border. One symptom of this is the fact that CBP-Department of Homeland Security never communicated any detailed health and sanitation policies to crossers at the ports, despite the crossers' forced presence in a highly controlled environment where targeted communication would be easy for inspections. There have never been any explicit, publicly announced criteria for lifting the restrictions to non-essential travel. As for SAT, its overarching goal is taxation, not traveler inspection. INM does not have a firm grasp on travelers entering the country and lacks the personnel to achieve this. Thus, it is not surprising that Mexico has done very little to screen travelers.

The nature of politics and political constituencies locally, statewide, and nationally makes it difficult to agree on priorities across the border. California's priorities are not San Diego's, much less Baja California's. For example, though Baja California Governor Bonilla has had constructive conversations with California Lieutenant Governor Eleni Kounalakis about providing personal protective equipment (PPE) to Baja California, most of the PPE received on the Mexican side came from either the Mexican federal government or humanitarian organizations along the border. The strong impact of a third pandemic wave in the fall of 2021 focused Governor Newsom's efforts on California and away from relations with Baja California. The City of San Diego managed its health response through the County of San Diego and the state, while Tijuana deferred to the State of Baja California to handle most of the emergency response. Personal and political differences between Governor Bonilla and Tijuana Mayor Arturo González complicated the public health effort. In other words, the key actors in the border movement ecosystem failed to marshal the disciplined, shared response that could have alleviated aspects of the crisis.

Longstanding differences in governmental systems have made it more challenging to proactively and jointly manage the border public health crisis. The U.S. sense of American exceptionalism and its growing unilateralism stemming from a position of geopolitical and military strength and the Donald Trump Administration's "America First" position reinforced a domestic-only reaction. Mexico's highly centralized and stratified decision-making process left local federal agency representatives and local and state elected officials with little or no power to make critical decisions, let alone find common ground with the United States. Although similar in adopting a nationalistic tone in some instances, Mexican and American public administrations were not oriented toward dialogue and were at opposite ends of the centralization-decentralization spectrum. Since late January 2021, the dialogue has changed, although the San Diego-Tijuana region is still far from a mutual understanding about managing public health in a binational way.

While key actors in the binational border ecosystem share important ongoing communication channels, information sharing and joint planning have rarely been the basis for real decision making and execution when it comes to the kind of operational and emergency responses needed under a pandemic. In general, the pandemic exacerbated long-entrenched issues that the binational community has shown little capacity to resolve over decades. Responses in this instance, though many times helpful and well-meaning, were once again insufficient. Also, the lack of preparation

to respond to the border movement effects of a major public health crisis was starkly exposed. We must start tackling these shortcomings as soon as possible to prevent repetition the next time the region experiences such a shock.

Recommendations

During the decade ahead of us, I propose several actions to help the region navigate the consequences of the pandemic and to prepare it for future shocks to its border ecosystem.

Agencies must carefully think about how to lift restrictions and manage backlogs now and in the future. At the present stage of the unfolding experience, the reopening of the San Diego County and southern California economy has spurred regional activity. U.S. tourists have renewed travel to Baja California. Because Mexico has lax border controls, it is evident that this trend will continue. But CBP has not readjusted its staff to meet the additional demand and has prioritized agent work to detect undocumented migrants attempting to approach the regular vehicle lanes or become stowaways in vehicles. Already, the increased border traffic during the period of border crossing restrictions has caused the longest wait times in years. A sudden or last-minute opening could dramatically increase waits and cause traffic gridlock in Tijuana.

There are backlogs in visa and permit processing at U.S. consulates and CBP as well as in Secure Electronic Network for Travelers Rapid Inspection (SENTRI) and Customs Trade Partnership against Terrorism/Free and Secure Trade (CTPAT/FAST) programs that are so important to streamlining border crossings. New health policies at U.S. ports may take the form of CBP's asking for immunization records on applications for SENTRI, CTPAT/FAST, and other trusted traveler programs. CBP and the State Department must create easy-to-use online mechanisms to manage backlogs and use proven technologies to expedite permitting, visa, and program application processes.

The relationship between the regional binational community and immigration and customs agencies demands more dialogue, transparency, and accountability on the part of the agencies. Binational organizations and CBP should establish a formal, institutionalized dialogue designed to agree on public key performance indicators (KPIs) to evaluate agency performance. CBP must be evaluated based on accurate wait times with downward trends required for each lane type, number of lanes open, processing efficiency per agent, per lane, and in terms of infection rates. The agency should add "traveler service" to its security and trade priorities.

It is much more challenging to establish a practical dialogue with Mexican customs and immigration agencies. In the case of SAT, though it is present in several trade and transportation working committees, its work with travelers is limited because immigration is assigned to the INM. SAT is one of the most centralized agencies in Mexico. Unfortunately, as a response to frequent corruption in their ranks, SAT port directors have been very constrained in the decisions they can make, and their stints tend to be short. INM has a small budget and little decision-making power. Most important decisions must be referred to Mexico City; so, to be effective, the regional binational CaliBaja community must establish a direct relationship with the INM national director in the capital.

This is an ideal time to transform traveler processing at land ports of entry. CBP is already on its way, having introduced facial comparison machines at land ports in 2020. It must, however, go well beyond this. It must use and adapt existing technologies for travelers to send information in advance of their arrival at the ports, including health status. CBP must do so without increasing wait times. Pre-arrival technologies could allow certain traveler types to bypass stopping at booths, thus reducing staffing needs.

Those who advocate and influence the conditions for improved cross-border travel and trade must enhance local and regional mechanisms for dialogue if implementing changes at ports and in the surrounding areas are to succeed. The Border Liaison Mechanism (BLM) that was active from 1993 through 2008 should be used to improve the border conversation at local planning and technical levels. This would assure that neither national government ignores nor bypasses local infrastructure and port needs. U.S. and Mexican consuls general should convene local, state, and federal governmental authorities in closed joint sessions. The San Diego-Tijuana Smart Border Coalition can act as the civil society link, a platform where BLM leaders report on priorities and progress and where mobilization and facilitation efforts can be pursued alongside the government sector.

Civil society organizations, including business associations, must be more proactive about advocacy for better infrastructure, logistics, and innovation. They should commit to participating in the Border Master Plan, the U.S.-Mexico Joint Working Committee, and the Binational Bridges and Border Crossing Group. Local and regional organizations should develop better communication channels with national manufacturing and service sector associations with a strong advocacy capacity. Local and regional organizations on both sides of the border should also

pool resources to have greater advocacy and policy making capacity. One of their targets should be elected officials with power and influence over border movement policies and practices. Generally, these officials have underperformed on behalf of the region on these issues.

The binational region should leverage the contributions of highly recognized or emerging IT companies. The public-private partnership model must be strengthened to create proper incentives for these companies to replace or improve outdated and obsolete infrastructure, systems, and processes. These companies must see the border as an opportunity—an innovation lab. Technology can be used to improve logistics for vehicles, pedestrians, and cargo. It can be the framework for a public border data dashboard to understand border conditions on a real-time or as close to a real-time basis as possible. Companies that focus on research and development, applications, programming, and the Internet of Things can significantly shape the way goods and people cross the border without large capital investments at the ports.

Finally, it is necessary to work toward correcting and completing the perceptions that non-transborder people, less familiar with border realities, have of the ports and the border as a whole. This effort requires first knowing trending topics and stories about the border. A border sentiment index can be created that “scrapes” social media, news media, and influencers, all of which play an important part in the public’s perception of the border. Providing positive and constructive content should be a priority, instilling in media and influencers a much more balanced approach to border stories, reports, and blogs. This will promote the shaping of the new border landscape.

The pandemic experience must be used to create a smarter border. Binational stakeholders in the CaliBaja Megaregion have done much together to advocate, facilitate, fund, lobby, and manage. But this has been done with little structure. A structure must start with a set of beliefs. These should be put into a public declaration of policy and aims reflecting the kind of border desired, a “Smart Border.”

Integrated Value Chains: Dynamics and Aims for the CaliBaja Region

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This document presents an analysis of the dynamics of productive integration in the Tijuana-San Diego region. The case of the “life sciences” industry, which includes the manufacture of medical devices, is of particular interest for this study. This industry specifically reveals the diversity of the operation models of businesses on one or both sides of the border. It also provides a glimpse of the productive and adaptive capacities of our border region, as it is a sector that is central in the response to the challenges brought to the world by the COVID-19 pandemic. This enables us to see the industry’s contributions to the enormous needs in the Tijuana-San Diego cross-border region.

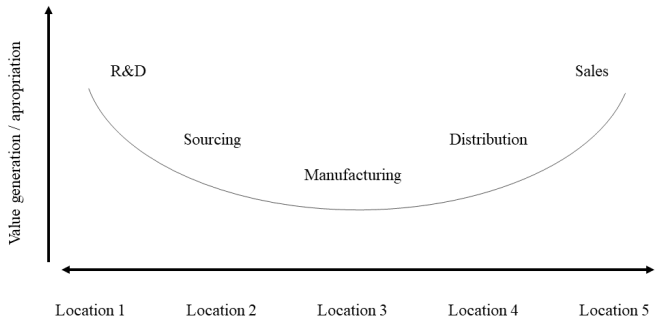
We hope that in this study the reader will find, first, the necessary elements to understand the differences between value chain and supply chain. Second, to understand the scale of the medical industry in the CaliBaja megaregion, as well as its impact on the economy. Third, to understand the operating models and thus the opportunities to strengthen the contribution of regional content. And fourth, to highlight the impacts of the COVID-19 pandemic on regional production systems. In the final section of this document, we present a series of recommendations regarding the ways in which the CaliBaja region could generate better synergies around key manufacturing sectors, and thus become more globally competitive.

On Value Chains and Supply Chains

In order to comprehend the scale of the medical industry in the CaliBaja megaregion, we must first understand two basic concepts: the global value chain and the supply chain. Although these concepts are used indistinctly, there is a substantial difference between them. Whereas value chains refer to the theoretical model for describing value-generating activities and segments on a global scale within organizations, supply chains refer to the productive integration activities between final producers, their direct suppliers, and the suppliers of the latter. In other words, the second case refers to a pyramidal organization between the world's leading end companies (known in the specialized literature as original equipment manufacturing, OEM), global suppliers (Tier 1 and Tier 2), and service providers (physical and immaterial) (Tier 3, Tier 4, etc.), regardless of whether they are foreign or domestic companies.

At first glance, and for any particular industry, a review of the value chain allows to conceptually identify the main (or generic) segments according to their participation in value generation (graph 1). These links may be associated with different countries/regions, which in theory are mutually exclusive, i.e., different companies in different places, but in reality, the options are many and varied. In other words, reality is much more complex than theory.

Graph 1: Manufacturing Value Curve

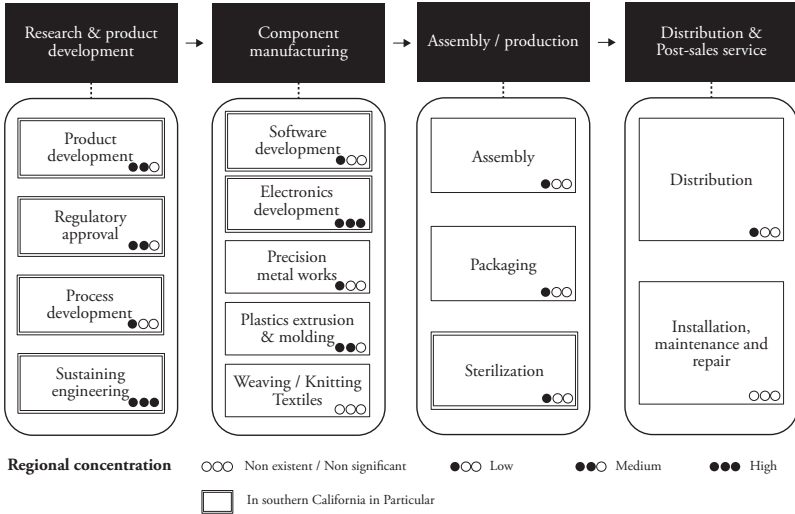


SOURCE: Elaborated by the authors, based on the “Smiling Curve” by Stan Shin, Acer Inc. CEO (1992).

Under this logic of value chain and for the CaliBaja case, it is to be expected that activities of most value generation and appropriation (which are generally associated to better wages), such as research and development, distribution, and sales, are to be found in the U.S., whereas activities closer to manufacture, with abundant workforce and low

relative cost, are located on the Mexican side (figure 1). If this is to a large extent true, as we will see here, it is possible to identify cases in which functions begin to cross borders and are even distributed at trans-continental levels, thereby reflecting the global nature of the medical industry, and, as has been mentioned, its huge complexity.

Figure 1: CaliBaja Participation in the Global Value Chain of the Life Sciences Industry



NOTE: For the analysis of this specific industry, we define the geographical space of CaliBaja as the municipalities of the State of Baja California and San Diego and Imperial Valley Counties.

SOURCE: AXIS, Digital Report “MedDev @ Baja: Dispositivos médicos en Baja California.” 2019.

In the cases of CaliBaja, most of the employment and manufacturing activities for the medical device segment are located on the Mexican side, in the state of Baja California. All products are exported and operations run under the *maquiladora* export scheme (IMMEX). The level of regional content in the medical device industry is limited; it is estimated to be below 10% of production value, according to information provided by Baja California’s own medical device cluster. This situation is similar to that of other industries under the IMMEX program, such as electronics, aerospace, and automotive parts.

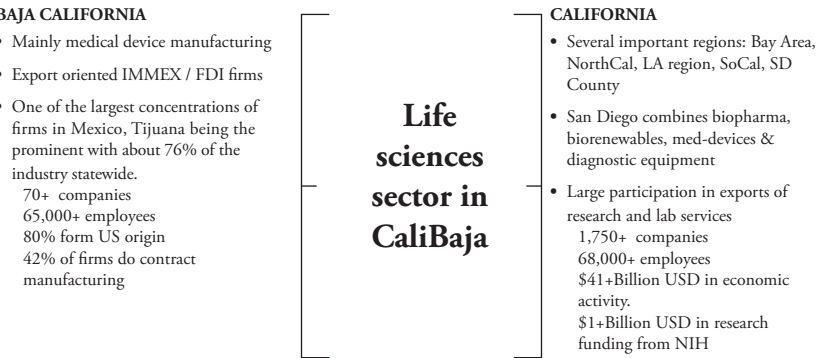
In terms of supply chains, it is common that indirect inputs, with limited contribution to content and added value, are purchased in Baja California. These include packaging, adhesives, labels, and certain metal

and plastic pieces, as well as a vast array of services, including logistics and of foreign commerce support, calibration, lab tests, training, and consulting. It has also been noted that there is a supply of primary material and technical and logistic service to manufacturing from the south of California in the direction of Baja California. Although the value of this supply has not been quantified, it is estimated that it is also small due to the fact that the operation profile centered on research and development, as well as the plastic pieces and key components, come almost entirely from Asia and Europe, as well as other U.S. regions.

The Scale of the Medical Device Industry in the CaliBaja Region

Doubtless, the life sciences industry (which includes medical devices) is very important on both sides of the border. While similar numbers of employment are generated on the two sides, the operational approaches are different, and the numbers and sizes of the firms are vastly different. This partly explains the lack of major integration in value chains (figure 2).

Figure 2: Operation Profiles on Both Sides of the Border for the Life Sciences Sector



SOURCE: Elaborated by the authors.

According to the 2019 BIOCOM report, the medical device and diagnostics equipment subsector is the most competitive of the San Diego industry. Medical devices represent 21.6% of the life sciences industry exports in the county. In the Mexican case, Baja California has historically represented almost 50% of the total national medical device exports. Tijuana has more than two-thirds of the firms that manufacture medical devices in Baja California and around 76% of direct employment.

While Baja California is distinguished for hosting an extensive series of operations belonging to high-level multinational companies, Southern California has developed a cluster of technology-based startups. These companies have become relevant players in their respective areas of expertise and have been able to attract resources from both public subsidies and private investors (table 1).

Table 1: Leading Firms in the Life Sciences Industry that Operate in the CaliBaja Region						
Southern California	Dexcom	Quidel	NuVasive	Biotix	BioDuro	Medtronic
	Illumina	Human Longevity Inc.	Prometheus Biosciences	EAG Laboratories	Acon	BioLegend
Baja California	Fisher & Paykel	Integer	Biotix	DJO Global	Medtronic	BD
	ICU Medical	Flex	Welch Allyn	Teleflex	Thermo Fisher Scientific	Össur

SOURCE: Elaborated by the authors.

In the illustrative selection of companies in table 1, we can highlight, for instance, the case of two companies of Medtronic and Biotix that operate on both sides of the border. While these are not the only cases, as we will see below, they clearly show the different ways of approaching presence in the CaliBaja region. Based on the work of AXIS (2020) as a research and consulting organization to integrate the medical device cluster in Baja California in the middle of the previous decade, it was found that there is a high level of interaction of companies operating in Baja California with their corporate affiliates in Southern California. About 20 companies had this type of relationship. This phenomenon contrasts, for example, with the case of the electronics industry, where most of the manufacturing companies in Baja California have corporate ties with headquarters located primarily in Asia.

In 2005, it was clearly identified that within a radius of approximately 200 miles around the border, these companies had frequent interactions in terms of project execution and tasks related to engineering, logistics, new product introduction, and process improvement. However, based on our estimates, we consider that these interactions have been reduced by about one third due to the influence of mergers and acquisition processes that are frequent in this industry.

Another dimension that should be highlighted is the ecosystem of institutions that support, promote, and articulate the medical device industry. On each side of the border there is a main organization with a cluster manager approach, chaired in both cases by the private sector. BIOCOT is the leading organization in the San Diego region to pro-

mote the development of the life sciences industry and the Medical Device Cluster of the Californias was created in Baja California to integrate industry representatives and promote the competitiveness of the sector. Both have held meetings and discussed collaboration opportunities over the years. However, no joint projects seem to have been developed to date or, at least, we have not been able to identify them.

There are several support institutions related to the industry on each side of the border (table 2). In the Mexican case, we identified a bias towards organizations that promote manufacturing, business development, investment promotion, and human resource training. On the U.S. side, there is a predominant presence of academic institutions involved in the training of high-level human resources and in basic and applied research activities. A key aspect to observe, in this sense, is the difference in the priorities of the participating institutions on each side of the border, which generates difficulties in establishing a common agenda and promoting collaboration on a larger scale.

Table 2: Institutional Ecosystem for the Life Sciences Industry in the CaliBaja Region						
Baja's Medical Device Cluster				BIOCOM		
SEST	SEDETI	Index Tijuana	CANACINTRA Tijuana	NIH	Scripps Research	Salk
Ensenada EDC	Tecate EDC	Mexicali EDC	Tijuana EDC	UCSD SSPPS	National University	JCVI
TecNM	ITMexicali	CDT	CICESE	San Diego Miramar College	San Diego Mesa College	
CETYS	UTT	AXIS	UABC	San Diego City College	USD	

SOURCE: Elaborated by the authors.

Operation Models in CaliBaja

In order to illustrate the different modes of the operational configuration of companies in this sector in the region, we have selected four illustrative cases. Although these are not statistically representative, they do show the heterogeneity of the productive arrangements (table 3).

The way in which companies and their investments enter a specific area is relevant to understanding the type of operation carried out in a region, as well as the scope and opportunities derived from this presence. The concept of mode of entry is fundamental in this analysis. Therefore, we wish to illustrate the variety in these modes of entry within the life sciences or medical products industry in the CaliBaja region.

The first reference case is Medtronic. This company ranks first in the world within the medical device industry. It is worth noting that, for Baja California, Medtronic is a very relevant manufacturing plant

since it generates a high volume of employment. In contrast, for Southern California, Medtronic has operations close to the border but limited to warehousing and logistics; the company's corporate offices are located in the U.S., but outside the CaliBaja region. From Medtronic's own perspective, the manufacturing operations located in Tijuana are of considerable size, although smaller in scale than other companies with a global presence.

The second and third illustrative cases are Biotix and Scantibodies. These are two successful companies born in Southern California, both with strong presence and operating leverage in Baja California, making CaliBaja a key element in their strategy. However, the Biotix plant located in Tijuana operates with a low profile, while Scantibodies, located in Tecate, is a distinguished and widely recognized company in the Tecate community.

Table 3: Comparison of Selected Cases			
Medtronic	Biotix	Scantibodies	Qualcomm
Largest medical device company in the world, founded in Minneapolis in 1949.	World-class manufacturer of lab equipment, founded in San Diego.	Headquarters in Santee, CA, founded in 1976, specialized in antigens, antibodies and DX kits.	The premier telecom firm of San Diego, was founded in 1985.
\$28.9 B revenue	\$135 M revenue	\$74 M revenue	\$24 M revenue
90,000+ employees in over 150 countries.	Around 800 employees, all in CaliBaja.	Around 1000 employees mainly in CaliBaja.	Around 37 000 employees worldwide.
Logistics warehouse in Otay, CA, sales reps in SoCal, Neurovascular and Core valve divisions in Irvine, CA.	Manufacturing in Tijuana accounts for about 750 employees producing disposables, and surgery masks.	Santee operations include corporate functions, R&D, sales, among others.	About 13,000 employees in San Diego, highly concentrated in the Qualcomm Campus in Sorrento Valley.
4 manufacturing plants in Tijuana with around 7000 employees. Producing catheters, heat valves and surgical instruments.	SD operations include the executive team, product development, marketing, customer service, admin and logistics.	Manufacturing in Tecate since 2002, considered reference for the local community, generating around 800 jobs, also hosting an imaging and therapy clinic.	Has manufacturing operation in Tijuana of around 150 employees under NAPS (shelter).

SOURCE: Elaborated by the authors.

The fourth case considered in this comparison is Qualcomm. It is not a company that is central to the life sciences sector, as it is primarily engaged in the development, design, and manufacture of semiconductors for electronics and telecommunications applications. However, it is an illustrative case not only because it is an iconic company in San Diego County, but also because it serves the industry analyzed here. Qualcomm maintains a discreet and small-scale operation in Baja California and uses the shelter scheme.¹ This type of presence is not the same in other re-

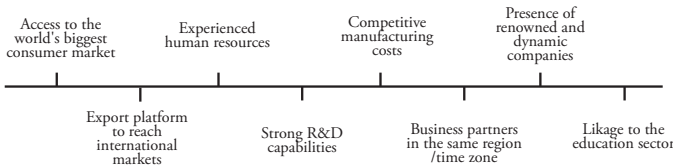
¹ The shelter scheme is a registered service provider, licensed under Mexican governmental laws, whose objective is to perform manufacturing and complementary activities, allowing to operate foreign companies in Mexico through the shelter company without the need to establish their own operation.

gions, where the company has significant investments, as is the case of its operations in China, France, Germany, India, and Brazil.

The variety in the mode of entry is generally associated with the trajectory and strategy of each company and may change over time. However, the possibilities for greater regional integration of the respective operations (in this case in Tijuana-San Diego) are perhaps more dependent on the regional ecosystem than on individual corporations.

CaliBaja’s advantages for investment in the life sciences sector are obvious, as can be seen in figure 3. However, there remains an ongoing need to increase these advantages, particularly the competitive ones.

Figure 3: Combined Added Value in the CaliBaja Region



SOURCE: AXIS, Digital Report “MedDev @ Baja: Dispositivos médicos en Baja California,” 2019.

Life Sciences and the Challenges of the COVID-19 Pandemic

Like the rest of the globalized manufacturing chains, the life sciences industry faced severe supply challenges during the pandemic, particularly for the manufacture of medical devices. While companies in this sector were considered “essential activities” and therefore not required to shut down operations, they did face associated technical challenges. For example, they were required to establish controls and practices to prevent transmission of the virus among the staff and, in many cases, to respond to increases in demand for the products manufactured.

It is important to note that, for applications related to general hospital supplies and for equipment related to the care of respiratory problems, the increase in demand was evident given the correlation between the complications and health processes caused by the pandemic. However, for other specialties, such as cosmetic surgery, ophthalmology, and dentistry, where many treatments can be postponed because they are not related to life support, there were fluctuations in demand that tended to decline and long periods of uncertainty.

The performance of the medical device manufacturing industry in Baja California, taken as a whole and for the period of the pandemic, was very positive and even generated more employment. This led to the

consideration that the improved national labor market rates that Baja California had, and continues to have, are due in large part to the life sciences sector. As figure 4 indicates, the resilience of the medical device industry is high.

Figure 4: The Resilience of the Medical Device Industry in Mexico

Industry in Mexico proved to be robust and resilient —————> **Management Capabilities**

- Ability to keep up with production programs and in some cases increase volume.
- Ability to comply with regulations and requirements surrounding the pandemic.
- Capable of supporting the communities where they reside in a significant manner.

SOURCE: Saul De los Santos, “MedDevice Industry in Mexico: Lessons from COVID-19,” in 3rd. Annual Medical Device Summit, BIO El Paso–Juarez, Ciudad Juarez, Mexico, 2020.

In this sense, the pandemic has brought a greater awareness of the role of self-sufficiency in health technologies, even considered as an asset of national security. This can also be seen as a great opportunity for CaliBaja, since it justifies the need not only to strengthen the participation of this industry and consolidate its leadership in the region, but also to be the leader of the American continent at least.

Final Thoughts and Recommendations

From the work published by AXIS in 2019, called MedDev@Baja, we obtained a list of challenges and opportunities that we believe are still valid for the life sciences sector and the medical device industry in the CaliBaja region. These are:

- There is a significant need to improve the coordination of efforts of institutions related to the sector based on a long-term vision. This should allow the efforts of each of the actors to add up to a common goal associated with increasing the competitiveness of the industry, thereby generating benefits in terms of productive integration, employment, and investment attraction.
- Increase participation in the development and manufacturing of devices with higher technological level. Although the diversity of the devices manufactured in the CaliBaja region is great, both in terms of complexity and types of applications, in terms of volume, disposable and low-tech products still

dominate. Therefore, a greater incursion into medical equipment manufacturing would represent an increase in value generation.

- Increase the integration of strategic players (clusters) in the medical device industry on both sides of the border. Key clusters are identified by their respective national scales. As these clusters become more integrated, the existence of an industrial pole (cross-border mega-cluster) with unique characteristics on an international scale will become evident.
- Capitalize on the knowledge accumulated in the region over more than four decades, which includes capacities in the fields of science and technology, as well as in engineering and even process management capacities linked in all cases to the regional base of academic institutions. For example, the technological consortium initiative promoted by the government of Baja California and the federal government through the National Council of Science and Technology (CONACYT) should become a reality due to the high potential for linkage with the productive sector, as well as clusters of specialty companies such as Mindhub and Bit Center.
- Promote greater binational synergies in the field of production and knowledge. This is perhaps the largest-scale latent opportunity for the CaliBaja region, given that the potential and proven track record represents the possibility of generating new development initiatives that take better advantage of the resources that have so far been poorly articulated between the north and south sides of the border.
- Accelerate the immersion in technological convergence, which is associated with the accelerated emergence of new intelligent medical devices connected to the Internet that enable new possibilities in preventive medicine, telemedicine, and even the automation of medical treatment.

Finally, we would like to pose a series of questions with the purpose of giving rise to a continuity in the discussion of strategies and action plans of the actors in the CaliBaja ecosystem:

- Who are the missing key players in the ecosystem?
- Who should play leadership roles?
- Is there a space for a cross-border or mega-regional cluster?
- What are the fields of action for governments?

- What are the insertion opportunities for small and medium-sized companies?
- What are the challenges for educational institutions?
- What are the untapped opportunities in terms of nearshoring and reshoring?

The answer to these questions should be the result of multiple dynamic interactions between private and public stakeholders, establishing long-term strategic plans and at the same time addressing particular elements that in the short term will enable efficient projects and operations.

COVID-19 and its Impact on the Cultural Economies of Tijuana-San Diego

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This text reflects on the impact of the COVID-19 pandemic on the cultural economies of the CaliBaja region. Essentially, the impact on the institutions and projects of arts and culture (visual arts, especially) of Tijuana and San Diego is discussed. This chapter presents some of the global and local tendencies of the COVID-19 impact on cultural economies.

General Characteristics of Cultural Economies

One of the most evident characteristics of the cultural and creative economies of the world is heterogeneity. The universe of arts and culture is composed of institutions and projects that are very dissimilar. Among them are consolidated museums with significant and stable budgets, important art collections, economic and logistic support systems from philanthropic groups, and with loyal and semi-constant audiences. There are also independent small centers or projects of arts and culture with very limited budgets, modest infrastructure that is generally leased, minimum or few personnel, and without support groups or permanent audiences. Finally, there are the art professionals, some of them organized in collectives or flexible work groups. Small, adaptable, non-profit projects as well as groups of creative professionals make up the majority of the cultural and artistic universe. Many of the creative professionals are usually connected to the big institutions or cultural projects, be it by offering their professional services like freelancers, with a temporary position or during an administration, as artists who participate in exhibitions, workshops, and seminars, or as recipients of scholarships or awards.

In general terms, the grand majority of the units that make up the creative economies are of a precarious nature when it comes to budget and infrastructure, but they play a very important role in their communities. Arts and culture actively participate in the development of the creative, intellectual, and critical capacities of the members of the community, in the construction of the feeling of belonging, in the generation of civic practices, and in the channeling and the expression of social critiques and discontent. They also expand the possibility of thinking about a more equal and just society, which contributes to the formation of stronger and more democratic societies.

The fact that the biggest part of the cultural economies is made up of projects and organizations of civil society, born and sustained in cooperation and under the principal of solidarity and common good, turns them into important elements of civic life and maturing of civil society. Because of that, it is fundamental to conclude that the cultural economies must be understood and treated as important social investment.

Global COVID-19 Impacts on Cultural Economies

Given the precarious nature of the vast majority of the cultural economy units, this sector has been one of the most affected by the COVID-19 pandemic. According to the Inter-American Development Bank (IADB), cultural institutions and projects have been one of the most impacted areas by the social distancing safety measures. These were the first to close their doors and services to the public during the pandemic and have been the last to open since they were never considered essential services despite the fact that they played a fundamental role during the crisis (IADB, 2020).

Given the closure of those activities, a large number of people that worked on the projects in their cultural economic units lost their jobs and their incomes. The IADB study has also shown that, at a global level, the creative economies had a dual and constant impact. On one hand, there was a strong negative impact since the cessation of cultural activities ended up destroying or seriously undermining independent projects and organizations. On the other hand, the lockdown and other restrictions contributed to a growing demand for content and cultural products, as well as the creation of virtual spaces and niches (IADB, 2020). The demand for cultural services saw the growth only of organizations and cultural projects that had the financial backing, infrastructure, qualified personnel, and the vision to adjust and offer immediate services in a virtual fashion. At a global level, the minimal participation of the state was evident in the development of recovery strategies and backing for

the cultural economies. The recovery and adaptation strategies tended to occur at the individual level (or at each unit) as well as in artists networks, cultural promoters, and civil society organizations. This scenario of economic impacts and of lack of state response to the crisis has been more evident in the southern part of the CaliBaja region.

COVID-19 Impact on Cultural Economies in the Tijuana-San Diego Border

At the local level (Tijuana-San Diego), the impact was very different from one side of the border to the other, given the contrasting economic conditions, level of development or maturity in each unit, number of units that each city has, the nature of the cultural unit (organization, institution, program, project, network or individual), the ordinary or extraordinary economic backing available in each city, the universe of creative professionals available, the strength of their social and support networks, the gentrification processes, and the temporary closing of the frontier for “nonessential” activities. On the Mexican side of the border, significant government budget cuts in cultural activities after the implementation of the Ley de Austeridad Republicana that was passed before the pandemic must also be taken into account.

The COVID-19 impact on the cultural economy of the region was linked to the type of cultural institution or organization. There are three recognized types of artistic and cultural units: independent, public, and private. It must be said that in many cases some of a unit’s characteristics can be mixed or overlapped, and usually there is collaboration and support between the cultural and artistic units of the same or different type or nature.

Independent artists and artist group centers and projects

First of all, are the more modest, small, and flexible units that are more vulnerable during normal times and, of course, during emergencies. They are usually independent and self-managed by artists and cultural promoters and are nonprofits. They do not have stable economic backing, they operate primarily from loans, and they usually arise from the most basic and felt necessities of the artistic communities. In this category, examples range from artist groups, networks, or collectives to independent centers or organizations of exhibition, discussion, and artist residency.

Governmental institutions of arts and culture

In the second place, there are the formal state organizations and institutions dedicated to arts and culture. These are permanent institutions

at the service of the society, open to the public, and are nonprofits. They operate with a budget that they receive from the different levels of government, but some count on other sources of income such as organization of events, space rental, etc. In this group one may find, among others, cultural centers, museums, culture houses, and institutions. Their function is to preserve, conserve, and convey the cultural and artistic heritage of the region or nation.

Private organizations of arts and culture

In this category there are organisms that are for profit or nonprofit, for example, there are a few private museums, as well as private art galleries whose primary function is the sale of art, and thanks to that, they maintain themselves as big or small businesses. Commonly, the private museums were born from important private art collections that were initially financed by private funds from philanthropical individuals or groups. Some of these museums have been partially or completely transferred to the cities, specifically on the American side of the border, turning them into institutions of mixed funding. They maintain themselves from governmental contributions of the city or the state, private donations, and generating funds through the sale of tickets and special events. They are guided by their mission to “inspire, educate, and cultivate curiosity through great works of art” (SDMA, 2021) and not the generation of economic benefits. In many cases they financially depend on ticket sales.

Contrasting Financial Conditions on Both Sides of the Border

Just like in all other economic activities of CaliBaja, the economic resources of the units of cultural economies are contrasted north and south of the border. The economic strength of each institution, organization, or project, of course, determined the ability to adapt and survive the crisis due to the pandemic. The difference of economic resources and, above all else, the access to extraordinary financial resources for the pandemic, constituted the central element in survival possibilities of the cultural unit affected by COVID-19.

For example, there were only two extraordinary funds to support the artistic community in Mexico, both at the federal level. One was from the Secretariat of Culture that “launched a call for proposals in order to ‘encourage’ the artistic and cultural community in the face of the impact of COVID-19, particularly due to the suspension of venues and sources of work” (*La Jornada*, 2020). It turns out that thanks to this fund, support of 20,000 pesos (approx. \$1025 dollars) was given to each of the winning artists who committed themselves to deliver an

artistic/cultural product with the funds. This competition was part of a much bigger project from the Secretariat of Culture named “Contigo en la distancia. Cultura desde casa” (“With you at a distance. Culture from home”). Thanks to this project, a free digital cultural space was created where the users could visit museums and archeological zones and also access books, concerts, conferences, theater plays, documentaries, etc. The second extraordinary auxiliary fund was given by the Patronato de Arte Contemporáneo A.C. (PAC) that adapted its 2020 announcement to create the “Fondo PAC-COVID-19.” First, they sought to find more funds from the usual individuals and organizations in Mexico. According to Carmen Cuenca (2021), this fund “supported 140 projects throughout the Republic of Mexico, with 20,000 pesos each (\$1025 dollars). Of the 140 projects, 8 were from Baja California.” It is key to note that while the funds of the Secretariat of Culture had to be used for an artistic production, the funds “PAC-COVID-19” could have been used by artists and organizations for other expenses since this help was created as a fund for survival.

In Tijuana, government support at state and municipal levels for the cultural units was zero and there were no financial adjustments that could benefit them. Moreover, according to Adriana Trujillo from the cultural venue Cine Tonalá, despite not using some services because they were closed and without funds, they still incurred expenses. For example, even if the spaces were closed down “during the pandemic [...] the Tijuana Public Services State Commission (CESPT) charged for water at the average of the previous 6 months arguing that because of the pandemic they did not have enough people to check the meters” (Trujillo, 2021).

In contrast, in San Diego, like the rest of the United States, the artistic community had a greater number of specific supports for the cultural economies, as well as for the general population and different economic sectors. Among specific supports at the federal level for cultural economies for COVID-19 emergency assistance, the National Endowment for the Arts focused 75 million dollars for this purpose. The assistance included grants up to 50,000 dollars for nonprofit arts and culture organizations. There were, in addition, at least 48 extraordinary funds for COVID-19 of foundations and labor unions that granted between 250 up to 5000 dollars per person or project. Most were for nonrestricted use, meaning, that the funds could be used for any form of expenses like rent, medical services, groceries, etc. and not necessarily for the development or production of an artistic project. These 48 funds were directed to broad artistic communities or to specific communities. For instance, the

Artist Relief Project and the Foundation of Contemporary Arts offered funds of 5000 and of 1500 dollars, respectively, to artists of any discipline, city, ethnicity, and genre that were facing financial emergencies due to COVID-19. Other funds sought to support a specific artist or project profile based on the place of residence, artistic discipline, gender, or ethnicity of the artist.

Among the nonspecific support funds for cultural economies, San Diego artists also benefitted from the federal stimulus package for individuals (COVID-19 stimulus check) and from the state for individual stimulus packages (Golden State Stimulus). Some others received unemployment benefits (COVID-19 Unemployment Benefits), unemployment insurance, state aid to pay rent, and Paid Family Leave. As well, the cultural organizations could request support through small loans destined for small businesses (COVID-19 Small Business Loans) to prevent layoffs.

Contrasts between the Arts and Culture Institutions of San Diego and Tijuana

Another important aspect that needs to be mentioned is the contrasting universe of institutions and creative professionals that each city has. San Diego has 90 museums, of which 17 are in Balboa Park. Many of these museums have a long history that can be traced back to 1874, as with the Museum of Natural History. Among them there are two big museums of art, the San Diego Museum of Art (SDMA) that was established in 1926 and the Museum of Contemporary Art of San Diego (MCASD), inaugurated in 1950 and eventually with two locations, one in the center of San Diego and one in La Jolla. Besides the museums, San Diego has an ample number of galleries and centers of independent art, including the classic Athenaeum Music & Arts Library in La Jolla that was founded in 1899, or the Bread & Salt Gallery in Barrio Logan, officially established in 2015. The existence of a great number and ample spectrum of art museums, like cultural centers and galleries, has required a large and complex network of creative and highly qualified workers that range from museologists, curators, promoters, educators, administrators, and directors to artists. According to the American for the Arts Action Fund, in 2019 in San Diego there were 9333 businesses linked to the arts that hired more than 40,000 people, generating more than 4.5 billion dollars.

In contrast, Tijuana only has 11 museums of very diverse natures and sizes, all of them established in recent years. These include the Museum of the Californias, founded in 2000 and located in the Cultural

Center of Tijuana (CECUT), El Trompo Museum (2008), and the Tijuana History Museum (2010). One of the most important places for art exhibits in Tijuana is without a doubt CECUT, founded in 1982, which houses several spaces for exhibitions. CECUT came to have a world class exhibition space (temperature, illumination, security, etc.) in 2008 when El Cubo was inaugurated. There are other substantial exhibition spaces like the Sala de Arte Álvaro Blancarte of the Autonomous University of Baja California (UABC) that was inaugurated in 1998, the spaces of the Municipal Institute of Arts and Culture (IMAC), and the Museum of Tijuana History. Tijuana has three Casas de la Cultura as well as the Gallery of the State Center of the Arts (CEART) founded in 2013. Aside from these spaces, Tijuana has a network of independent art centers, but these places have had a hard time staying afloat and many appear to disappear after only a few years. Many of the arts and culture projects have been affected by the gentrification process that has forced them to shut down and move to another location with lower rents. Some of these independent venues of Tijuana are El Lugar del Nopal, La Caja Galería, Relaciones Inesperadas (which ceased activities before the pandemic), Galería 206 Arte Contemporáneo (due to gentrification it had to move to another place), La Casa del Túnel, and Cine Tonalá (the pandemic caused it to go bankrupt and close down).

As for qualified workers for arts and culture, the universe of Tijuana is much smaller than San Diego. Many individuals have been trained as professionals in the institutions in which they work. In the opinion of Miriam García, the Director of the Museum of Tijuana History:

One of the biggest challenges that museums have is human resources. One needs to have personnel with certain experience, be it in the fields of management, teaching and, ideally, experience in a museum. Something like that is a bit complicated here in Tijuana. There aren't that many people with experience in museography [...] and usually the most experienced are already well established in the legitimate institutions that have a bigger budget or that have a more specific practice related either to the museum or with the exhibitions. These institutions are CECUT, UABC, CEART, and the Trompo Museum. They have teams that have been formed since their opening (García, 2021).

In the case of the budgets for culture and the arts, there are also big contrasts in each city. In Mexico, since 2009 the federal budget for culture does not exceed 0.2% of Gross Domestic Product (GDP) (Amador, 2019). In 2020, the budget did not exceed 0.1% and there were large cutbacks in 2021 that generated layoffs in the cultural sector of the entire

country (Mateos-Vega, 2021). At the state level, according to the Secretariat of Finances of Baja California in 2019, 33.4 million pesos (1.7 million dollars) were assigned to culture, representing only 0.06% of the state's budget. In contrast, according to the American for the Arts Actions Fund, in California 21.3 million dollars were assigned to culture and the arts, which is 12.5 times more than in Baja California. Moreover, the California total does not include funding for culture and art institutions received from the federal government, foundations, or private donors that are equally important. In 2019, the culture and arts sector represented 7% of GDP in California (2019) with more than 738,000 jobs.

Phases of the Impact of COVID-19 in Tijuana and San Diego and Lessons Learned

Doris Ruth Eikhof (2020), who was responsible for the study of the pandemic's effects on the cultural economy of the United Kingdom, identified three phases. These phases coincide with those experienced in CaliBaja.

Phase One

The first phase began in March 2020, immediately after the implementation of restrictions by the governments, when cultural organizations had to close their doors to exhibitions and production of art. Some were capable of long distance collaboration and offered part of their services online. A great number of the cultural entities went bankrupt after a few days.

Phase Two

The cultural units that managed to survive came out of the lockdown to resume some or all of their activities, but at a different rhythm and following the "safety measures for COVID-19." The implementation of these health measures presented an economic and logistic challenge for the units since they had to adapt the installations, work with fewer personnel, and follow many protocols (facemasks, sanitation of spaces, social distancing, reduction of entrees, etc.).

Phase Three

The units require greater financial support to be able to operate and above all to recover from the damage and weakness due to the pandemic and required changes. Those forms of work during the pandemic are evaluated to decide which could continue to be implemented once it is "back to normal."

The first challenge that the cultural units of Tijuana and San Diego faced during phase one was to have enough funds to survive in different conditions and without face-to-face audiences. The more stable and solid units were able to survive because they continued to receive the majority of their budget, be it through government financing (for the public and mixed cultural units) or through funds accumulated by donations (for the private units and the mixed funds), and because its work space was never under the threat of being lost. For example, Roxana Velásquez, Executive Director of SDMA, mentioned that the pandemic posed great challenges, but it did not threaten the existence of this important museum. She noted that “even though we had a deficit of about 20% [as] there was a lack of revenue from the closing, [...] the endowment allowed us [to have] some stability. [In addition], we have the support of the Paycheck Protection Program (PPP) that enabled us to maintain the payroll of employees” (Velásquez, 2021). In Tijuana, according to Minerva Tapia, Director of IMAC, the pandemic created some big economic challenges for the public cultural institutions of Tijuana “since an important percentage of the IMAC resources come from the income from leasing spaces that were closed during the pandemic,” but they were never in danger of disappearing (Tapia, 2021).

In contrast, several of the independent centers of Tijuana either went bankrupt or had to close their doors and work through online means. Among the Tjuran cultural projects that failed is the Cine Tonalá, established in 2006:

Cine Tonalá was born in October 2016 with the firm intention of supporting and giving voice to independent projects that do not always have a space to be exhibited and thereby establish a citizen dialogue through culture. [...] We combine a cultural agenda with gastronomy and regional mixology, in a mixed model of restaurant-bar-cultural forum. [...] Cine Tonalá was always a citizen project, without support for its creation by the government or institutions, it was a plural space for national and international cultural proposals and all areas of creation were always programmed on its agenda. During the pandemic the scenario was very complicated, we did not receive any municipal, state, or federal support for its support or maintenance. Not much was required, only deadlines to resolve during the time in which we were closed, but there was no dialogue with the institutions either. Tonalá resisted for a few months with the support of its partners, but the extension of the restrictions and a 30% opening was not enough to give it enough oxygen to survive. Cine Tonalá Tijuana leaves directly because of the virus that affected us globally during 2020, but it closes indirectly and consequently due

to the blindness of a country, a government, a state, which do not see in cultural projects and citizens a way or possibility of building a better country, city, or community (Trujillo, 2021).

In addition to the economic situation, other challenges were the capacity adapting to the work online which was linked to some of the other aspects: (a) the access to the technology and the internet in both the workplace and in the worker's home; (b) the management and experience in the use of technology, applications, and platforms; (c) disposition to new forms of work; (d) the possibilities of adapting the cultural activity; (e) infrastructure and life conditions in the worker's house; (f) the capability of the public and the users to consume online content; (g) use of open spaces for alternate exhibitions; and (h) the use of social networks.

One creative example of use of open spaces in the region was the transborder project "Muros: Arte Urbano Interfronterizo" organized by The Front Arte & Cultura (in San Ysidro) in collaboration with IMAC (Tijuana). Another was the "Drive-In: An Outdoor Art Exhibition" organized by the Mesa College Art Gallery in San Diego in its parking lot.

An additional creative form of artistic collaboration during the pandemic was the use of traditional and online social networks to work in groups to take advantage of the social capital and culture of the network's members. A good example was the exhibition "Geografías Domésticas/ Domestic Geographies" in The Front Arte & Cultura that invited Tijuana artist Ingrid Hernández as curator. Making use of her contacts and relationships, she invited three important curators: Karla Aguiñaga (video art), Itzel Martínez del Cañizo (film), and Julieta Venegas (music). These online and group activities allowed not only the production of complex artistic projects with small budgets but also the generation of spaces for critical reflection about the role of arts and culture in society and the sustainability of the region.

It is important to note the great willingness of all those linked to cultural economies to move forward and reinvent themselves during the pandemic, especially in phase one. This capacity for reinvention is something very common that is experienced in Tijuana due to the precariousness of many of the units. Miramar García comments as much:

The collaborators have the spirit to maintain the institution and to sustain the project. A big part of it is because the people want to keep their jobs but also because there is a response from the community, of putting up what's at hand because they are committed to the culture. I have seen it in all my colleagues at IMAC. They are people with the belief that we occupy an important place in the community and that we have to show what we have with certain limits, of course to

see things through. [...] Besides, we have always worked with few resources, so we know how to move ahead [with attitude and] imagination, for example, we know how to use the leftovers, above all the materials of other exhibitions that have been left in storage, furniture, paint, etc. (García, 2021).

During *phase two*, some of the principal challenges in the cultural economies were: (a) the capacity to develop hybrid formats of cultural and artistic activities, combining in-person and online activities; (b) the use of public spaces for cultural activities; (c) creating new forms of cultural and artistic production; (d) establishing new forms of circulation and consumption of cultural and artistic products and services; (e) increasing the number and diversity of the users; (f) contributing to the democratization of access to culture through new forms of production, circulation, and consumption regardless of the physical place where the public is located; and (g) raising awareness of the authorities, politicians, and society as a whole about the importance of culture and art in our societies.

During *phase three*, the cultural units that survived have been given the task of reinventing themselves through a critical review of the consequences of the pandemic. Some of the main lessons are discussed below. The virtual and hybrid cultural and artistic events played a fundamental role in society during the worst moments of the pandemic that allowed the economic, social, cultural, moral, emotional, and fiscal survival of society and individuals. That is to say, the cultural and artistic events have contributed to the healing process. The hybrid or mixed online and in-person formats are very rich in content and can be complex, aesthetically appealing, and can increase the audience and impacts. The production of culture under the social distancing policy has shown that work from home and collaboration are possible at a greater level than what the culture and arts professionals considered possible. There were, however, many doubts and reservations about the online work. Working from a distance in some cultural and artistic activities functions well and can increase the opportunities for diverse workers and can access communities that were not included before. However, not all cultural activities are available to be offered online. It is also important to critically evaluate the way in which online activities and the use of methodologies, pedagogies, and technical solutions can help reduce the technological gap by class, ethnicity, immigration status, age, etc.

Online work allowed the growth and access to experts of very diverse themes in the entire world. Virtual interaction diminished the expenses and travel times and associated costs of transportation and housing.

The now generalized consultation of experts through video links could significantly amplify the range of representations on screen, just like the quality of those events. Regardless, it is important that the artists as well as the cultural and art experts are economically compensated for their participation in all kinds of events since they do not have permanent incomes or salaries. The cultural ecosystem depends on all the big and small units. For that, we have to promote, support, and finance the arts and culture as a mechanism to increase well-being. It is necessary to strive for public financing for all the units, especially the most vulnerable. We also have to promote the culture of art collecting and aid that civil society can provide through donations that allow the strengthening (in the case of San Diego) and the creation (in the case of Tijuana) of established and regular fundraising practices for cultural and artistic activities. For that, considering fiscal incentives for corporate and individual donations to promote investments in this sector was recommended by the Organization for Economic Cooperation and Development (OECD).

There are certain links between cultural units from the north and south of the border, but this has been more due to the interest of individuals than to institutional policies. The links are directly related to the interest, knowledge, and cultural capital of those who coordinate and work in the unit, and not so much because of the characteristics of the institution. The foregoing suggests that it is necessary to fight for the increase of cross-border practices between members of cultural units in order to stimulate bonding at the border.

Lastly, transformative interventions that allow the fair valuation of the culture and arts, as well as the units and individuals that work in them, are urgently needed. We have to insist that investment in the culture and arts benefits all of society and all the sectors of the economy, whether directly or indirectly. A central part of this task is related to the reconfiguration of the social fabric. It is urgent that we support the cultural and creative entrepreneurship as catalyzers of new models of economic and social values. Let us remember that the big institutions as well as public and private cultural businesses of the CaliBaja region depend on a dynamic cultural ecosystem to promote creative goods and services. In the case of Tijuana, this is more crucial since it is more vulnerable and precarious. The sustainability of CaliBaja's cultural ecosystem is inevitably linked to the possibilities of this region's future.

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The Impacts of COVID-19 on the Tourism Sector in Baja California and San Diego

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Tourism is an important source of income for thousands of families in Baja California and San Diego that have been profoundly affected by the COVID-19 pandemic.¹ The ongoing waves of infection and the discovery of new variants have shown that the sector's recovery will not be quick nor easy. Given the socioeconomic proximity of Baja California and San Diego and the regional potential as a transborder tourist attraction, it is relevant that we explore collaboration opportunities to move forward together in this emergency situation.

In this essay, the importance of the tourism sector prior to the pandemic and how it was impacted by COVID-19 in Baja California and San Diego is summed up. By analyzing the sector's experiences in the past 2 years, the main opportunity areas for regional collaboration are identified. These are strategic planning for the recovery of tourism, joint decision-making based on local needs, data collection and analysis, and the job insecurity faced by people employed in tourism. Finally, public policy recommendations are presented to address these opportunity areas through cross-border and intersectoral collaboration.

The Tourism Sector Prepandemic

The economic relevance of the tourism sector has progressively increased in Baja California and San Diego. The diversity of available tourism activities in Baja California has turned it into one of the main destinations in Mexico. In 2019, the state welcomed over 3.9 million tourists and of

¹ I thank Ivette Casillas, Stephanie Guichard, Kerri Kapich, José Trinidad Olague and the rest of the participants in the tourism session of the Emerging Stronger after COVID-19: CaliBaja Working Group, whose presentations and comments are the basis of this essay.

these over 64% were domestic and 36% were international, mostly from California. With 3.07 million hotel room bookings, the occupancy rate was 46.9% in 2019. The annual arrival of tourists increased 35% from 2000 to 2019 (SECTUR, n.d.).

The economic importance of the tourism sector in San Diego has also increased steadily. From contributing 4% and 6% of total employment in San Diego in the 1960s and 1980s, respectively, tourism came to contribute 11% of employment between 2000 and 2020. In 2019, the hospitality and tourism sector employed 202,000 people, representing 12.5% of total employment and 4.3% of gross regional product. Women, young people between 16 and 24 years old, and Hispanics are overrepresented among the people employed in this sector. The sector's average annual wage is \$28,000 while the county's average wage is \$63,000. With over 35 million visitors per year, San Diego is the 11th most visited city in the U.S. Some 4.6 million Mexicans visit San Diego each year and most are same-day visitors that spend \$60 per day in average.

Local decision-makers in the CaliBaja region have recognized the advantages of the border as a binational tourist attraction and have thus facilitated infrastructure building and media campaigns to jointly promote the region. In the last decade, regional authorities on both sides of the border have pursued collaboration with their counterparts on public relations and campaigns that communicate the appeal of the binational experience in CaliBaja. Although there are no specific data for the results of these efforts, interest in the region is made evident by the traffic in CaliBaja's ports of entry, including San Ysidro—the main port of entry on the U.S.-Mexico border—and the Cross Border Express (CBX), which allows crossings between San Diego and Tijuana's International Airport. In 2019, 111.5 million crossings into the U.S. were located in CaliBaja, of which 77.2 million were bus passengers, vehicles, and pedestrians (BTS, n.d.).

The Impacts of COVID-19 in CaliBaja

The COVID-19 pandemic had devastating effects on global tourism and tourism sectors in the CaliBaja region were not the exception. The suspension of international flights and social distancing policies at the start of the pandemic in March 2020 disrupted tourism on both sides of the border for at least three months and these disruptions continue according to the recurring waves of infection.

A survey of 1035 firms in Baja California in April-May 2020 suggests that tourism was among the most severely affected sectors, with

44.6% of firms reporting a severe impact and 36.5% intermediate impact, while tourism firms reported the greatest proportion of job losses. According to data from the Instituto Mexicano del Seguro Social (Mexican Institute of Social Security, IMSS), the number of insured people decreased by 3924 (-7.3%) in March-April 2020, indicating a substantial loss of formal employment. Survey results suggest that Mexicali and Playas de Rosarito were the most affected municipalities² and that micro (up to 10 employees) and small (up to 50 employees) enterprises were the most affected firms (GIDI, 2020). According to data reported by the Secretaría de Turismo (Secretariat of Tourism, SECTUR), tourist arrivals to lodgings in the state reduced by 38.2% from 2019 to 2020, with a larger reduction of domestic tourists (40.71%) than internationals (33.7%) (INEGI, 2021). Although Baja California reported the greatest employment recovery in the country between April and October 2020, 2087 jobs (4%) in tourism were lost. In Mexicali, job loss in tourism—the most affected sector—was 10%, followed by Tecate (5%), Tijuana and Ensenada (2%), and Playas de Rosarito (1%) (De los Santos, 2020).

Similarly, 2020 was a difficult year for tourism in San Diego. It is estimated that it will take 5 years for performance to recover to 2019 levels in terms of occupancy, visitor spending, and tax revenue. The consumption of food and lodging services decreased by 70% after the stay-at-home order that began in March 2020. Although this subsector recovered in May-November 2020, its reduction was 30% relative to January 2020, and it decreased again after the second stay-at-home order in December 2020. In February 2021, expenditures in tourism consumption were still 30% less than prior to the pandemic. The number of small tourism enterprises (under 100 employees) was reduced by 40-60% between May and December 2020 while their income decreased 55% on average. Moreover, tourism was the most affected sector in terms of job loss with a reduction of over 80,000 jobs (47%) between February and May 2020, and 65,000 jobs (33%) between February 2020 and February 2021.

The main explanation of these effects relates to the restrictions on nonessential travel, the stay-at-home orders, and the border closure given that tourism is a high mobility and contact sector. Also, it is easily expected that the pandemic's impact on consumption decisions disproportionately affects tourism since these are recreational activities, prone to be considered nonessential in times of crisis despite the widespread effects isolation measures have had on mental health.

² Results about firms in San Quintín were not reported.

However, it is possible that good practices implemented in Baja California and San Diego lessened to some degree the unfavorable impacts on the tourism sector and its workers. The Baja California government acknowledged the tourism sector as key in the state's economic and social recovery, and it planned a strategy to reactivate the sector once the health emergency was over. The strategy included public relations activities to promote the state as a tourist destination focused on local, regional, and domestic tourism, the implementation of strict health standards by service providers, diversification of available tourism services identifying those that would likely recover sooner, and the improvement of programs for social tourism, among others (Gobierno de Baja California, 2020).

The progressive reopening of tourism businesses was allowed as the number of new infections decreased as long as they complied with social distancing protocols and the mandatory use of masks. National or internationally recognized protocols implemented by the tourism sector in Baja California include the "Clean & Safe" certification for hotels and tourist transport, "Safe Travels" issued by the World Travel & Tourism Council, and the "Mesa Segura" (translates to "Safe Table") protocol from the National Chamber of Restaurants and Seasoned Food Industry.

An increase in intrastate tourism emanated from these initiatives even in the low seasons. In the Valle de Guadalupe, sales volume in the tourism sector increased by 50% between January and March 2021, of which nearly 80% came from domestic tourism. In addition to encouraging local tourism, eight road trip routes were publicized to promote tourism from within the state and from neighboring U.S. states including California, Arizona, and Utah. These efforts were achieved through collaboration among different levels of government and the private sector. For instance, the Tourism and Conventions Committee of Tijuana reported weekly meetings with representatives of the tourism industry, local health authorities, the Consejo Coordinador Empresarial (Business Coordinating Counsel), and other public and private institutions to coordinate the sector's regional recovery (Industrial News, 2020).

In San Diego, people employed in the tourism sector benefited from federal assistance programs for workers and businesses such as tax reliefs, the Paycheck Protection Program, and the Continuation of Health Coverage (COBRA). The State of California and San Diego County also implemented assistance programs for rent and utilities relief, small enterprises, and others. The San Diego Tourism Authority (SDTA) was granted an additional 5.3 million dollars to boost local marketing efforts

and planned to spend 10 million dollars on various marketing campaigns between January and June 2021 (Weisberg, 2020). In early 2021, the increase in tourism from California and Arizona brought optimism about the sector's recovery despite the border closure for nonessential travel. In October 2021, the SDTA launched its first assistance program for tourism firms led by women, people of color, those who identify as LGBTQ+, and veterans, providing services valued at \$10,000 dollars to ten selected firms (Peña, 2021).

As in Baja California, cooperation between the public, social, and private sectors was crucial in assisting the tourism sector in San Diego. In addition to the aforementioned initiatives, San Diego County, The San Diego Foundation, San Diego Gas & Electric (SDG&E), the San Diego & Imperial Counties Labor Council, and United Way of San Diego County started the San Diego COVID-19 Community Response Fund to support low-income workers (Fletcher, 2020). The SDTA held frequent meetings with community partners, elected officials, firms, the San Diego Regional Chamber of Commerce, and other institutions to coordinate public policies promoting the recovery of the sector and its workers.

Beyond good practices in public policy, the CaliBaja region has achieved a progressive recovery in tourism because of regional preconditions that facilitated the development of subsectors prone to be favored by the pandemic, such as medical tourism and experiences in open spaces such as hiking and trekking. While the suspension of isolation measures motivated many to travel, the ongoing pandemic promoted tourism focused on essential and outdoor activities.

The U.S.-Mexico border closure did not directly impact air travel nor medical tourism as both were considered essential. Mexico is the second medical tourism destination globally, while Baja California is the first state for medical tourism in the country. Although it was not enough to avoid losses in profits and jobs in the general tourism sector, it was a subsector that grew during the pandemic, providing job security for its employees and playing a crucial role in the state's economic recovery. Medical tourism triggered a substantial increase in hotel occupancy and visitor arrivals by air in the first semester of 2021 compared to 2019 (Mercado, 2021). Likewise, it is estimated that more than 10,000 jobs were created due to the \$1.8 billion dollars investment in 38 projects related to medical tourism between 2020 and 2021 (García, 2021).

While Baja California has gradually become an appealing destination due to its high-quality, low-cost medical services, California emerged as a

new destination due to the availability of COVID-19 vaccines. Between May and August 2021, more than one thousand vaccines were provided to tourists from 59 countries—mainly from Mexico and Taiwan—in just San Francisco's International Airport (Pena, 2021). Mexican consulates in cities such as Los Angeles, Sacramento, San Diego, and San Jose served as vaccination sites (SRE, 2021), and border consulates and local U.S. authorities collaborated to implement pilot programs to vaccinate Mexican citizens (Mendoza, 2021).

Availability of outdoor tourism attractions also helped the sector's recovery in both states. Beach activities, hiking routes, whale watching, and other similar activities were the first to reactivate. Visitor declines in San Diego's natural areas was considerably lower than in indoor recreation spaces like museums and theaters (e.g., -10% versus -40% in July 2020). Valle de Guadalupe, Baja California, experienced an increase in sales for the first quarter of 2021 despite being in the low tourism season.

In short, the pandemic caused big losses in jobs and revenues on both sides of the CaliBaja border. However, collaborative efforts between the public and private sectors helped a limited, but progressive, recovery of tourism through the promotion of regional tourism, innovation strategies in tourism products, and support for the most affected people and businesses. Additionally, impacts were unequal for different activities, which favored medical tourism and outdoor recreation, while companies and workers in indoor activities, such as museums, cruise ships, and conventions, are still facing difficulties.

Analysis and Aspirations for Collaboration

Rising vaccination levels and the end of restrictions to nonessential travel have caused general optimism for the prompt economic recovery and the return to normalcy, including in the tourism sector. For instance, a Comic-Con International special edition of the convention took place in San Diego in November 2021 after two cancellations due to COVID-19, and there was a 100% hotel occupancy in San Felipe, Baja California, for the annual off-road race in the summer of that same year. Nevertheless, the emergence of new variants raises the importance of analyzing the lessons learned over the last 2 years, including best practices and opportunity areas.

Although state and local authorities implemented strategies to boost tourism recovery, the opportunities for regional collaboration were evidently limited by decisions at the federal level made from the national capital cities. For instance, restrictions to nonessential border crossings at land ports of entry excluded any opportunity to restart public relations

strategies to promote binational tourism even as international tourism to the U.S. was still allowed by air. Restrictions continued for 20 months despite the adverse effects on the border's economy and social fabric. Yet, there was neither scientific evidence on the effectiveness of these measures to prevent coronavirus transmission nor transparency in the criteria on which these decisions were based.

Additionally, the lack of coherent economic policies at the federal level likely resulted in unequal recovery rates at the local level. While the U.S. federal government focused on supporting employees affected by the lockdown, the Mexican government focused on planning and promoting the sector's reactivation as restrictions were lifted based on Mexico's COVID-19 "traffic light" monitoring system that conveyed risk level in each of the states. Both strategies have positive and negative effects on the tourism sector that must be evaluated for future emergencies.

These limitations, along with the lack of transborder governance mechanisms for emergency situations, meant that a significant fraction of collaboration between regional actors was informal and ad-hoc. An example of this is the effort of San Diego County and the Consulate General of Mexico in San Diego in the approval of applications for emergency border crossings that were not defined as essential by the U.S. federal government. Another example is the ongoing effort of immigration officers and health professionals that allowed the entry and vaccination of Mexicans on temporary visas. While it is important to acknowledge the value of these efforts, this kind of arrangements is very prone to unequal resource distributions due to its reliance on decisions by individual authorities and limited access to information for the general public. Ideally, local authorities should be able to institutionalize these collaborations according to their needs and capabilities, but they are usually limited by their need of the federal governments' financial and institutional support.

There are also opportunity areas to strengthen regional cooperation with or without significant involvement of federal governments. Elected public officials must implement better strategies to advocate for the regional interests they represent and demand a consistent role in the debates within the federal government's decision-making process. An alliance of transborder public officials could facilitate more effective participation within decision-making processes if political partisanship, which has been prioritized, could be overcome.

Additionally, local authorities could collaborate more in collecting and publishing data to support joint decision-making. The methodology and availability of data for public policy analyses are inconsistent across

the border. This hinders the clear definition of criteria for implementing and evaluating binational measures for the pandemic such as the border closure for nonessential travel. Baja California and San Diego publish data on hotel activity and occupancy, the arrival and stay of tourists, and tourism-related service providers, but with different disaggregation levels (INEGI, n.d.; SDTA, n.d.). The SDTA also publishes data related to tourist profiles and spending, conventions, and forecasts of annual visits, expenditures, and hotel activity—information that could be useful to develop binational tourism promotion campaigns.

Furthermore, there is inadequate transparency and data accessibility, limiting the participation of non-governmental actors in analysis and accountability processes. For instance, the San Diego Association of Governments (SANDAG) collected weekly data on the economic impacts of the pandemic, including impacts on tourism. However, these data are unavailable for analysis beyond the indicators reported in November 2020.

Finally, the pandemic made visible the vulnerability of tourism sector employees and how quickly such vulnerability grows in times of crisis. Even before the pandemic started, workers in this sector had an income (\$28,000 dollars per year) that was substantially lower than the average income in San Diego County (\$63,000 dollars per year). Women, young people between 16 and 24 years old, and Hispanics were overrepresented in the sector. Small businesses generate most of the sector's jobs and were also the most affected by the pandemic. Many of those working in San Diego's tourism sector live in Tijuana and cross the border daily because their wages are insufficient to live in San Diego.

Although comparable data on workers in Baja California's tourism sector were not available for this study,³ job insecurity and socioeconomic fragmentation related to this sector are worldwide problems. Therefore, in addition to focusing on public policies for times of crisis, we must use this analysis to rethink equitable policies to support fair wages and labor protections for the people employed in tourism.

Public Policy Recommendations

The impacts of the pandemic on CaliBaja's tourism are diverse and lasting. The sector's recovery will not be easy, especially if decision-makers continue without acknowledging the high level of transborder dynamism. Based on the analysis of this chapter, some public policy recommendations are

³ The Banco de Información Económica, the Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) by INEGI, and the Información Turística por Entidad Federativa from the Datatur website (Secretaría de Turismo) were consulted.

presented to address the main opportunity areas evidenced by the ongoing emergency. These include strategic planning for the recovery of tourism, joint decision-making based on local needs, data collection and analysis, and job insecurity challenges.

First, the pandemic continues, and it is not clear when infection waves will end. Resuming prepandemic activities would be a public health risk. We must therefore keep disseminating and overseeing the implementation of health measures in tourism sites as has been done in many businesses in Baja California and San Diego. The success of these measures requires raising awareness among tourists who must collaborate to ensure that the sector's activities continue operating. It is suggested that governments establish clear and transparent criteria, protocols, and requirements that allow the private sector to plan events and activities in the medium term. That is, the emphasis should be on prioritizing active planning instead of frequent reactive policies based on what has been learned about the behavior of the coronavirus and vaccines.

Likewise, it is suggested that investment strategies continue to respond to new consumer trends. These include a growing interest in visiting small and uncrowded towns, less frequent but longer trips, and sustainable activities that support local businesses. Even though regional tourism is expected to be primarily domestic, the recent reopening of land ports for nonessential travel enables transborder tourism and, thus, joint recovery by promoting CaliBaja as a binational destination.

A joint and collaborative recovery demands transborder governance mechanisms and dialogues that prioritize the needs and experiences of the region's population beyond the federal governments' interests. There have already been discussions with this aim, but their scope and results have not been transparent, making it difficult to identify likely areas for improvement. A possible mechanism is the Commission of the Californias, active from 1964 to 2004 and reinstated in 2019, whose attributions include the definition of an agenda based on shared interests in tourism. Also, there must be more active participation of congresspeople from CaliBaja, among other regions, to represent the specific interests of the border in the federal decision-making processes. In any case, local governments, businesspeople, and community leaders must be included in dialogues and decisions to facilitate citizen participation and accountability.

In this same sense, improvements are needed for coordination of data collection and analyses related to decisions such as public health and mobility restrictions that impact communities on both sides of the border. For this, close collaboration among governments, academics, and

civil society leaders is recommended. Governments have resources, infrastructure, capabilities to reach a large part of the population and access to multiple data sources. Scholars have experience in obtaining and analyzing representative data and defining comparable indicators in different geographical units. Community leaders are usually closer to the local population and know better their needs and interests.

Finally, it is urgent to plan measures that address job and wage insecurity of workers in the tourism sector. Initiatives in Baja California and San Diego to support small businesses and workers during the recovery are a good start, but they are not enough to address a historical and structural problem. While it is true that there is no easy and quick solution, there is no doubt that alternatives for a fairer distribution of tourism revenues and profits exist. Furthermore, recent efforts to increase the minimum wage in Mexico and various U.S. states show that there is also the political will.

Some options to facilitate increased wages and labor protection include economic policies that promote equitable access to credit and investment, tax incentives, and other forms of assistance to promote small and medium businesses even after the pandemic. Another option is a larger and more effective tax burden for big companies, the general care of public spaces in tourism destinations to avoid a socioeconomic fragmentation that disproportionately benefits the rich, and effective and accessible mechanisms for the resolution of labor disputes. These initiatives involve long processes of learning and collaboration that require more collectivity among workers and small businesses, as well as their active inclusion in the decision-making of public and corporate policies.

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Medical Tourism in the U.S.-Mexico Border: California-Mexico Cooperation after COVID-19

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Approximately 400,000 medical travelers visited Mexico each year for health purposes before the COVID-19 pandemic. The revenues from medical tourists in Mexico were estimated in approximately \$3.1 billion dollars in 2014 (1). As a destination, Mexico has gradually increased the services offered to medical tourists. In the early 20th century, Mexican border cities were offering different health care services to transnational patients such as dental, vision, elective, and cosmetic treatments. Currently, Mexico supplies a wide variety of medical tourism and medical wellness services in multiple destinations ranging from beach resorts to colonial towns and large metropolitan areas. Highly specialized care is available to transnational patients in large cities (2). Mexican border cities with the United States, however, still supply the majority of health care services to medical tourists (3).

The main incentives for the development of the medical travel industry in Mexico have been lower cost of health care and geographic proximity to the United States. Medical travelers to Mexico are predominantly from the United States. Approximately 70% of these visitors are either Mexican or Latino immigrants living in the U.S. or Mexican Americans and other U.S. citizens who are familiar with health care delivery in Mexico (4). Non-Latino medical travelers mainly cross the border to receive dental treatments, purchase prescription drugs, and receive elective treatments that are not covered by health insurance plans in the U.S. (5).

An offering of health and tourism services for medical tourists in Mexican border towns has evolved from a relatively unregulated and disorderly industry into organized “clusters” of health care and tourism providers who have partnered with government authorities to promote the medical travel industry in cities and towns along the U.S.-Mexico border. The five cities in the Mexican state of Baja California were the pioneers in the development of these medical travel clusters in Mexico (6). For example, the medical, dental, and hospital cluster of Baja California organized a range of medical services along with hotels, food, and recreational services (1). This new structure of the industry enabled health care providers to include recreational services along with the comprehensive health services, responding to demands of medical travelers and their companions. This association also encouraged the certification and accreditation of Mexican health care providers, facilitated links with development agencies to fund improvements and certification, and began to actively promote Baja California as a medical travel destination (1, 6).

U.S.-Mexico Health Visitors

Health services for international medical travelers are provided mostly by private organizations and paid out-of-pocket. According to a recent study that examined international travelers to Baja California, cost and quality are the main considerations for the use of services in Mexico (6). According to estimates from the Mexican government, in 2013 costs in Mexico were 36% to 86% less when compared to U.S. prices for different types of health services (2). Insurance coverage was the main motivation to cross the border for health care only among 3% of the surveyed population. While uninsured individuals are the majority of cross-border patients, it is not unusual for dental treatments and other health services to be administered to individuals with health insurance coverage in the U.S., even to those covered by relatively generous public health insurance plans (5, 7).

Different “push” and “pull” factors incentivize U.S. to Mexico health visitors. Lack of adequate health insurance coverage and access to care in the U.S. have been “push” factors to use health care abroad. Familiarity, geographic proximity, and lower cost of treatment in Mexico has been a “pull” factor (6, 8, 9). One study analyzed data from international travelers into Baja California to examine the profile of health travelers to Mexico from the U.S., from 2010-2013 (10). Its main findings are in table 1.

Table 1: Health Care Travelers to Baja California, 2010 and 2013		
Variable	2010	2013
Average Age	41	43
Annual Income (USD)	36,000	35,496
Married	64.0%	72.0%
Education		
Less than High School	25.0%	21.0%
High School	44.0%	41.0%
More than High School	31.0%	38.0%
Race/Ethnicity		
U.S. born Latino	32.0%	41.0%
Latino Immigrant	59.0%	33.0%
Non-Latino White	7.0%	9.0%
Other	2.0%	17.0%
Health Insurance in the U.S.	33.0%	33.0%
Transportation		
Car	82.0%	78.0%
Pedestrian	17.0%	10.0%
Bus	0.8%	11.0%
Airplane	0.2%	1.0%
Traveling With Companions	59.0%	73.0%
Main motivation for medical travel		
Lower Cost	57.0%	49.0%
Quality	13.0%	33.0%
Health Insurance Coverage	3.0%	2.0%
Other	27.0%	16.0%
Use of Health Services in Mexico		
Primary Care	29.5%	28.4%
Internal Medicine	6.8%	6.8%
Dental Treatment	29.1%	28.8%
Vision	1.3%	1.1%
Trauma-Orthopedics	7.3%	6.5%
Cardiology	3.4%	3.2%
Other Specialities	22.6%	25.2%

SOURCE: Vargas Bustamante A., "U.S.-Mexico cross-border health visitors: how Mexican border cities in the state of Baja California address unmet healthcare needs from U.S. residents," *Journal of Ethnic and Migration Studies*, 2020, 46(20):4230-47.

The Role of the Mexican Population in the United States in the Evolution of the Medical Tourism Industry in Mexico

The Mexican population represents approximately 11% of the overall U.S. population (11). This figure includes 11.4 million Mexican immigrants and 22.3 million U.S.-born individuals who self-identify as Mexican-Americans (11). Almost 83% of Mexican immigrants are concentrated in ten states and 37% reside in California (12). Previous research shows that the Mexican population in the U.S. is twice as likely to underutilize health care and experience low quality of care compared to non-Mexicans (13-15). U.S.-born Mexican Americans as well as Mexican immigrants experience access to care barriers, low utilization of preventive services, and lower health care spending compared to other U.S. racial/ethnic groups (16-21). One of the main deterrents to health care access and use and health insurance coverage among Mexican immigrants in the U.S. is legal status, since approximately 50% of Mexican immigrants are undocumented (22, 23). Undocumented immigrants are excluded from federal government programs that provide subsidized health insurance coverage (Medicaid and Medicare) and from all provisions related to the Affordable Care Act (ACA), which expanded health insurance coverage to approximately 70% of the U.S. uninsured population after its implementation in 2011 (24, 25).

U.S.-Mexico Cross-Border Health Care Utilization

Mexicans in the U.S. travel across the border to Mexico to utilize health care and to overcome some of the barriers encountered within the United States. Cultural familiarity, geographic closeness, and lower cost of health care in Mexico are among the main drivers of health care utilization south of the border (26, 27). Different studies have documented and characterized the cross-border utilization of health care in regions and states close to the border (28-30). For instance, a 2001 study from California estimated that approximately one million individuals, 70% of Mexican origin, crossed the border between California and Mexico to utilize health care, purchase medications, or receive dental treatments (4). Another study from 2011 found that Mexican immigrants in the U.S. return to Mexico regularly to receive hospital care for serious illnesses in response to limited access to care in the U.S. (31).

Almost one third of Mexicans in the U.S. have immigrated recently to the U.S. and most are first or second-generation immigrants. Cultural beliefs from Mexico and familiarity with the Mexican health care system are still strong among millions of Mexican adults. Cultural approaches to

health care and understanding the Mexican health care system are likely to influence cross-border health care utilization among Mexican adults and future retirees (5, 32, 33). The main predictors of health care use in Mexico are health need, lack of health insurance coverage in the U.S., employment status, delay seeking care, more recent immigration, limited English proficiency, and prescription drug use (19, 27, 34). Additionally, cultural factors such as language and provider attitudes influence health care utilization south of the border (35, 36). However, lack of legal status for undocumented immigrants also deters undocumented Mexican immigrants from using health care in Mexico, since mobility across the border has diminished due to increased border enforcement by U.S. border authorities (25, 37).

Documented and undocumented Mexican immigrants in the U.S. contribute to health care utilization in Mexico in another way. Some \$40.6 billion in 2020 was sent by these immigrants as remittances to their relatives in Mexico (38). One of the main reported uses of migrants' remittances has been spending for health care (39). It is estimated that 46% of those receiving remittances use some share of these funds for health care, which represents the single largest category of the intended use of remittances (40).

California-Mexico Health and Health Care Cooperation after COVID-19

The U.S.-Mexico border is the busiest in the world. After the decline in border crossings in 2020 with the onset of the COVID-19 pandemic and U.S. government restrictions, the flow of cross-border patients and medical tourists has been gradually recovering to its 2019 peak. Healthcare cost differentials between the U.S. and Mexico will continue to incentivize cross-border health care utilization in the future (10). Private health care providers in Mexico are quickly adopting international standards to treat cross-border patients (28). Cooperation between California and Mexico has centered in the health and health care needs of Mexican immigrants in the state and the important presence of Mexican nationals who cross the border each day to work in California, but who reside in Mexican border cities. Currently, California is the only U.S. state where health insurance can operate in conjunction with Mexico. This was accomplished through the amendment of the Knox-Keene Act in 1998. Three private U.S. insurance companies and one insurance group from Mexico are licensed to offer this type of coverage (28). Providers in California offer a variety of plans with different service options that range from managed

care coverage (Health Maintenance Organization or Preferred Provider Organization) to emergency coverage only (42).

Two main challenges for California-Mexico cooperation in health care regulation and quality of care relate to population aging and the coverage under the Affordable Care Act and Medicare.

- a) With population aging, it is expected that the number of Mexicans in the U.S. who will retire in Mexico will increase rapidly in the next 3 decades (43). Future policy developments could impact the U.S.-Mexico transnational patient flow and transform its current characteristics. Transnational health care utilization is likely to evolve from border crossing of uninsured or underinsured individuals who purchase cheaper prescription drugs, dental treatments, and pay out-of-pocket for regular doctor visits, to one of newly insured individuals and Medicare eligible persons who may opt for health care in Mexico, driven by cultural familiarity and high cost of care in the United States. Policy makers and health care organizations in California and Mexico will have to respond to an increased demand for affordable and quality public and private health care services for Mexicans who will spend their productive years in the U.S.
- b) In addition to access to care barriers that have remained in place after the ACA implementation, cultural familiarity with the Mexican health system, cost control policies in the U.S., and population aging are likely to increase the flow of U.S. patients to Mexico. Previous research shows health care and socioeconomic barriers are the main drivers of U.S.-Mexico cross-border health care use (4, 26, 44). Future U.S. budget restrictions could limit available resources for subsidized health care for low-income and uninsured Mexican adults who reside in the U.S. Cross-border health care utilization in Mexico would remain a feasible option for this population.

Legal and Political Considerations

The high cost of treating currently uninsured individuals with complex and expensive health conditions is a serious financial burden for safety net hospitals in the U.S. (45). Previous attempts to expand cross-border regulations in U.S. border states show that physicians and other organized health professional groups are unlikely to support cross-border health care use and medical tourism. For instance, in 2001 the state legislature in Texas

considered a bill to establish a regulatory framework at the Texas-Mexico border, along similar lines as the scheme approved in California (28). The Texas Medical Association, however, strongly objected to this proposal based on regulatory and liability issues (46).

The growth of cross-border health care use and medical tourism still struggles on how the legal systems of two countries could work to solve cases of medical malpractice. The European experience could be useful to consider (47). Various European directives allow the free movement of health professionals recognizing their qualifications throughout the European economic area (48, 49). Audit, quality assurance, timeliness of reporting, confidentiality, and quality of the data are day-to-day aspects of the medical practice factored into contractual agreements (50).

In the U.S., physicians are licensed to provide medical care within the boundaries of each state. Different states have different definitions of medical malpractice; some are defined more broadly than others (51, 52). One possibility could be to use the United States-Mexico-Canada Agreement (USMCA) model (53), which resolved differences in trade law across states in the U.S. and between Canada and Mexico by agreeing to settle any trade disputes using a common legal framework (28). A similar model could be developed for disputes involving medical tourism.

Conclusions

Health care costs keep rising rapidly in the U.S. and the cost differential of health services in comparison to Mexico is widening. Budget restrictions also limit the resources available for subsidized health care for low-income vulnerable populations in the U.S. Cross-border health care use and medical tourism could serve as a mechanism to improve coverage and provide quality and affordable health care to underserved individuals living in the U.S., particularly Mexican immigrants and Mexican Americans. Any policy to promote medical tourism, however, will require financing schemes and regulations that promote quality of care, response in case of medical complications, and effective mechanisms to solve cases of medical malpractice. Policymakers, health care providers, and researchers in both the U.S. and Mexico should continue to explore potential opportunities to expand the availability of affordable and quality health care options for medical tourists in Mexico.

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Towards a Binational Food Security System in the Tijuana-San Diego Border Region

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Food security means that “all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2006). Despite the interdependent economies and transborder similarities of the CaliBaja cross-border region, the COVID-19 pandemic exposed inadequate permanent physical infrastructure and binational collaboration to meet the rapid increase in demand for basic services, including access to food.

In this paper, we analyze the impacts of COVID-19 on food security that is based on a survey carried out by the International Community Foundation (ICF) in June-July 2020, as well as additional sources. We find that while there was some level of binational collaboration during the pandemic, food security in the region did not reflect the same level of interconnectedness as pre-pandemic food systems. Both food delivery and cross-border individual donations were affected by the pandemic. With the goal of integration of food systems in the CaliBaja region, we suggest defining progressive stages with clear milestones to reach in the next 5-10 years. We also provide recommendations for potential contributions to increase food security from the public, nonprofit, academic, and private sectors.

Background

Worldwide, poverty is the most recognized root cause of food insecurity, but there are also compounding factors that exacerbate it. Some of these factors are economic and include economic instability, inflation,

unemployment, limited food distribution systems, and/or the expansion of cash crops for export of products out of the growing region. Other factors are more social in nature and involve education levels, racial and/or gender discrimination, inequitable access to nutritious food in rural communities, and/or lack of land or water ownership. Natural disasters also worsen food insecurity worldwide, as droughts, floods, earthquakes, and pandemics like COVID-19 have demonstrated.

Available statistics on poverty and food security in Baja California and Tijuana present a shocking picture. Baja California's Ministry of Social Development (SEDESOL-BC, 2016) estimated in 2014 that 28.6% of the state's population lived in poverty (984,900 of the total population of 3.3 million), although the report does not present municipal level data for Tijuana. Mexico's National Council for the Evaluation of Social Development Policy (CONEVAL, 2020) estimated that in 2018, the poverty rate in the State of Baja California was 23.3%. According to FAO's State of Food Security report in 2020, severe food insecurity in Mexico's population had increased from 8% (2014-2016) to 11.5% (2017-2019) while moderate to severe food insecurity grew from 27.4% to 34.9% for the same period (FAO, 2020).

The differences in poverty and food insecurity between Mexico and the United States and between Tijuana and San Diego are apparent, despite many cross-border similarities and substantial economic integration. For San Diego, the U.S. Census Bureau estimated that in 2019, 10.3% of the total population of 3.38 million inhabitants lived in poverty (Semega et al., 2020). For the United States as a whole, FAO reports that severe food insecurity decreased from 1.1% (2014-16) to 0.8% (2017-19) and moderate to severe food insecurity decreased from 10.5% to 8.5% for the same period (FAO, 2020). According to data from the U.S. Department of Agriculture (USDA, 2018), 10.6% of households in California experience food insecurity. The Jacobs and Cushman San Diego Food Bank estimates that food insecurity affects 450,000 of the 3.2 million people living in San Diego County (14%). The Food Bank estimates that 1 in 7 adults and 1 in 5 children live with food insecurity (TSDFB, 2021). Along with San Diego's food banks, about 500 nonprofits in San Diego operate feeding programs serving 350,000 people per month. Of those receiving food assistance, 55% are Hispanic and 29% Caucasian (TSDFB, 2021).

COVID-19 Context

The COVID-19 pandemic exposed inadequate permanent physical infrastructure and social services in the U.S.-Mexican border region. These include a lack of affordable and suitable housing as well as access

to adequate food, water, and healthcare. As the pandemic and subsequent quarantines began to stretch beyond early estimates, the International Community Foundation carried out a survey in June-July 2020 with the participation of 21 nonprofits in Tijuana, including shelters, public kitchens, and organizations that provide legal assistance, social assistance, and education services. The responses indicated that, while there was some binational collaboration, it centered mostly around informal food donations to Tijuana and providing funding for Tijuana nonprofits to be able to buy and distribute food (10, or 48%, of surveyed organizations). There does not appear to have been formal binational collaboration at the municipal or state government level in the CaliBaja region for food donations. From this survey, food systems in the Tijuana-San Diego region do not seem to have reestablished pre-pandemic formal connections to address the food security needs at the regional transborder level.

Seventeen (81%) of the surveyed organizations mentioned that food had become less available due to the pandemics. Of these, 10 or 59% of surveyed organizations stated it had been like this for over 6 months, while 4 or 23.5% of surveyed organizations stated they have experienced food scarcity for over a month. Several food assistance organizations saw demand increase from 200 to 2500 meals per day. State and federal regulations on COVID-19 workers' safety in Mexico also affected food distribution channels, as the list of essential staff allowed to continue working did not include food distribution volunteers.

In addition to the survey, ICF and students from the University of San Diego interviewed five nonprofits of Tijuana and Mexicali during the summer of 2020. These interviews were held as a focus group to help guide ICF's grantmaking and programmatic activities in the San Diego-Tijuana region. The main finding was the need to build capacity and networking capability of local organizations to 1) provide more food, 2) reduce food waste, and 3) establish a network of collaboration for the nonprofits to work together at the regional and transborder level, not just in their respective cities.

Pandemic impacts have been similar worldwide. Loss of employment, drastic decrease of income of middle- and lower-income families, impacts on human health, and increased death rates have been typical. Scarcity of food and sanitation items due to shutdowns and disruptions of distribution channels increased food prices and worsened poverty, homelessness, and hunger.

Tijuana's unemployment rate was estimated by the city's Chamber of the Transformation Industry at 5.7% by November 2020 (CANA-

CINTRA, 2020). San Diego reported an unemployment rate of 8% in December 2020 (USBLS, 2021) that was higher than Tijuana's. However, unemployment is likely underestimated in Tijuana due to widespread underemployment and the size of the informal sector. It is estimated that over 50% of the population in Mexico is informally employed (CSIS, 2021). Mexico's high pre-pandemic informal employment was associated with lack of health insurance and other payroll benefits for these informal workers. No data is available for unemployment specific to the respective food systems in the region.

As the pandemic shutdowns further limited job opportunities in the informal and formal sectors, there was likely a corresponding increase of poverty and number of people living with food insecurity throughout Mexico. Mexico's CONEVAL has not published official data on poverty and food insecurity for Mexico, Baja California, or Tijuana for 2019 nor 2020. Nevertheless, the United Nations Development Program (UNDP) estimated an increase of between 8.9 and 9.8 million people living in poverty and an increase of 6.1 to 10.7 million living in extreme poverty in Mexico as a result of the pandemic's impact on employment (PNUD, 2021). A study carried out by the Institute for Research on Development and Equity (EQUIDE) from Universidad Iberoamericana also reports an increase in food insecurity as a result of the pandemic, from 55.2% to 61.1% of households surveyed (EQUIDE, 2021).

It is not possible to isolate the increases in unemployment, poverty, and food insecurity directly related to the border closure to non-essential travel, but as the estimates above showed, pandemic effects in the CaliBaja region are significant. Agriculture was deemed as an "essential industry," so the partial closing of the U.S.-Mexican border did not apply to nor restrict binational formal trading of food and agricultural items between these countries. Nevertheless, ICF's survey responses show that it did affect U.S. nonprofits' food delivery as well as individual efforts to take food across the border to Tijuana's food banks. It is clear that the pandemic had an impact in food insecurity in the Tijuana-San Diego region.

Local researchers have estimated that Tijuana's poverty rate would at least mirror the estimated national increase of 8%, which would mean an additional 126,000 *Tijuanenses* living in poverty following the pandemic (*El Sol de Tijuana*, 2020). The relationship between poverty and food insecurity cannot be overstated.

ICF's nonprofit survey in June-July 2020 reported a significant increase in food assistance requests in Tijuana (19 of the 21 organizations surveyed). The focus group held during the summer of 2020 noted that

at least 20% of food bank clients reported losing their job. Food banks also indicated that up to 40% of the food donations formerly received had been lost. The food banks faced the double impact of reduced resources (food and funding) and increased needs of people requesting food assistance. Some of the groups noted that local COVID-19 regulations in Tijuana mandated the closure of *comedores* or soup kitchens as part of preventive measures. In response, the nonprofits began to distribute food vouchers but were concerned about the quality of food that they did not directly control.

The San Diego Hunger Coalition (SDHC) estimates that 1.034 million San Diegans (31% of total population or 1 in 3 San Diegans) live with nutrition insecurity (SDHC, 2021). Furthermore, their report estimates that 28% of these 1.034 million San Diegans became newly nutrition insecure as a result of the pandemic. This is a significant increase from pre-pandemic rates of 1 in 4 inhabitants in the city. The hunger-relief assistance in the county is estimated to have nearly doubled in 2020, growing from 17.5 million monthly meals to 32.3 million meals in March 2021. Despite the almost doubling of food assistance, the SDHC estimated that an additional need of 12.5 million meals in November 2020 could not be met.

During the pandemic, Tijuana's existing food insecurity was aggravated by additional factors. The influx of migrants to Tijuana from southern Mexico and Central America increased the total number of people in vulnerable conditions in the region. Local assistance organizations have not been able to keep pace with this increased need. An additional effect was the increase in cost and decrease in food availability and access for families that regularly crossed the border for "non-essential" reasons, including grocery shopping.

There were also impacts on employment, income, and the cost of living for workers who live in Mexico and had informal or temporary jobs in the U.S. These workers may have lost their jobs but are not represented in either the U.S. or Mexican official statistics for unemployment. Another potential impact was reduced availability of fresh vegetables and meat as Tijuana's food banks faced price gouging for these items. Still, price increases were not reflected in Mexico's modest increase in inflation rates during the early months of the pandemic. Food donations to Mexico from U.S. nonprofits also decreased due to the border closure and increased food assistance needs in San Diego. Donations to Tijuana nonprofits were reduced due to uncertainty, unemployment, and food scarcity for individual donors who provided support prior to the pandemic.

The International Community Foundation has been responding to not only specific project and organizational needs around the region but has also put significant staff effort toward emergency medical and food security relief for Baja California. As direct emergency response for COVID-19 impacts, ICF provided more than \$275,000 dollars via 23 food-assistance grants to nonprofits such as shelters in Tijuana for the benefit of vulnerable populations including migrants and low-income families who received groceries, hot meals, food vouchers, and/or participated in nutrition programs. This support has come from individuals, donor-advised funds, family foundations, and businesses in both Mexico and the U.S.

Analysis and Aspiration

Poverty and food insecurity are interconnected and complex systems. Food systems are “the sum of actors and interactions along the food value chain—from input supply and production of crops, livestock, fish, and other agricultural commodities to transportation, processing, retailing, wholesaling, and preparation of foods to consumption and disposal” (IFPRI, 2021).

Food systems in the United States and Mexico are inextricably linked, especially along the border. As neighbors and closely related trading partners, several parts of the food systems of Mexico and the U.S. are formally connected through the imports and exports of food products across the shared border. The food decisions that individuals make impact the health, wellbeing, economic stability, and ecosystems across the region. Unlike food systems, food security in the region did not reflect the same level of interconnectedness across the U.S.-Mexican border as prior to the pandemic, not even in the Tijuana-San Diego region.

While creating sustainable food systems that provide access to healthy, nutritious food in both communities is an aspirational goal, it may be less daunting if both communities were to define progressive stages of integration with clear milestones to reach in the next 5-10 years. Some specific goals that we can work together for in the Tijuana-San Diego region are reducing food insecurity in our shared urban region, as well as reducing food waste along the border and key export-oriented agriculture zones (San Quintín, Tecate, and Mexicali; San Diego, and Imperial). This would facilitate reducing food waste hotspots through the supply chain as well as recovering and redistributing food that otherwise would be wasted.

Reducing food insecurity in our shared urban region requires an equitable increase in access to fresh, healthy, and culturally appropriate food.

It should also involve building healthy and resilient communities through nutrition and wellness programming, while ensuring that childhood obesity and the social determinants of health are addressed. Additionally, we should invest in economic mobility through workplace development and family finance training.

It is also important to note and address the challenges that a binational integration of food systems could face. The Tijuana-San Diego border had the highest level of daily cross-border traffic pre-pandemic worldwide, so one could assume the existence of high levels of community integration already in place and positive views for such an integration. Yet, this assumption will need to be tested by governments, civil society, academia, businesses, and other stakeholders including local chambers of commerce. The lack of data on employment (formal and informal) and poverty in Tijuana and Baja California could hide and hinder the breadth and depth of food insecurity in the region. Finally, the different methodologies, standards, and thresholds used by Mexican and U.S. agencies to measure, monitor, and record poverty, unemployment, and food insecurity pose difficulties. Lack of comparable data on both sides of the border hinders understanding and addressing binational needs.

Recommendations

As the ICF team has learned from the impacts of the pandemic on the local food systems and on food insecurity in the region, we are now turning our attention toward a regional integration of food systems in the CaliBaja region. Some of the lessons learned in the combined health, economic, and hunger crises resulting from COVID-19 can and should address pervasive issues that were already apparent in the region prior to the pandemic. Perhaps some of the initial steps achievable in the short term could be addressed jointly, each sector of society contributing with its distinct capacities.

Potential public sector contributions to increase food security in the CaliBaja region:

- Defining jointly a vision for an integrated food system for the CaliBaja region, ensuring participation of a diversity of stakeholders representing both communities.
- Acknowledging and envisioning how to begin addressing the root causes of food insecurity in the CaliBaja region: poverty and unemployment.
- Determining the goals for the first 5 years together, and ensuring such goals target a reduction of food insecurity levels

on both sides of the border, acknowledging there may be different levels of needs.

- Determining jointly methodologies, standards, and thresholds for food insecurity indicators that are measurable and applicable to both sides of the border.
- Defining the rules of engagement for the binational work, ensuring it is carried in a way that acknowledges both languages and respects cultural differences.
- Involving a broader range of stakeholders to encompass the different parts of the existing food systems on both sides of the border.
- Defining a plan for continued emergency relief that can be provided jointly by governments and nonprofits (food and funding).

Potential nonprofit sector and academia contributions to increase food security in the CaliBaja region:

- Defining what healthy, nutritious food is as well as what a resilient and integrated regional food system would entail.
- Creating a geospatial database of food assistance providers/services available in both Tijuana and San Diego along with a list of nonprofits and government agencies that are already working toward alleviating food insecurity.
- Creating a geospatial database of vulnerable neighborhoods in Tijuana and San Diego and matching these with household data of population censuses in both countries, to be able to estimate realistic figures of total number of adults and children living with food insecurity.
- Estimating food waste totals in both cities and defining a joint plan to utilize food that is not allowed to cross the border, but it is otherwise safe to consume.
- Strengthening the current capacity of nonprofits providing food to shelters and vulnerable populations and fundraise together to augment organizational capacities.
- Fostering initial areas for cross-border connectivity of food banks and food systems.
- Understanding specific dietary needs of vulnerable populations with existing health conditions so that food assistance organizations can better plan.

- Continue convening cross-sectoral and interdisciplinary groups, such as those participating in the Binational Childhood and Food Security Forum in May 2021.
- Developing an ecosystem of nonprofits working on food security and binational cooperation such as food banks and Via International, a San Diego-Tijuana nonprofit dedicated to community development.
- Amplifying the existing nutrition education and community gardening and leadership programs, like those developed by Via International and Olivewood Gardens & Learning Center in National City.

Potential private sector contributions to increase food security in the CaliBaja region:

- Acknowledging unemployment and envisioning how to boost employment in the CaliBaja region.
- Providing information to estimate food waste in both cities and define a joint plan to utilize food that is not allowed to cross the border, but it is otherwise safe to consume.
- Increasing corporate giving.
- Creating and piloting alternative financing solutions for cross border food systems.
- Responsible agricultural labor contracting that acknowledges the importance of farm workers, improves their labor conditions, while addressing growers' seasonal labor needs and specialized training requirements, such as the work being implemented by Renewable Resources Group (RRG) and California Harvesters, Inc (CHI). RRG seek to optimize the use of water, agriculture, land, renewable energy, and conservation values to generate social, environmental and financial benefits. CHI addresses issues of California's farm labor systems from a dual perspective of growers and farm workers by providing higher wages and work year-round for trained visa workers to address industry-wide labor shortage and high farm worker rotation.

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The Cali-Baja Region: Emerging Stronger after COVID-19

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The pandemic has proven to be a cyclical crisis, and organizations have responded in different stages reflecting these cycles. In higher education, colleges and universities have now undergone two of three stages coined by Henry Stoeber, President of the Association of Governing Boards of Universities and Colleges (León-García, 2021a). The first was the emergency stage, in which institutions devoted their attention to adjusting as quickly as possible. Next was the transition stage in which people more or less adapted to those adjustments. But the pandemic is a long-term crisis and, moreover, it is intersecting with other problems such as supply chain disruptions (Sargen, 2021), political upheavals (Labbott, 2021), and climate change (Wyns, 2020).

There is, therefore, an important third stage that institutions must not skip. Today's students are entering complex, global societies with problems that will not be solved by outdated modes of thinking and problem-solving. Higher education must use this opportunity to undergo a period of deep introspection and innovation. This is the transformation stage, where all institutions must eventually be, to equip students for the challenges that lie ahead.

Each crisis can prepare us for the next one. In April 2010, a 7.2 magnitude earthquake rocked Baja California, where our university, Centro de Enseñanza Técnica y Superior (CETYS), is located. The event made us realize the ever-present possibility of disruptions and that we needed to make our institution ready for the future, so we initiated a 10-year plan, CETYS 2020. One of the changes was an added focus on digital literacy, and we started a mandatory requirement for all students

to take at least 10% of their program through online classes as a way to acclimate them in case there was ever a time we had to partially or fully switch to an online format.

Now, just like then, it is important to think about possible future disruptions. While it is impossible to predict everything, the world itself provides clues about how we can strengthen certain foundations. What happened in 2010 positioned us to implement CETYS Flex 360 to cope with the pandemic. We know how internationalized and interdependent the world is (Maani Ewing, 2020). Due to this interdependence, a localized crisis can have far-reaching repercussions.

As we reflect what has happened in the CaliBaja region and in particular involving CETYS University and counterparts in California, we have managed to maintain overall activities and have continued to move. In the case of University of California San Diego (UCSD) and thanks to the Memorandum of Understanding signed with Chancellor Pradeep Khosla, we had been working with the Jacobs School of Engineering to deliver a Master's in Radio Frequency for Skyworks. We graduated the first cohort and are discussing launching the next cohort during the remainder of 2021 or first half of 2022. With UCSD Professor Olivia Graeve, we have continued work that was face-to-face but then had to move to virtual, in terms of identification of female talent for science and engineering from high schools in San Diego and *preparatorias* from Baja California. And future collaboration will involve the UCSD Downtown Center.

With respect to San Diego State University (SDSU), the relationship has been historically tied and inextricably linked to the international development of CETYS University. The early stages of internationalization at CETYS began in the latter years of Tom Day as President of SDSU, continued with President Stephen Weber and President Elliott Hirshman, and is now at a new stage of development with President Adela de la Torre. Collaboration initially involved student mobility programs and double degrees, which then expanded to include even during the pandemic faculty virtual mobility, entrepreneurship, and collaboration around sustainability, the CETYS Business and Engineering Advisory Councils that have enriched the type of solutions, programs, and continuing education, and the SDSU based Border 2021 Conference.

There have been other institutions in the CaliBaja region that have also been collaborating with CETYS. For example, we launched a double degree program with the University of San Diego. The program began in 2019 with a sprinkling of students and has now tripled in numbers. We have also partnered with University of La Verne President Deborah

Lieberman to offer a course on “Leadership across Borders: Building Bridges Not Walls” involving honors students from both institutions. In the spring of 2022, we will be offering the fourth iteration of this hybrid course. In addition, and due to institutional accreditation granted by the WASC Senior College and University Commission and valid thru 2027, CETYS University has been enrolling on an annual basis over 300 students from San Diego County and Imperial County.

The pandemic has brought to light several areas of opportunity that we must work on and prepare for, particularly in the CaliBaja region: virtual mobility, internationalization at home, and partnerships (e.g., moving from existing bilateral collaboration to multilateral collaboration). Equally important is the need to place an increasing emphasis on transnational education and working with borderless professors (León-García, 2021b) to help students develop greater international awareness and skills.

As most colleges and universities in the U.S., Mexico, and around the world have benefitted from the use of technology as a medium to adjust and innovate, there is a tendency to approach innovation from a purely technological standpoint. Certainly, technology is part of innovation, but it is not everything. The current challenges we face require higher education institutions to innovate so as to equip students to meet those challenges.

Everywhere we turn, the pressing problems of our day—be it the pandemic, climate change, or cyberterrorism—underscore how interconnected our world is and the need for international cooperation. Borderless professors (León-García, 2021b), internationalization without travel, greater diversity and inclusion—these kinds of innovations, working in tandem with technology, can fill the gap of global awareness (Little, 2016) in higher education.

Higher learning must also develop the whole individual. This means looking beyond academics and cultivating students’ emotional, physical, and ethical development. It means having them engage with questions of what it means to be a citizen of today’s world.

There is a growing recognition that social impact should be factored into the ranking of colleges and universities just as much as academics and research. The Times Higher Education’s (2020) Impact Rankings reflect this perceptual shift, and institutions would do well to keep up. At CETYS, for example, we are embedding a select number of the United Nations’ Sustainable Development Goals (UNDESA, n.d.) into the heart of CETYS 2036, our next stage of development (Mitchell, 2021).

Technological innovations made it possible for institutions to get through the emergency and transition stages. But moving forward, the transformation stage is where schools must eventually be. The challenges that lie ahead are not just structural. They are existential.

How will institutions remain resilient in the face of future disruptions? How will they prepare students to thrive in an era of growing complexity? These are the questions we must answer now, not later, while we still have momentum.

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COVID-19's Impact on Migration Arrangements in the Tijuana-San Diego Border and the Future of Migration Governance

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This chapter's objective is to analyze how the emergency created by COVID-19 affected governance over migration flows of those that arrived or remained in Tijuana. Specifically, the effects on the two arrangements made to administer these flows, Metering and the Migrant Protection Protocols (MPP), are examined. This chapter also proposes five elements to be taken into account to administer the flows in the post-pandemic period. The chapter is composed of three sections. The first will analyze how the Donald Trump Administration used the state of emergency as the perfect excuse to close the border to migration and asylum flows. The second will evaluate the impact on the arrangements and, finally, the five elements for the post-pandemic migration governance are proposed.

COVID-19, Trump's Perfect Excuse

The emergency situation caused by COVID-19 fit like a glove with government priorities under Trump, since it gave him the perfect excuse to close the border to all migrants, especially those coming from Central America and Mexico. After the White House's announcement of the partial closing of the border with Mexico on March 20, 2020, Secretary of Health Alex M. Azar II pointed out that migrants were a health hazard for Border Patrol agents and for detention center staff and thus would be immediately deported back to Mexico. What was not mentioned that day was that the U.S. had more than 17,000 con-

firmed cases of coronavirus while Mexico and the Northern Triangle of Central America only had 201.¹

The Trump Administration based its actions on Title 42 of the Public Health and Welfare Act 265 of 1940, which suspended the entrance and imports from designated places to prevent transmittable diseases.² The law had been used during World War II to prevent polio in the United States. Title 42 would allow the Border Patrol to immediately expel a significant number of migrants.

Coronavirus appeared during the fourth year of the Trump Administration. The administration had tried every means to prevent the arrival and entrance of migrants across the U.S. southern border. The three best-known policies were the separation of the children from their parents, the Metering method for asylum petitions, and the MPP.

In 2018, the second year of Trump in the White House, the composition of migration flows arriving at the southern border of the United States presented a special characteristic as most were families from the Northern Triangle of Central America. According to the Pew Research Center, of the apprehensions at the southern border during the first months of 2019, around 60% of the detained families came from Central America. Nevertheless, they could only be held in detention centers for 20 days according to U.S. law. A ruling of a district court in 1997, known as the Flores Settlement, prohibited children remaining for a longer time in the detention centers since the facilities were not suitable for children.³

Before then, families arrived at the border, initiated their process for asylum, and were released into United States territory to await the results of the proceedings. In order to prevent this, Trump's first attorney general, Jeff Sessions, announced zero tolerance, meaning that the children would be separated from their parents. The minors would be sent to places designed to house children while the parents remained in the detention centers during the whole asylum process, which could take up to a year.⁴

¹ Rafael Fernández de Castro and Savitri Arvey, *Revista Proceso*, "El coronavirus: la joya de la política anti-migratoria de Trump," April 19, 2020, p. 1.

² FindLaw, "42 U.S.C. § 265 – U.S. Code - Unannotated Title 42. The Public Health and Welfare § 265. Suspension of entries and imports from designated places to prevent spread of communicable diseases," [November 15, 2020]: <https://codes.findlaw.com/us/title-42-the-public-health-and-welfare/42-usc-sect-265.html>

³ Matthew Sussis, "The History of the Flores Settlement. How a 1997 agreement cracked open our detention laws," Center for Immigration Studies: Low-immigration, Pro-Migrant, February 11, 2019, [November 18, 2020]: <https://cis.org/Report/History-Flores-Settlement>

⁴ For a detailed analysis and explanation of how the decision to separate the children was reached, see Julie Hirschfeld Davis and Michael D. Shear, 2019, *Border Wars, Inside Trump's Assault on Immigration*, New York, 2019.

In June 2018, the Metering method was imposed at all the border crossings with Mexico. The U.S. migration authorities declared a “lack of capacity” to process all migrants that sought asylum. The agency that processed the petitions, Customs and Border Protection (CBP), began issuing a daily count, meaning, the number of asylum petitions that they could process. With this measurement, the Trump Administration would succeed in making the Mexican border cities house the petitioners while they waited their turn and also absorb the costs.

Tijuana was the city where the Metering began. It was a response to the arrival of around 20,000 Haitians in the later part of 2016. In 2017, the CBP began to provide a daily Metering of the number of petitioners who could be processed to Group Beta of the National Migration Institute (INM).⁵ To resolve the problem of waiting and the long lines of asylum petitioners, the INM delegation in Baja California went to the Haitians who were waiting their turn and agreed upon an informal arrangement, the so-called *libreta*, or notebook. Haitian leaders would list in a notebook the asylum seekers as they arrived, and this was administered by both migrants and Group Beta. María Dolores París Pombo, a researcher from El Colegio de la Frontera Norte (EL COLEF), explained that it was a complicated matter for the Mexican authorities. Some of the asylum petitioners were Mexican nationals, which means that this arrangement would violate international protocols. For this reason, the migrants suggested that they be jointly responsible for the notebook.⁶

During the 2 years that Trump Administration overlapped with the presidency of Enrique Peña Nieto, Trump pressured Mexico to accept a safe third country agreement. This meant that in order for migrants to petition for asylum in the U.S., the migrants who passed through Mexico also had to petition for asylum there. Mexico refused this arrangement, but at the start of Andrés Manuel López Obrador's presidency Washington and Mexico reached a special arrangement: the MPP. At the end of January 2019, barely two months into López Obrador's 6-year term, the MPP were used for the first time, with the forceful return of Central Americans to Mexican northern border cities.⁷

⁵ Grupos Beta provide information, rescue, and first aid to migrants in transit through Mexico, regardless of their migration status or nationality.

⁶ María Dolores París Pombo, “El cierre de la frontera estadounidense y los solicitantes de asilo bloqueados en el norte de México,” *Nexos*, October 21, 2020, [November 17, 2020]: <https://migracion.nexos.com.mx/author/maria-dolores-paris-pombo/>

⁷ María Dolores París Pombo, “El cierre de la frontera estadounidense y los solicitantes de asilo bloqueados en el norte de México,” *Nexos*, October 21, 2020, [November 17, 2020]: <https://migracion.nexos.com.mx/author/maria-dolores-paris-pombo/>

Despite the Trump Administration's efforts to limit the migration flows that arrived at the southern border in 2019, migrant numbers rebounded once more. According to the Pew Research Center, in May 2020, the CBP detained 147,000 people,⁸ most of them Central American families. If that rate had continued, it would have broken all the records by the end of the fiscal year. Trump threw a tantrum. The electoral process was getting closer and it turned out that if the circumstances continued, he would be the president with the most migrants arriving at the southern border. As a result, he threatened through a tweet, "On June 10, the United States will impose a 5% Tariff on all goods coming into our Country from Mexico, until such time as illegal migrants coming through Mexico, and into our Country, STOP."⁹

President López Obrador sent chancellor Marcelo Ebrard to Washington in search of a solution. A week later, Ebrard announced an agreement from that capital: Mexico would send the newly established National Guard to the northern and southern borders to stop the crossing of Central Americans. The president also renewed the commitment that all Central American migrants would wait for their asylum process in Mexico through the MPP. This triggered an extensive use of those agreements which, in practice, meant that any migrant requesting asylum who speaks Spanish would be returned to Mexican border cities to await their asylum process. In a few weeks, the number of returnees increased exponentially. By August 2019, there were already 61,000 MPPs in Mexico.¹⁰

The Impact of COVID-19 on Metering and MPP

Metering

Graph 1 shows that the number of people on waiting lists in Mexican border cities to get their first interviews for asylum in the United States grew from 5000 in November 2018 to around 27,000 in August 2019. In 2020, the number leveled out at around 15,000 and increased again in 2021. This meant that during the first 6 months of 2019 and the later part of 2021, the arrangement known as Metering was consistently used

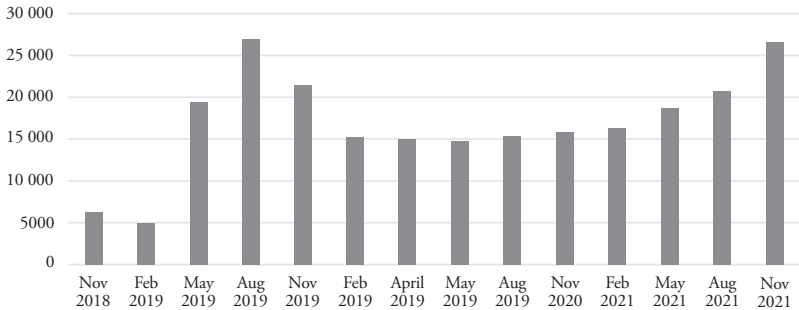
⁸ Ana González-Barrera, "After surging in 2019, migrant apprehensions at u.s.-Mexico border fell sharply in fiscal 2020," Pew Research Center, November 4, 2020, [November 19, 2020]: <https://www.pewresearch.org/fact-tank/2020/11/04/after-surging-in-2019-migrant-apprehensions-at-u-s-mexico-border-fell-sharply-in-fiscal-2020-2/>

⁹ Annie Karni, Ana Swanson, and Michael D. Shear, The New York Times, "Trump Says U.S. Will Hit Mexico with 5% Tariffs on All Goods," [November 16, 2020]: <https://www.nytimes.com/2019/05/30/us/politics/trump-mexico-tariffs.html>

¹⁰ María Dolores París Pombo, "El cierre de la frontera estadounidense y los solicitantes de asilo bloqueados en el norte de México," *Nexos*, October 21, 2020, [November 17, 2020]: <https://migracion.nexos.com.mx/autor/maria-dolores-paris-pombo/>

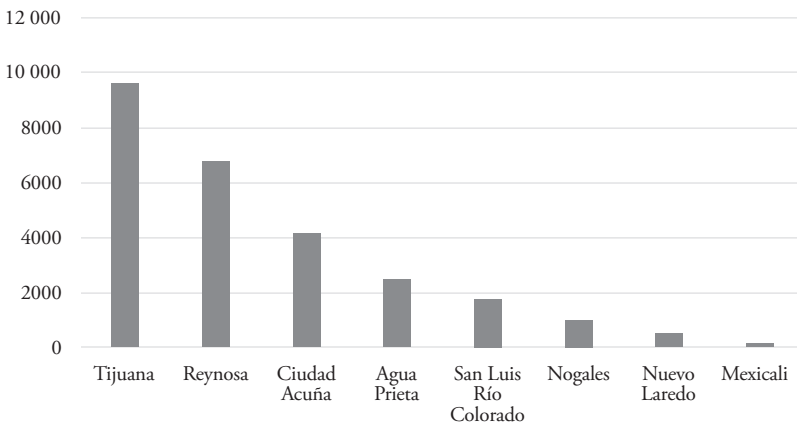
by the CBP. Moreover, graph 2 shows that by a large margin, Tijuana was the city with the longest waiting list. In November 2021, the number of people signed up in the notebook was around 10,000. The cities that followed Tijuana in order of importance of Metering were Reynosa and Ciudad Acuña, with less than 7000 and 4000 people, respectively, who had signed up (see graph 2).

Graph 1: Number of people on waiting lists for asylum petitions



SOURCE: Metering Update, November 2021, Strauss Center.

Graph 2: Number of people on waiting lists for asylum petitions by border city (November 2021)



SOURCE: Metering Update, November 2021, Strauss Center.

The Metering report of the Strauss Center of the University of Texas at Austin shows that from March 2020 (the arrival of COVID-19), the system of waiting lists had been closed in the 11 border cities that had used it since 2018. The notebook method ceased working. The figure of almost 10,000 people waiting in Tijuana was not an accurate representation of the situation. According to Manuel Marín, head of the INM

office in the state of Baja California, many petitioners returned to their home countries and others sought work in Tijuana or in some other place of Mexico. And then, there are some who were still waiting to get into the United States when the migration courts reopen and there are even those that try to enter the U.S. with the help of smugglers, or *polleros*.¹¹

What is relevant for this analysis is that the informal Metering-notebook arrangement had stopped working. It was a fragile arrangement with informal characteristics, meaning that no agreement or binational memorandum was signed and it gives migrants a lot of responsibility of keeping track of the notebook. In December 2019, one of the migrant leaders managing the notebook, Irvin of Nicaragua, confirmed: "What are we supposed to do when a person doesn't arrive when their turn is called? In that moment you must decide if you let another person pass to not lose the spot. Or what are you supposed to do when a mother with a baby in her arms arrives, who lost her turn because she gave birth a few weeks ago?"¹²

Migrant Protection Protocols (MPP)

This program started in Tijuana in January 2019 and by October 2019, 68,430 individuals had been returned to the seven Mexican border cities of Tijuana, Mexicali, Nogales, Ciudad Juárez, Piedras Negras, Nuevo Laredo, and Matamoros to await their hearing.¹³ Although more than 68,000 people had been returned to Mexico, in November 2020 there were only 22,777 cases of asylum pending in the American courts at the border.¹⁴ This indicates that close to two-thirds of the petitioners had aborted the process.

Table 1 details the number of pending cases by city in October 2020. The El Paso court had the greatest number of pending cases, followed by Brownsville and San Diego.

According to the Strauss Center report on the MPP, from March 2020, the CBP stopped processing asylum petitioners that arrived at the southern border. Moreover, given the established directives on COVID-19, the Mexicans or Central Americans who tried to enter without documents were expelled immediately to the nearest Mexican border

¹¹ Interview with Manuel Marín, Director of INM in Baja California, 2020.

¹² Personal interview with Irvin, leader of the notebook, November 2019.

¹³ Robert Strauss Center for International Security and Law at the University of Texas at Austin, "Migrant Protection Protocols Update," [December 9, 2020]: <https://www.strausscenter.org/publications/migrant-protection-protocols-update-december-2020/>

¹⁴ Robert Strauss Center for International Security and Law at the University of Texas at Austin, "Migrant Protection Protocols Update," [December 9, 2020]: <https://www.strausscenter.org/publications/migrant-protection-protocols-update-december-2020/>

Table 1: Number of pending cases by border city (October 2020)

Brownsville, TX	5591
El Paso, TX	9381
Laredo, TX	3047
San Diego, CA	4758

SOURCE: Migrant Protection Protocols Update, Strauss Center.

city. According to the data presented by the Washington Office on Latin America (WOLA), in 2021, around 5% of Brazilians, 66% of Ecuadorians, and 26% of Cubans had been expelled under Title 42. Of course, the great majority of people expelled were Mexicans, Guatemalans, Salvadorans, and Hondurans.¹⁵ From

the emergency decree in March 2020 until January 2021, when Biden assumed the presidency, immigration courts were practically closed and only processed a very small number of people, approximately 200 per month.

The MPP were used intensely during the summer of 2019. It demonstrated to be a very effective arrangement to dissuade Central Americans from continuing their asylum process, since the costs associated with the wait in the Mexican border cities were very high in economic and personal safety terms. During the state of emergency, it was practically not used since very few asylum petitioners arrived at the Mexico-United States border and immigration courts remained practically closed.

With the arrival of President Joseph R. Biden in January 2021, immigration courts began to process the delayed asylum petitions and in the first 6 months of his mandate, nearly all of the families under the MPP program in the Mexican border cities were processed. In conclusion, Biden decreed the end of the MPP program in his arrival at the White House. Later on, the United States immigration courts began to process open cases identified by the United Nations High Commissioner for Refugees (UNHCR) office in Mexico. However, in August 2021 a Texas federal judge ordered the program to be reinstated.¹⁶ In December 2021 there was no certainty about the future of this issue since the Biden Administration had not exhausted its legal resources to once again end the MPP.

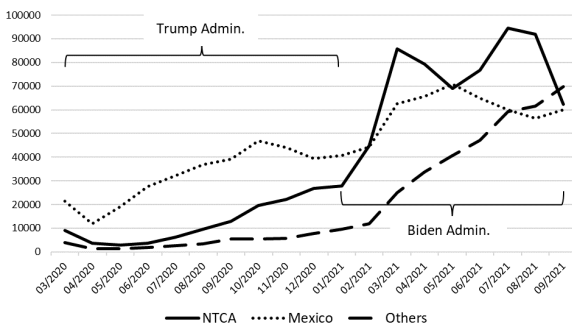
Graph 3 shows the encounters with (or the apprehensions of) migrants in the U.S. southern border region by CBP, figures that are usually

¹⁵ WOLA, "High Levels of Migration are Back. This Time, Let's Respond without a Crackdown," [August 5, 2021]: <https://www.wola.org/analysis/high-levels-of-migration-are-back-this-time-respond-without-a-crackdown/>

¹⁶ Border Report, "Federal judge orders Biden administration to reinstate 'Remain in Mexico' policy," [August 16, 2021]: <https://www.borderreport.com/hot-topics/immigration/federal-judge-orders-biden-administration-to-reinstate-remain-in-mexico-policy/>

used as approximations of the migration flows across the border. During the first 10 months of the pandemic, or better yet, during the time Trump remained in power, the inflow of migrants from the Northern Triangle of Central America (NTCA) of other nationalities decreased significantly. As shown in graph 3, apprehensions of Central Americans diminished from March to June 2020 and then slightly increased to 27,949 apprehensions in January 2021. The tendency was similar to flows that originated in other countries, with 9672 apprehensions in January 2021. Once Biden assumed the presidency (January 20, 2021) and with a new, positive, and more humane narrative about migrants, the flows began to pick up. In September 2021, the number of encounters with CBP reached numbers that had not been seen since the later years of the 1990s and the beginnings of the 2000s, with a total of 192,001 apprehensions.

Graph 3: Encounters in the southwestern border of the United States by month and country of origin (March 2020-September 2021)



SOURCE: Stats, U.S. CBP, 2021.

Five Elements to Manage Migration Flows in Tijuana-San Diego Post-COVID-19

Manuel García y Griego points out in a study of the migration phenomenon that the Mexican government “has an immigration policy of not having a policy.”¹⁷ With this he was referring to the fact that, although the Mexican political class demanded that the United States respect the rights of its fellow citizens, on the domestic front there is no defined vision or policy for migration. This is what happened in the response of the López Obrador government to the pressure brought by the Trump government regarding migration and even to Biden’s requests to restrain

¹⁷ See Francisco de Alba, “La política migratoria mexicana después de IRCA,” *Estudios Demográficos y Urbanos*, vol. 14, no. 1 (40), 1999, pp. 11–37, JSTOR, [November 15, 2020]: www.jstor.org/stable/43163066

transit through Mexico. Mexico's government generally reacts to White House demands, but without a vision or programs of its own.

This lack of a proper migration vision or policy implies a great laxity on the part of the Mexican federal government when it comes to the collateral effects of its reactions to Washington's petitions. A good example of this was the lack of programs in border cities like Tijuana for the impacts of Metering or MPP. Tijuana basically did not receive any help from the federal government except for the aid to construct the "Migrant Integration Center" shelter (CIM), inaugurated in December 2019. It took several months before the CIM was used by migrants, in part because of its location far from the border crossings and job centers.

Despite the ups and downs of Biden's immigration policy, López Obrador's government has to propose a management scheme for the flows of people in the border for the post-COVID-19 period and take advantage of the Democratic Administration's interest in having a more humane treatment of migrants. The new scheme must take into account five elements:

1. Migration to the U.S. has to be legal, orderly, and safe. Since the terrorist attacks of September 11, there has been a strengthened bipartisan consensus in the U.S. in this regard: migration must be orderly. Biden's arrival in the Oval Office does not imply a return to the policy of open borders. Moreover, for Biden to be able to implement his ambitious immigration proposals, which range from regularizing all the undocumented to making permanent the Deferred Action for Childhood Arrivals (DACA) program for those who arrived in the U.S. as infants or children without documents,¹⁸ the migration crisis at the Mexico-U.S. border must be prevented from worsening. Large numbers of migrants in the border are political ammunition of great importance for the Republicans.
2. Mexico is being seen by migrants from the Northern Triangle of Central America and other regions like Haiti as a new immigration destination. For example, in 2019 there were more than 70,000 asylum petitions in Mexico. These diminished in 2020 because of the pandemic and border closures, but during the first 9 months of 2021 more than 90,000 people petitioned for asylum in Mexico, including 2667 petitions

¹⁸ Biden, Joe, "The Biden Plan for Securing Our Values as a Nation of Immigrants," April 2020: <https://joebiden.com/immigration/>, [November 2, 2020].

made in Baja California.¹⁹ Even if the majority of said petitioners still have the U.S. as their final destination, the more they remain in Mexico the more they start to establish roots and their desire to remain in the Mexico becomes greater. Besides, a significant number of parents have found jobs in Tijuana and are now aware of health and education services. This phenomenon is also observed with the variation in the flows of those who are on waiting lists or have been returned through MPP.

3. As Mexico is seen more as an immigration destination, the federal government must develop a vision and policy for the integration of migrants into the national social fabric. Mexico cannot remain in the position of not having an immigration policy. The federal government, along with the other two levels of government, must be at the center of the new immigration arrangements. It is necessary to develop an immigration vision and policy that match the new reality of the flows, of the needs and aspirations of the Mexican nation.

In the specific cases of Tijuana and Mexicali, it would also be desirable for the government of Baja California to have its own integration proposals for foreigners. A lack of vision or policy could provoke xenophobic reactions from Baja Californian society against immigration, and also by local authorities, as was the case of Tijuana's Mayor, Juan Manuel Gastélum, who expressed his prejudices during the Honduran caravan in November 2018.²⁰

4. Taking full advantage of the participation and the experience of civil society organizations (CSO). In particular, Tijuana has an important network of CSOs, religious groups like the Scalabrini Missionaries, and academic centers like El Colegio de la Frontera Norte that have supported migrants during the last few decades. Groups like the Coalición Pro Defensa del Migrante, a network of seven shelters, the oldest of which is the Casa Migrante, stand out and played an important role to prevent migrants and shelters from becoming contagion centers of COVID-19. Their early prevention strategy made the

¹⁹ COMAR, "La COMAR en números. Septiembre 2021": <https://www.gob.mx/comar/articulos/la-comar-en-numeros-284391> [October 14, 2021].

²⁰ Elías Camhaji, "El alcalde de Tijuana arremete contra la caravana de emigrantes," *El País*, November 17 2020: https://elpais.com/internacional/2018/11/17/mexico/1542412389_526379.html, [November 19, 2020].

difference. It would be very important that the three levels of government take full advantage of the numbers and experience of civil society groups and work with them. They should even be more empowered and, to the extent possible, the government should carry out financial aid schemes for CSOs.

5. Taking into account the emergence of international organizations as new stakeholders in the migration flows of the Mexican border cities, especially Tijuana. The three main organizations are the International Organization for Migration (IOM), The United Nations High Commissioner for Refugees (UNHCR), and the United Nations Children's Fund (UNICEF). For example, the IOM, in close coordination with the migrants' shelter network, carried out a very important action to avoid infections of COVID-19 by establishing a "filter" hotel in June 2021, where migrant families could go to make sure that they were not infected. The families quarantined there for 15 days and then were given access to the shelters that had been closed to new migrants in March 2020 for fear of contagion.

Conclusion

COVID-19 had important repercussions on the migration flows at Mexico's northern border and the arrangements that managed them before the pandemic—Metering and the MPP. This effort was centered in Tijuana, the border city with the biggest number of migrants waiting and who had been sent back from the United States. The pandemic was shown to be the perfect excuse for the Trump Administration to partially close the border. During this period, two recent tendencies consolidated: the decrease in the flow of Central American families and the increase in the flow of Mexicans, mostly young men. The agreements, Metering and MPP, were also affected; they ceased working and will hardly function again in the post-pandemic era.

In Tijuana, there is an iron triangle to manage the flows of migrants, both those going to the United States and those trying to integrate into Mexico. On one vertex, or point, of the triangle there are the three levels of government, on another are the CSOs along with the religious and academic groups, and on the third vertex are the international organizations. It is in the national and state interest to take advantage of this triangle and have a coordinated action among the three vertices.

Security and Emergency Response

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In the spring of 2020, U.S.-Mexico security cooperation was at a low-point; meaningful dialogues between both countries were lacking and the Andrés Manuel López Obrador Administration was trying to break with the Enrique Peña Nieto (2012-2018) and Felipe Calderón (2006-2012) years. Yet, one of the most difficult and tense moments in recent history was in the fall of 2020 when General Salvador Cienfuegos, Secretary of National Defense during the Peña Nieto Administration, was arrested at the Los Angeles International Airport on drug trafficking and money laundering charges. As the saying goes, it would get worse before it got better.

U.S.-Mexico security cooperation is arguably one of the most challenging areas of the bilateral relationship.¹ Its history is one of ups and downs with periods of alliance and intense exchanges, as in the early years of the Mérida Initiative (2008-2012), but also periods of distrust. Public officials on both sides of the border easily recall the now disgraced Operation Fast and Furious that deliberately allowed guns to be trafficked into Mexico and resulted in killings in Mexico and deaths of U.S. agents.

Yet, despite these ups and downs, the bilateral definition of security has managed to evolve. For many decades, from the late 1960s into the early 2000s, security in the region focused on counternarcotic efforts. In this period, greater or less security was evaluated against the decrease (or increase) of the illicit drug supply in drug producing and/or transit countries. Equally important, and misguided, was that drug production

¹ For a detailed analysis on the challenges of the U.S.-Mexico security collaboration please see: Farfán Méndez, Cecilia, "La seguridad: el renglón más opaco en las relaciones México-Estados Unidos," in *Relaciones México-Estados Unidos en 2021: ¿un punto de transición?*, Instituto Tecnológico Autónomo de México, August 2021.

and consumption were only seen as criminal activities that required punitive measures to eliminate them. Unsurprisingly, during this period, the notion of the border from a security point of view was also a limited one as an area of interdiction of illicit flows.

With the Mérida Initiative, a collaborative framework proposed by Mexico in 2007 and accepted by the U.S., security cooperation between the countries entered a new phase. Three important changes are worth highlighting. First, Mexico and the U.S. adopted the principle of shared responsibility. In doing so, they would stop finger-pointing at each other for domestic issues such as drug consumption (U.S.) and violence and corruption (Mexico) and instead commit to working together on challenges that were now interpreted as joint. Second, by 2011, it expanded the definition of security. By committing to work on the rule of law and building strong and resilient communities, security was no longer just about illicit drugs and organized crime but also about a functioning criminal justice system and addressing structural causes that can produce and exacerbate lethal and non-lethal forms of violence. Third, it institutionalized the security dialogue and in doing so attempted to move away from reactive measures. To be sure, the Mérida Initiative has not always delivered the desired outcomes, but its inception and implementation is, without a doubt, a watershed moment in bilateral security cooperation.

With the arrival of the López Obrador Administration in 2018, security cooperation further slowed down. Notably, this slowing change of pace had begun during the Peña Nieto years, when, under the guise of organizing cooperation, interactions among agencies began to be centralized through the Secretariat of the Interior (*Secretaría de Gobernación*). According to interviews with U.S. and Mexican officials, this centralization process often translated into fewer interactions with their counterparts and decreasing tangible results. In this sense, while the Mérida Initiative still existed on paper, the initial momentum of the Calderón years had been lost.

Seeking to establish his government as the “Fourth Transformation,” President López Obrador, through the Secretariat of Foreign Affairs (*Secretaría de Relaciones Exteriores*), decried the Mérida Initiative but offered no alternative to the U.S. government. That is to say, while it was clear the López Obrador Administration was uninterested in continuing with the initiative, it was less clear what the parameters were under which Mexico would cooperate with the U.S. on security matters. By November 2020, an already complicated interaction escalated to a diplomatic crisis with the arrest of General Cienfuegos in Los Angeles.

Arguably, for years to come, Cienfuegos will remain a thorn in the side of the relationship. After he was returned to Mexico, Mexican authorities acquitted him, but the U.S. Department of Justice has reserved the right to prosecute him in the future. However, even with this blemish on the record, Mexico and the U.S. have inaugurated a new period in bilateral security cooperation with the Bicentennial Framework for Security, Public Health, and Safe Communities (2021-). The Bicentennial Framework is not entirely a clean slate. Rather, it builds on the principle of shared responsibility and rethinks drug use and security also from a public health perspective. With the devastation caused by COVID-19, in addition to homicides in Mexico and overdose deaths in the U.S., the Bicentennial Framework could not arrive soon enough.

COVID-19 Context

During the COVID-19 pandemic, the North American region has experienced a tremendous loss of life. This excess mortality is the result of increased deaths caused by COVID-19, the unabated high homicide rate in Mexico, and burgeoning overdose deaths in the United States. Notably, lockdowns did not reduce homicides in Mexico due to fewer people in public spaces. In fact, *despite* lockdowns, 36,773 people were killed in Mexico in 2020 or an average of 100 people per day. This is the highest number on record since 1990 when Mexico began collecting these data.²

Table 1: Deaths and excess mortality in Mexico and the U.S.

	Mexico	United States
COVID-19 deaths (as of December 22, 2021)	298,000	810,000
Expected deaths in 2020	749,496	2,279,071
Total deaths in 2020	1,076,417	2,801,439
Excess mortality in 2020	326,921 (43.6%)	522,368 (22.9%)

SOURCE: INEGI ² and Woolf, Steven H. et al., "Excess Deaths From COVID-19 and Other Causes in the U.S., March 1, 2020, to January 2, 2021," JAMA, 2021, 325(17):1786-1789. DOI:10.1001/jama.2021.5199

Availability of more potent drugs, lockdowns, and their negative impacts on harm reduction services caused higher mortality among drug users. Harm reduction refers to "policies, programs, and practices that aim to minimize negative health, social, and legal impacts associated with drug use, drug policies, and drug laws".³

² INEGI, "Características de las defunciones registradas en México durante 2020," Comunicado de prensa núm. 592/21, October 28, 2021: <https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2021/Est-Sociodemo/DefuncionesRegistradas2020preliminar.pdf>

³ Harm Reduction International. *What is harm reduction?*: <https://www.hri.global/what-is-harm-reduction>

For example, individuals with substance use disorders were more likely to use alone during lockdowns which increased the risk of accidental overdose deaths.⁴ This is because individuals who use in company of others are more likely to be helped either by friends or family who call for medical help or administer overdose-reversal medications like naloxone. In November 2021, the Centers for Disease Control and Prevention (CDC) released provisional data showing an estimated 100,306 drug overdose deaths in the U.S. during the 12-month period ending in April 2021. This is more than the toll of car crashes and gun fatalities combined⁵ and represents an increase of 28.5% from the 78,056 overdose deaths in the year ending in April 2020.⁶ In California, reported cases from April 2021 show a 43.8% increase compared to data from April 2020.

Higher numbers of overdose deaths are also attributed to greater availability of more powerful drugs such as fentanyl which is 100 times stronger than morphine and 50 times more potent than heroin. In many cases, drug users die from overdoses without knowing their substances have been laced with fentanyl. At the same time, recent evidence shows some drug users are shifting to fentanyl as a preferred substance. As a production and transit country with increasing consumption, Mexico has a responsibility and opportunity to work with the United States in order to stem the supply of lethal drugs but also provide urgent and life-saving measures to drug users.

Anecdotal evidence also suggests that greater availability of drugs at Mexico's northern border due to the partial border closure has resulted in more deaths for drug users in Mexico. It is important to note that these drug users are not only Mexican nationals but include U.S. citizens and other nationalities that converge at the border. Partial border closures also resulted in less availability of overdose-reversal medications and clean needles in Mexico, particularly in the border region.

While naloxone is considered a controlled substance in Mexico, California allows greater access to the medication in order to reduce

⁴ NHS inform, *Coronavirus (COVID-19): Drug use*, February 10, 2021: <https://www.nhsinform.scot/illnesses-and-conditions/infections-and-poisoning/coronavirus-covid-19/healthy-living/coronavirus-covid-19-drug-use>

National Academies of Sciences, Engineering, and Medicine, *Mental Health and Substance Use Disorders in the Era of COVID-19: The Impact of the Pandemic on Communities of Color: Proceedings of a Workshop—in Brief*, 2021: <https://www.nationalacademies.org/our-work/mental-health-and-substance-use-disorders-in-the-era-of-covid-19-exploring-the-impact-of-the-pandemic-on-communities-of-color-a-workshop>

⁵ Rabin, Roni Caryn, "Overdose Deaths Reached Record High as the Pandemic Spread," *The New York Times*, November 17, 2021: <https://www.nytimes.com/2021/11/17/health/drug-overdoses-fentanyl-deaths.html>

⁶ NCHS, *Drug Overdose Deaths in the U.S. Top 100 000 Annually*, November 17, 2021: https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm

accidental overdose deaths. For several years collaboration among civil society organizations on both sides of the border had allowed Mexican organizations to access naloxone and provide harm reduction services in Mexico. This also included providing unused needles to drug users. Needle exchange services are essential for stopping the transmission of infectious diseases such as HIV and Hepatitis C which tend to be more prevalent among people who inject drugs (PWIDS) and who are at the U.S.-Mexico border. The partial border closure had clear negative impacts among drug users at the border region and consequently on the overall health of the population.

Analysis and Aspiration

Under the principle of shared responsibility, Mexico and the U.S. have committed to jointly tackling shared challenges. COVID-19 has underscored the transnational nature of threats that range from gun and illicit drug trafficking to diseases. As argued in the Center for U.S.-Mexican Studies authored U.S.-Mexico Forum 2025 whitepaper,⁷ COVID-19 has created an important window of opportunity to assess how global pandemics constitute national security threats as well as to rethink security from a public health perspective.

Mexico and the United States have made some progress toward bringing a public health perspective to the security dialogue. In 2021, Mexico's Secretariat of Foreign Affairs announced three priorities for North America: peace, health, and justice.⁸ Moreover, as explained above in the Background section, the Bicentennial Framework breaks with the criminalization of drug users advanced by the war on drugs and instead proposes to “limit harms associated with addiction, improve access to substance abuse treatment and recovery support and [...] explore alternatives to incarceration for substance abuse cases.”⁹

These efforts have been well received but more remains to be done. While there are several U.S. and Mexican federal government stakeholders at the border, policymakers and civil society operating in the region can work toward three key changes that can help reduce excess mortality of North American inhabitants.

⁷ Center for U.S.-Mexican Studies, “U.S.-Mexico Forum 2025: Security and Public Health,” 2021: <https://usmex.ucsd.edu/us-mexico-forum/index.html#Security-and-Public-Health>

⁸ Velasco Álvarez, Roberto, “Hacia el Diálogo de Alto Nivel de Seguridad bilateral entre México y Estados Unidos,” *Excelsior*: <https://www.excelsior.com.mx/opinion/roberto-velasco-alvarez/hacia-el-dialogo-de-alto-nivel-de-seguridad-bilateral-entre-mexico-y>

⁹ The White House. “FACT SHEET: U.S.-Mexico High-Level Security Dialogue,” October 28, 2021: <https://www.whitehouse.gov/briefing-room/statements-releases/2021/10/08/fact-sheet-u-s-mexico-high-level-security-dialogue/>

Change 1: Changing the narrative

Bringing a public health perspective into security issues requires civil society, experts, and policymakers abandoning “narconarratives” in favor of more robust and evidence-based explanations for lethal and non-lethal forms of violence. While it is true that confrontations among criminal groups and between criminal groups and the state can increase lethality, it is reductionist thinking to account for lethal and non-lethal violence in Mexico as only a direct consequence of criminal group turf wars linked to drug markets.

This “narconarrative” is particularly prevalent in a border city like Tijuana that also has one of the highest homicide rates in the country. And yes, even when Tijuana due to its location next to the U.S. will remain a valuable asset to criminal groups, it is important to understand violence from the structural factors that a border state and a border city exacerbate. A public health perspective accomplishes this. For instance, crime and violence produce human costs in terms of life expectancy, mental health, physical harm, and the erosion of community ties.¹⁰

A public-health perspective on violence also encourages rethinking treatment of victims. For years the official discourse in Mexico, adopted by some citizens, is that some deaths are inconsequential because these are criminals “killing each other.” This narrative is also prevalent in Baja California and has created categories of victims who deserve justice and those who are irrelevant because “they had it coming.” A paradigm that considers all homicides as intolerable, regardless of whether the victim was involved in illegal activities, shifts the focus to a criminal justice system that can clear cases rather than dehumanizing victims of violence as deserving of their fate.

Change 2: Facilitating evidence-based interventions for drug users in the border region

Contrary to the misinformed arguments of those who oppose it, harm reduction does not incentivize drug use. Harm reduction focuses on “working with people without judgement, coercion, discrimination, or requiring that they stop using drugs as a precondition of support.”¹¹

Evidence shows that providing services to drug users and in particular to people who inject drugs can have overall benefits for the health of

¹⁰ For additional information on security and public health see Center for U.S.-Mexican Studies, “U.S.-Mexico Forum 2025: Security and Public Health,” 2021: <https://usmex.ucsd.edu/us-mexico-forum/index.html#Security-and-Public-Health>

¹¹ Harm Reduction International, What is harm reduction?: <https://www.hri.global/what-is-harm-reduction>

a community. Baja California pioneers in this work not only in Mexico and the U.S., but for the Americas in general. Mexicali has the only safe drug use site for women in Latin America. The site allows women who inject drugs to do so in a safe space that includes clean needles and access to overdose-reversal medications as well as basic medical services. By creating safe drug consumption sites, used needles and other paraphernalia are safely disposed, which reduces risks for contracting Hepatitis or HIV infections. More importantly, the sites save lives by preventing overdose deaths.

As explained in Section II (COVID-19 context), prior to the border closure, civil society organizations in Baja California and California had collaborated to bring harm reduction services to the community. Together with abandoning “narconarratives” about violence in Mexico, it is imperative to reduce the stigma associated with substance use disorders and with harm reduction services. Overdose deaths may not be a policy priority when examined from Mexico City, however, the staggering numbers in the U.S. and the reality of the border can help support the goal of building sustainable, healthy, and secure communities as outlined in the Bicentennial Framework.

Change 3: Complementing federal-led efforts on stopping gun trafficking

The majority of homicide victims in Mexico are murdered with firearms. According to the most recent data, of the 36,773 people murdered in Mexico in 2020, 25,635 or 69.7% were killed with a firearm.¹²

In 2021, the Government of Mexico filed a lawsuit against U.S. gunmakers and distributors alleging that deaths in Mexico are linked to negligent business practices that help criminal groups access high-caliber weapons that can be lawfully purchased in the United States. As of November 2021, the legal proceedings are ongoing and a favorable ruling for Mexico could represent an important recognition that gun trafficking, with the help of legal businesses, has had devastating consequences for the safety of North American citizens.

However, while those legal proceedings follow their due course, the border region can also contribute to stemming this problem. In addition to the illicit trade, it is also important to improve monitoring end users in Mexico of weapons *legally* purchased in the U.S. As the civil society group Stop U.S. Arms to Mexico has demonstrated, there are

¹² INEGI, “Características de las defunciones registradas en México durante 2020,” Comunicado de prensa núm. 592/21, October 28, 2021: <https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2021/EstSociodemo/DefuncionesRegistradas2020preliminar.pdf>

weapons that legally enter Mexico via purchases made by the Mexican military and are then transferred to police or military units “that are credibly alleged to have committed gross human rights abuses or colluded with criminal groups.”¹³

The business community in CaliBaja has been involved for several years with implementing measures that help professionalize the local police. These measures should include robust monitoring of weapons transfers from the Mexican military to help ensure that the firearms are not going to units that have been involved with human rights abuses or collusion with criminal groups.

Recommendations

To date, security cooperation has been one of the most challenging areas of the bilateral relationship. However, the excess mortality caused by COVID-19, in addition to unabated homicides in Mexico and growing overdose deaths in the U.S., has provided a window of opportunity for rethinking security from a public health perspective.

CaliBaja often prides itself as a region of innovation and security innovation should not be the exception. Even when security policies at the U.S.-Mexico border generally involve federal stakeholders, there are areas where local actors, both public and private, can complement existing efforts that closely align with the recently announced Bicentennial Framework for Security, Public Health, and Safe Communities. These are:

- Changing the narrative of the causes and continuation of violence in the region by focusing on public health rather than “narconarratives.” For example, what are the human costs of violence in terms of life expectancy, mental health, and community ties? This also extends to victims of violence who, regardless of their involvement with criminal activities, should be treated as equally deserving of access to justice.
- Supporting provision of harm reduction services that provide life-saving measures to drug users, eliminate stigma, and improve the overall health (mental and physical) of the community. Evidence-based interventions at the local level also tend to be more effective than national approaches. Subnational actors in California and Baja California are important pioneers in these

¹³ Lindsay-Poland, John, “How U.S. Guns Sold to Mexico End Up with Security Forces Accused of Crime and Human Rights Abuses,” *The Intercept*, April 26, 2018: <https://theintercept.com/2018/04/26/mexico-arms-trade-us-gun-sales/>

areas but require additional government support to continue with their activities. Some of this support is not material, but rather bureaucratic in facilitating donations of materials such as needles and naloxone.

- Creating a joint U.S.-Mexico taskforce on fentanyl disruption as advocated for by the Center for U.S.-Mexican Studies.¹⁴ While ideally this taskforce could operate at a national level, CaliBaja can spearhead this work by working at the local level. CaliBaja is a key stakeholder in the conversation as overdose deaths increase in California and the U.S.-Mexico border region, and in view of the relevance of border cities for illicit trade.
- Reducing firearms deaths in Mexico, which cause approximately 70% of homicides in the country, is also linked to the professionalization of law enforcement agencies. In this sense, civil society and private actors should be concerned about the quality of their police forces, not only by recruiting individuals who pass vetting mechanisms but also by improving monitoring measures of legal transfers and sales of weapons that police receive from the army.

¹⁴ U.S.-Mexico Security Cooperation Task Force, "U.S.-Mexico Security Cooperation 2018-2024": https://usmex.ucsd.edu/_files/Whitepaper_Security_Taskforce_March_26_Covers.pdf

Energy Issues in Baja California

Alan Sweedler

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The defining characteristic of the energy sector in Baja California is that its power grid and natural gas pipeline system are not connected to the main Mexican system. Baja California must import the bulk of its energy resources, and, with the exception of geothermal energy near Mexicali and some wind and solar projects, most of the state's power generation is fueled by natural gas. This natural gas is imported primarily from the United States, with a small amount from other parts of the world through a liquified natural gas (LNG) facility near Ensenada.

There is a long history of energy sharing between Baja California and California going back to the 1970s, when electricity was transferred from power plants in Rosarito, using oil as a fuel and Cerro Prieto, near Mexicali, using geothermal energy as a fuel source. There was a time when about 10% of San Diego's power supplies were met by imports from Baja California, although in recent years, very little power trade has occurred mostly because of Baja California not being able to meet its own power needs.¹

The situation today is that the electricity sector in Baja California is under stress and has had difficulty meeting current demand, resulting in brown outs and black outs, with resulting negative impacts on all sectors of the economy. In order to meet current and projected demand, significant investment will have to be made in electricity generation as

¹ See for example, *Energy and the Environment in the California-Baja California Border Region*, by Alan Sweedler, Paul Ganster and Patricia Bennett, eds., Institute for Regional Studies of the Californias, San Diego State University, 1995.

well as programs stressing conservation, efficiency, and demand side management.

It is difficult to attribute any specific impact that the COVID-19 pandemic has had on the energy sector because, generally speaking, the energy trade involves natural gas and electricity crossing the border, not people who carry the virus. There could be an indirect effect in that energy policy in Mexico may have been affected by the pandemic, and this in turn might impact energy-related development in Baja California, although it is unclear how one would quantify such a connection.

Baja California Energy Infrastructure²

The power sector of Baja California serves a population of over 3.3 million, with a GDP of approximately \$28.7 billion. Both Baja California’s population and GDP are growing at substantial rates, with population levels expected to reach about 4 million by 2028. Tijuana, Baja California’s largest city, has a population of over 1.5 million. Mexicali is the next largest, at around 1 million. Currently, 14 utility-scale power plants are operational in Baja California with a combined installed capacity of 4049 megawatts (MW). However, 1102 MW is contracted for export to California. That leaves Baja California with an effective installed name plate capacity of 2947 MW. But not all facilities are fully operational at the same time so actual capacity is even less and insufficient to meet current peak load and the projected increases in demand.

Table 1: Baja California Installed Electric Power Capacity by Type of Plant, Percent	
Type of plant	% Installed Capacity
Combined cycle (natural gas)	75.9
Geothermal	9.4
Internal combustion (natural gas)	1.1
Internal combustion	0.3
Turbogas	12.0
Solar PV	1.3
Wind	0.1
Total*	100.1

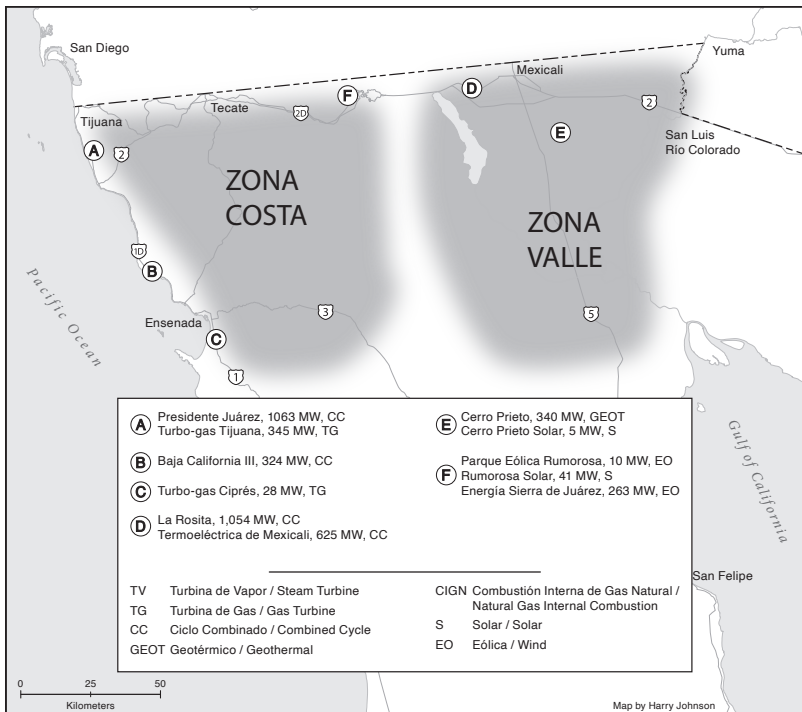
* Does not equal 100% due to rounding.
SOURCE: David Muñoz Andrade et al., *Baja California, Energy Outlook 2020-2025*, p. 12.

² This paper draws on a report from the Institute of the Americas, *Baja California, Energy Outlook 2020-2025*, by David Muñoz Andrade, Alan Sweedler, Jeremy M. Martin, Andres Prieto, Kristin Rounds, and Taylor Gruenwald. The report can be found at: <https://www.iamericas.org/baja-california-energy-outlook-2020-2025/>

Baja California has one of the highest penetrations of power service in the country, with over 99% of the population having electric service. The Federal Electricity Commission (CFE) serves 1.3 million customers with a 4% annual customer growth. Some 90% of customers are residential and they consume 34% of the power, while industrial customers represent only 1.3% of customers, but consume 56% of power. This reflects the industrial/*maquila* concentration in Baja California. Table 1 shows the fuels used to generate electricity in the state. Natural gas is the predominate fuel for power generation.

In addition to not being connected to the Mexican national power grid, Baja California has two distinct power grids within the state, reflecting the two distinct geographic zones: the Zona Costa and the Zona Valle, as seen in map 1.

Map 1: Electricity Grid in Baja California



SOURCE: Harry Johnson; Gabriela Muñoz Meléndez, Héctor Enrique Campbell Ramírez, Eliseo Díaz González, and Margarito Quintero Nuñez, *Baja California: Perfil Energético 2010-2020: Propuesta y Análisis de Indicadores Energéticos para el Desarrollo de Prospectivas Estatales*, Mexicali, Comisión Estatal de Energía de Baja California, 2012, p. 63: https://pdf.usaid.gov/pdf_docs/PA00J84V.pdf

One manifestation of the different energy profiles between the two zones is the high demand for air conditioning in the Zona Valle. The power profile for summer and winter varies considerably in Mexicali. For example, there is a difference of 1589 MW between summer and winter peaks, a large enough difference to lead to power outages and/or curtailments.

Both Tijuana and Mexicali have substantial manufacturing sectors compared to other cities in Mexico. Mexicali also has a large agricultural sector. The differences in economic sectors and electricity usages in the two regions at times creates conflicting interest over rising electricity prices brought on by supply gaps. This conflict is a source of concern for the state's manufacturing sector, which is a high electricity consumer and does not receive anything close to the subsidies received by residential consumers. To illustrate this point, Mexicali consumes about 7.6 gigawatts (GW) hours annually per every 1000 residents, a rate that is about six or seven times higher than in Rosarito, Tecate, or Ensenada, and about three times as high as in Tijuana.

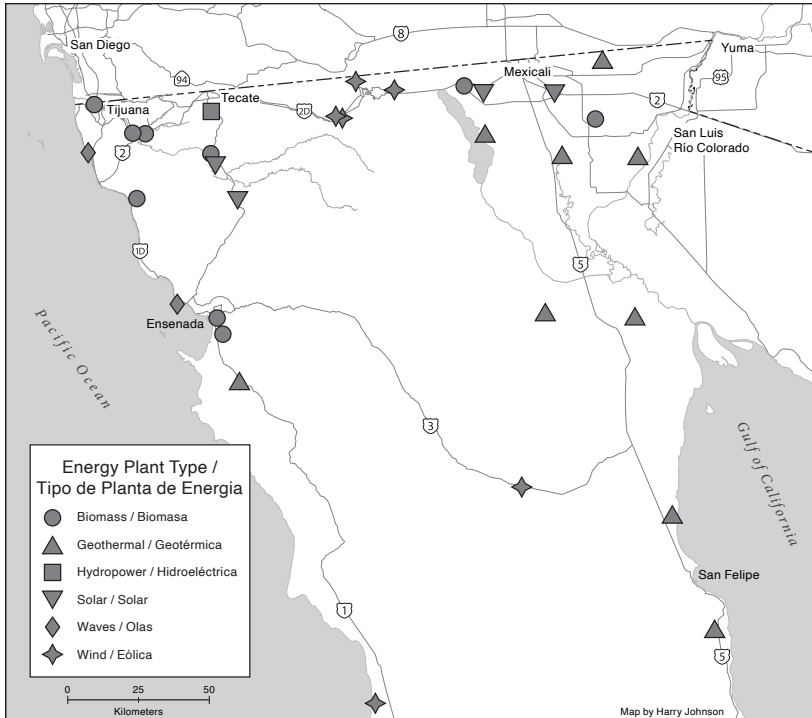
Baja California has two main power transmission lines crossing the border, one in the eastern part of the state and the other in the western region. Both are connected to the U.S. grid with a transfer capacity of 800 MW, but in recent years, transfers have been limited owing partly to risks of outages and supply shortages on both sides of the border.

In addition to the infrastructure related to power production (power plants and transmission lines) the other main energy-related infrastructure is the natural gas pipeline system. This consists of two privately owned gas pipelines, three clusters for international interconnection, and one LNG terminal. The LNG terminal of Energía Costa Azul (ECA) is located north of Ensenada and started operations in 2008 as a regasification facility. It is owned and operated by IEnova, a Sempra Energy subsidiary. This facility is the first of its kind on Mexico's west coast and has processing and regasification capabilities of 1.3 billion ft³ of LNG per day. LNG carrier ships can hold up to 220,000 cubic meters (m³) of LNG and the natural gas is used mainly to supply fuel for power production in Baja California.

In September 2021, IEnova received permission from the Mexican government to build a liquefaction terminal next to the existing import terminal. This new facility, if built, would liquify U.S. gas and ship the resulting LNG to markets in Asia. The advantage of an LNG exporting facility on the west coast of North America with the gas destined for Asia would be reduced travel time compared to shipments from the Gulf coast and avoidance of using the Panama Canal, with its associated fees.

As noted, the energy sector of Baja California is almost totally dependent on energy resources from outside the region, mostly natural gas from the United States. There are, however, very significant indigenous energy resources within Baja California in the form of solar and wind energy potential and geothermal resources. In fact, these local, renewable resources provide the only way for Baja California to gain “sovereignty” over its energy needs, a goal of the current López Obrador Administration.

Map 2: Sites Identified or Studied for Renewable Electricity Generation Projects



SOURCE: Harry Johnson; NREL, CFE-GEIX, Alliance for Sustainable Energy LLC, DOE, USAID.

Baja California has significant potential for renewable energy development. Baja California is blessed with very large amounts of solar radiation throughout the state, as well as localized, but significant, wind resources, especially in the region between Mexicali and Tijuana. The U.S. National Renewable Energy Lab (NREL), along with the Department of Energy and the Agency for International Development have mapped both the solar and wind potential for Baja California. Baja California has the highest level of solar radiation in Mexico all along the Baja peninsula.

The wind potential is mainly located in the central portion of Mexico, but there are still considerable wind resources in Baja California. Both wind and solar could provide a high-tech sector to boost the economy of Baja California based on the abundance of local energy resources. In addition to solar and wind, large geothermal resources are available in the northern parts of the Sea of Cortez, south of Mexicali. Map 2 shows locations in Baja California identified as sites for renewable energy projects.

Unfortunately, these large, indigenous, and widespread energy resources are unlikely to be developed owing to a variety of factors. The main barrier is the federal government's energy policies that greatly favor the national energy companies, *Petróleos Mexicanos* (PEMEX) and CFE, which in turn emphasize oil and gas as primary energy sources. Other factors inhibiting, or preventing, the development of renewable resources in Baja California are lack of connection to the Mexican national grid, leading to an inability to send power to the rest of Mexico and transmission constraints making it difficult to send renewable electricity to where the demand is within the state.

Climate Change

To fully understand the issues facing the energy sector in Baja California, one must take into account the effect climate change will have on the region. As the region grows warmer and drier, the demand for energy to deal with the increasing temperatures, especially in the Zona Valle region and in Mexicali, will put significant stress on the power system to provide adequate air conditioning for most of the population. In addition, the demand for water will only increase in the future and, to satisfy that demand, large amounts of energy will be needed. Waste water treatment, as well as potential new sources of water, such as desalination, and pumping water from the Zona Valle to the coast, all require significant amounts of energy.

Conclusions and Recommendations

Baja California clearly needs to increase its electricity supply as well as upgrade its energy infrastructure if it is to continue to grow and improve the quality of life of its population. In many ways the energy sector is at a crossroads; one path is continued dependence on imported fossil fuel, mainly natural gas, and the other path is moving along the road of development of renewable resources, mostly solar, wind, and geothermal. These two paths are somewhat mutually exclusive in that financial resources used on one path reduces funding for the other path. It should be kept in mind that energy infrastructure lasts a long time and requires

long-term financial commitments as well. For example, the commitment to construct an 800 MW gas fired power plant must take into account the availability and cost of fuel for the lifetime of the plant, which could be 20 to 30 years.

Baja California could be a perfect place for the extensive development of renewable resources. This is partly because its energy systems are not connected to the Mexican national power grid or gas pipeline network and the state has no fossil fuel deposits. However, if it continues on its current path of dependence on fossil fuels, it will move in a direction opposite to that of California and the U.S. and renewable resources will be less likely to be developed. In fact, renewable energy development in Baja California is the main way that the state can achieve a degree of energy “sovereignty,” a stated goal of the current Mexican Administration. The essay by John McNeece in this publication highlights an interesting effort by the State of Baja California to address the region’s energy issue through investment in a renewable solar energy project.

Another aspect of Baja California’s heavy dependence on natural gas is the price volatility of this resource, as seen in natural gas prices rising by factors of between 2-5 times over a few months in the fall of 2020. This translates to higher electricity prices for Baja California citizens, because most of the power generation depends on natural gas. Construction of a large-scale natural gas-fired power plant with a projected lifetime of 20 to 30 years means that volatility of natural gas prices will continue to effect electricity prices in unpredictable ways. Renewable power generation removes concern about the underlying resource (solar, wind, and to some extent geothermal).

The Baja California State Government's 2020 Bid Tender for Solar Energy Project

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Baja California has a significant need for more power generation. Rather than waiting for the Federal Electricity Commission (CFE) to build new capacity, the Baja California state government decided to meet its own electricity needs, primarily for the aqueduct bringing Colorado River water to Tijuana. The state also decided to proceed with a renewable energy project and to seek private participation because of the large investment needed. This was contrary to federal government policy, which favors CFE and disfavors private investment in the electricity sector.

The bid process began with the issuance by the State of Baja California of a *convocatoria* (open call) on August 25, 2020, with proposals due on September 17, 2020. Next Energy de México was announced as the winner on October 8, 2020 and a contract was signed on October 17, 2020. The key terms of the winning bid were as follows:

- 30-year contract, with reversion to State upon completion
- 305 megawatts (MW) solar PV installed capacity, with 80 MW batteries
- 929,290 MWh/year of electricity delivered
- Average price over 30 years is 1.1689 pesos per kWh
- Commercial Operation Date is October 14, 2021

The project would bring new power to Baja California, with existing generation applied to the state's other electricity needs. Electricity from the project would be 20-30% cheaper than that from CFE. The state would incur no debt to build the project.

The contract was approved by the state legislature, which was required because it was a multi-year contract. As credit support, the state legislature also approved the state's pledge of its Federal Participations

(revenue sharing) as backup for the contract. Credit support also included pledging the revenues of state water commissions (*comisiones estatales de servicios públicos*) and a call for the state's parastatal entities to sign their own contracts with Next Energy due to separate budget processes.

Although the project would bring substantial benefits to the state of Baja California, the federal government is opposed to the project. Since the project needs federal approvals—a Generation Permit from the Energy Regulatory Commission (CRE) and approval of interconnection from the National Energy Control Center (CENACE)—this is a major problem. Also, from a technical perspective, it is not clear that the Baja California grid can support the project. Nor does there appear to be solutions for the problems of intermittency and grid integration unless the project will rely on CFE for support services. But CFE is also opposed to the project. These issues, plus the fact that there will be several parastatals of uncertain credit buying electricity, raise the question whether the project can be financed.

Baja California Governor Jaime Bonilla announced on May 7, 2021 that Mexico's President had approved the project. But later press reports denied this, pointing out that the President has no direct authority over the project. No work on the project has begun.

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Carlos González Gutiérrez is the Consul General of Mexico in San Diego, ratified by the Mexican Senate in April 2019. As a career diplomat since 1987, Ambassador González Gutiérrez has specialized in Mexican communities in the U.S. as all of his designations abroad have been in the U.S. In Mexico, in the late 90's, he worked in the Program for Mexican Communities Abroad at the Ministry of Foreign Affairs, and from 2003 to 2009, he was the founding Executive Director of the Institute

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Saúl De los Santos is a consultant and researcher, founder and CEO of AXIS Centro de Inteligencia Estratégica. He holds a master’s degree in systems engineering specialized in quality and productivity from the Instituto Tecnológico y de Estudios Superiores de Monterrey, and an MBA degree specialized in public administration from CETYS Universidad. His main work centers on evaluating capacities and generating strategies for regional sectors and development, focusing on medium and high-tech industries, working for government agencies, research centers, industry associations, and civil society groups.

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examines cross-border health care utilization, as well as health services privatization and decentralization in middle-income countries, predominantly in Latin America.

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McKenzie Campbell is the Baja California Sur Program Officer at the International Community Foundation (ICF). She provides leadership to and helps amplify the impact of teams and collectives of organizations working in areas of significant relevance to the ICF, including food systems, sustainable cities, and waste reduction/management. McKenzie has a breadth of experience launching and leading nonprofits and community alliances. She served as the director of the Colorado State University Center in Todos Santos. In 2009, McKenzie co-founded, then directed, Living Roots (Raíces Vivas), a nonprofit that helps incubate social enterprises with remote ranching communities in Baja California Sur, while promoting their unique cultural heritage.

Jackelyn Rivas Landaverde is the Grants Manager at the ICF. She provides support to various programs and takes the lead on providing appropriate technical and systems support to grantees and programming staff in the development and implementation and learning associated with the foundation's grantmaking process. Jackie has more than 13 years of experience in the nonprofit sector with a focus on public health research and community development. She previously worked as a Research Associate for UCSD's Moores Cancer Center and UCSD's Pediatrics Department where she provided critical support to project management, donor relations, strategic planning, and grant writing efforts.

Arden O. Martinez is a Grants Assistant at the ICF. She is responsible for performing different tasks in the grant-making and fundraising process, as well as supporting ICF Special Projects. Arden was an intern for the Northern Baja Food Security Project, where she analyzed, oversaw, and conducted interviews with our grantees. She recently graduated from

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Fernando León García has been the president of CETYS University since 2010, successfully implementing CETYS 2020, conducive to institutional and program accreditation in the U.S., one of the highest levels of student internationalization and doctorally qualified faculty in Mexico, the largest expansion of physical infrastructure in the history of CETYS, and an increase of over 30% in enrollment. Dr. León García is also president of the International Association of University Presidents (IAUP) for 2021-2024. Previously, he was Chancellor of City University of Seattle's International Division. Dr. León García received his PhD in Education from Stanford University and his B.S. in Industrial Engineering from CETYS University.

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John McNeece is Senior Fellow for Energy & Trade at USMEX. His work in Mexico extends back to the North American Free Trade Agreement (NAFTA) negotiations, where he served as an advisor on issues of Mexican law to the Office of the United States Trade Representative negotiating team for NAFTA Chapter Nineteen: Review and Dispute Settlement in Antidumping/Countervailing Duty Matters. McNeece's transactional work in Mexico included legal advice on formation of cross-border joint ventures, acquisition and development of renewable energy projects, complex financial transactions, mergers and acquisitions and venture capital transactions. He has written extensively on the Mexican energy reform in the power sector.

CaliBaja: Emerging Stronger after COVID-19
2020-2021 Report

Edited by

UC San Diego School of Global Policy and Strategy

CaliBaja: Emerging Stronger after COVID-19 2020-2021 Report

CaliBaja is an exceptional region. The arrival of the pandemic led us to rethink the effectiveness and resilience of current cross-border cooperation mechanisms. The Consulate General of Mexico in San Diego and the Center for U.S.-Mexican Studies at the University of California San Diego organized the “CaliBaja: Emerging Stronger after COVID-19” working group which resulted in this report.

Each chapter analyzes prepandemic cooperation, COVID-19 impacts, and the mechanisms we should develop to improve coordination. They present specific recommendations to achieve these aspirations. A better integration will benefit local communities in Baja California and California. This report points the way.

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