



International Association  
of Deposit Insurers

June 2021

## **Contingency Plan Testing in North America**

Results of a Research Project Undertaken by the Canada Deposit  
Insurance Corporation on behalf of the RCNA

### **Regional Research Paper**

#### **International Association of Deposit Insurers**

C/O BANK FOR INTERNATIONAL SETTLEMENTS  
CENTRALBAHNPLATZ 2, CH-4002 BASEL, SWITZERLAND  
TEL: +41 61 280 9933 FAX: + 41 61 280 9554

[WWW.IADI.ORG](http://WWW.IADI.ORG)

**Disclaimer:** The views expressed in this research paper are those of the Regional Committee of North America and are not necessarily those of IADI.

# Table of Contents

<b>Executive Summary</b> .....	3
<b>List of Abbreviations</b> .....	5
<b>Definition of Terms</b> .....	6
<b>I. Introduction</b> .....	7
<b>II. Literature Review on Contingency Plan Testing</b> .....	10
<b>III. Contingency Plan Testing Practices</b> .....	15
<b>IV. Contingency Plan Testing in Response to COVID-19</b> .....	27
<b>V. Case Studies</b> .....	29
<b>a. AMF Simulation</b> .....	29
<b>b. CDIC Fire Drill</b> .....	33
<b>c. FDIC Workshop</b> .....	37
<b>d. IPAB Tabletop</b> .....	41
<b>VI. Conclusion</b> .....	45
<b>Bibliography</b> .....	46
<b>Annex I: Main Characteristics of RCNA</b> .....	47
<b>Annex II: Contributors</b> .....	48

## Executive Summary

Contingency plan testing has gained increased relevance following the Global Financial Crisis as a means of enhancing the preparedness of regulatory authorities. It is important for all deposit insurers, regardless of mandate, to be prepared to act upon the failure of an insured institution in order to promote financial stability; contingency planning contributes to that preparedness. North American jurisdictions were among the first group of members in the International Association of Deposit Insurers (IADI) to initiate contingency plan testing activities.

This paper presents the results of a research project conducted by the Canada Deposit Insurance Corporation (CDIC) on behalf of the Regional Committee of North America (RCNA) to analyze the contingency plan testing programs of deposit insurers and resolution authorities in Canada, the United States and Mexico. The contributors to the research project are: the Autorité des marchés financiers (AMF), CDIC, the Federal Deposit Insurance Corporation (FDIC), and the Instituto para la Protección al Ahorro Bancario (IPAB). The project employed qualitative research methodologies, namely, a literature review, survey, and case studies.

Despite increased testing of contingency plans following the Global Financial Crisis, information on the running phase for specific testing activities is scarce in literature. Several common challenges in contingency plan testing have been identified. Achieving the right balance between structure and flexibility when conducting exercises, and the use of effective decision-making methods are two common challenges faced by many jurisdictions. The literature also highlights the need for testing the operationalization of information sharing agreements among financial safety net agencies.

The survey distributed to the RCNA membership on their contingency plan testing programs revealed the different approaches that their organizations have adopted to internally organize resources for testing activities. One practice is the centralized approach where one business unit is responsible for conducting testing activities. Another practice is the distributed approach where responsibility is dispersed among multiple business units. Some RCNA organizations also use a hybrid approach where a centralized business unit oversees the entire program, but other business units are responsible for developing and conducting contingency plan testing. The decision to follow a specific model is generally made based on organizational dynamics and resource levels and as such, no one approach has emerged as the ideal structure.

RCNA organizations have developed multi-year testing plans. Tabletops and simulations are the most commonly held contingency plan testing activities in the region while inter-agency testing activities among the financial safety net organizations also have been gaining traction recently. The moderator's role in contingency plan testing activities (particularly in tabletop exercises where the decision-making process is tested) is critically important to guide and introduce relevant artifacts to the exercise at appropriate times. RCNA contributors find the reporting and feedback phase helpful in driving continuous improvement in a systematic manner.

The RCNA organizations are continuously striving to find innovative solutions to the challenges they face in conducting testing activities. Designing large-scale activities can be challenging as they require technical skills from multiple business units. As a result, determining how to leverage subject matter expertise for testing activities is a constant challenge. Human resource constraints in some organizations can aggravate

this issue, limiting the scope of some exercises to test only a few functions. There is also a concern for testing fatigue as the exercises must be balanced against day-to-day business priorities. Crafting complex, yet realistic scenarios and sharing sufficient information with participants prior to the exercise are other common challenges identified by RCNA organizations. The running phase can often take longer than originally anticipated given the difficulty in simulating the urgency of a real crisis scenario in an exercise. Limited resources and other business needs can impact the production of timely feedback reports.

RCNA organizations demonstrated resilience as they shifted their contingency plan testing programs in response to the COVID-19 pandemic. The AMF and CDIC overcame major disruptions caused by the immediate shift to remote working, which impacted pre-planned testing activities. Meanwhile, the FDIC and IPAB managed real-world bank failures during the pandemic. Flexibility and well-documented processes allowed RCNA jurisdictions to effectively react and adjust their schedules and priorities accordingly.

The paper also includes four case studies that provide examples to illustrate various nuances and practical elements associated with contingency plan testing programs. The AMF's case study illustrates the need to preserve flexibility. Due to the shift to remote working arrangements in 2020, the AMF successfully converted its original payout simulation design to a tabletop format and gained valuable experience through the exercise. CDIC's fire drill exercise tested the organization's ability to respond to a member financial institution experiencing stress and underscores the importance of conducting small-scale, spontaneous testing activities to complement a comprehensive testing plan. A case study on a workshop provided by the FDIC explains how the organization develops immediate and measurable programs to complement its tabletop exercises and highlights the value of post-exercise planning to improve organizational readiness. The final case study offers a simulation exercise the IPAB conducted on a hypothetical bank that necessitated a payout process and confirms the value of conducting large-scale exercises such as simulations to gain a broader understanding of a real-life resolution scenario.

Over the past decade, contingency plan testing has become increasingly important to advancing resolution preparedness in RCNA organizations. While robust processes were already in place for crisis scenarios, the testing activities have served as valuable opportunities to practice and address minor areas that may have been overlooked and underdeveloped during the regular strategic planning process. Future research at IADI could offer a comparative approach beyond the North America region. Other areas that could be explored could include expanding the scope of the research to include crisis simulations conducted for global systemically important financial institutions or the evolution of contingency plan testing programs after the Global Financial Crisis.

## List of Abbreviations

**AMF** – Autorité des marchés financiers

**BAU** – Business as Usual

**BCP** – Business Continuity Plan

**CDIC** – Canada Deposit Insurance Corporation

**CNBV** – National Banking and Securities Commission (Mexico)

**CUDIC-BC** – Credit Union Deposit Insurance Corporation of British Columbia

**D-SIB** – Domestic Systemically Important Bank

**D-SIFI** – Domestic Systemically Important Financial Institution

**ERM** – Enterprise Risk Management

**EU** – European Union

**FDI Act** – Federal Deposit Insurance Act (U.S.)

**FDIC** – Federal Deposit Insurance Corporation

**FSB** – Financial Stability Board

**G-SIB** – Global Systemically Important Bank

**G-SIFI** – Global Systemically Important Financial Institution

**IADI** – International Association of Deposit Insurers

**IPAB** – Instituto para la Protección al Ahorro Bancario

**MSIC** – Massachusetts Credit Union Share Insurance Corporation

**NBSG** – Nordic-Baltic Stability Group

**RCNA** – Regional Committee of North America

## Definition of Terms

**Business unit** – A standardized term for “department”, “division”, or any other grouping that may be used by an organization to describe a distinct collection of individuals that carry out a designated function or functions.

**Contingency planning** – Contingency planning is done by the deposit insurers, resolution authorities, and other financial safety net participants, individually as well as jointly, to outline policies, procedures and actions that they might follow in the event of unexpected developments and significant shocks. It helps identify measures for preserving the operational and financial situation of an organization.

**Contingency plan testing** – The exercises undertaken to test the viability of contingency plans.

**Crisis management group** – A group hosted by home authorities of G-SIFIs/G-SIBs with the objective of enhancing preparedness for, and facilitating the management and resolution of, a cross-border financial crisis affecting the G-SIFI/G-SIB. It is comprised of supervisory authorities, central banks, resolution authorities, finance ministries and the public authorities responsible for guarantee schemes of jurisdictions that are home or host to the G-SIFI/G-SIB and are material to its resolution.

**Crisis simulation** – Simulating financial distress for a G-SIFI/G-SIB in order to test responses in a crisis scenario.

**Financial safety net** – A framework that includes the functions of prudential regulation, supervision, resolution, lender of last resort and deposit insurance. In many jurisdictions, a department of government (generally a Ministry of Finance or Treasury responsible for financial sector policy) and the central bank are also included in the financial safety net.

**Fire drill** – Supervised, time-limited exercises that are designed to test specific elements of a crisis response plan (i.e., team members, procedures and policies). Fire drills can be either discussion-based or operations-based.

**Simulations** – Operation-based exercises that mobilize all the necessary personnel and logistics (e.g., systems, databases, crisis rooms, communication protocols) that would be called upon in a crisis. Often, they are run in real-time to reproduce the constraints and the stressful environment of a real crisis.

**Tabletops** – Discussion-based exercises where team members meet to discuss their roles, responsibilities, and decision-making capabilities to respond to a simulated scenario. Tabletops may be led by a facilitator who guides participants through a discussion of one or more scenario events.

**Walkthroughs** – Training exercises designed to familiarize team members with crisis management plans (i.e., emergency response, business continuity and communications) and their roles and responsibilities in these plans.

**Workshops** – Activities that aim to develop specific, targeted deliverable products to issues identified in a Tabletop. It seeks to assist with role identification, an organization’s ability to respond, and resource needs to implement a contingency plan.

## I. Introduction

The 2007-2008 Global Financial Crisis exposed various gaps and shortcomings in the abilities of financial regulators and financial safety net partners to respond to crises. Regulatory authorities across the world responded with comprehensive, forward-looking policy responses to identify vulnerable areas in the financial sector at an early stage. Deposit insurers, in particular, were given new responsibilities and authorities to bolster their tool kit. In addition, some jurisdictions made deposit insurers the special resolution authority for non-bank financial institutions.

The increased responsibilities of deposit insurers over the past decade provided the impetus for a more proactive approach to contingency planning. Robust contingency plan testing programs were developed to increase preparedness, improve coordination with other financial safety net agencies, and help deposit insurers better understand new powers and responsibilities. North American deposit insurers were among the first to begin contingency plan testing and have acquired substantial knowledge and expertise in this area. A key business goal of the Regional Committee of North America (RCNA) is sharing and exchanging information, ideas, and experiences amongst members and with other International Association of Deposit Insurers (IADI) members. In support of this goal, RCNA members agreed that it would be beneficial to study the progress of contingency plan testing activities in their organizations at its October 2019 meeting in Istanbul, Turkey.<sup>1</sup>

RCNA was established in 2011 with the aim of reflecting the interests of the North America region to further IADI's objectives. There are six RCNA member organizations: Autorité des marchés financiers (AMF-Québec, Canada), Canada Deposit Insurance Corporation (CDIC, Canada), Credit Union Deposit Insurance Corporation of British Columbia (CUDIC-BC, Canada), Federal Deposit Insurance Corporation (FDIC, US), Instituto para la Protección al Ahorro Bancario (IPAB, Mexico), and the Massachusetts Credit Union Share Insurance Corporation (MSIC-Massachusetts, US). The contributors for the research project were the AMF, CDIC, FDIC, and IPAB. High-level information about these organizations is provided in Annex I.

The RCNA conducts research on regional issues on a periodic basis and the purpose of this paper is to explore the establishment, best practices, lessons learned, and future direction of contingency plan testing activities in RCNA jurisdictions. It is designed to complement the IADI guidance paper on *Core Principle 6: Deposit Insurers' Role in Crisis Management and Contingency Planning* (IADI Guidance Paper) by providing applied examples from the North America region.

This paper separates itself from existing literature on the topic by presenting an organizational approach to contingency plan testing activities. Rather than viewing contingency plan testing as a singular event, RCNA members believe contingency plan testing should be regarded as an ongoing and continuous process. Through this approach, a clearer delineation of contingency plan testing terms and processes emerges. The paper defines "contingency plan test" as exercises designed to ensure operational readiness in key business areas and prepare for disruptions under normal operations. While the term "crisis

---

<sup>1</sup> This is the second RCNA regional research paper following the publication "Recovery and Resolution Planning in RCNA Jurisdictions" in 2019. Please note that the views expressed are those of the region(s) and not necessarily those of IADI. The paper can be found in the IADI members-only website under the "Regional Papers" section: <https://www.ebis.org/rooms/IADI/Publications/Regional%20Research%20Papers/Pages/default.aspx>

simulation” is often used interchangeably with “contingency plan test” in popular usage and literature, the term “crisis simulation” in this paper refers only to activities designed for testing the processes related to a Global Systemically Important Financial Institution (G-SIFI)/Global Systemically Important Bank (G-SIB). Given that not all RCNA jurisdictions have G-SIFIs/G-SIBs, the scope of the paper is limited to contingency plan testing exercises in general without specific reference to crisis simulations per se. Crisis Management Groups organized for G-SIFIs/G-SIBs or Domestic Systemically Important Financial Institutions (D-SIFI)/Domestic Systemically Important Banks (D-SIBs) are also out of scope of this paper. The scope of the research is limited to the organizational-wide testing activities on resolution-related matters where multiple business units are involved.<sup>2</sup>

The analysis of the paper focuses on four distinct phases associated with contingency plan testing exercises:

**Organizational planning** encompasses the overall planning related to contingency plan testing activities, including the organizational set-up, determination of testing priorities, frequency of testing activities, budgeting and resource priorities, and so forth.

**Design** centers on making decisions with regards to the objective or objectives, scope, type, length, and other basic components of a particular contingency plan testing activity.

**Running** includes the elements related to the actual contingency plan testing activity.

**Reporting and feedback** is associated with the “post-mortem” stage of contingency plan testing activities. The objective of this phase is using the lessons learned to address gaps in the contingency plans and drive continuous improvements in the organization’s preparedness. This creates a virtuous cycle whereby the final stage improves the process and organizational set-up going forward.

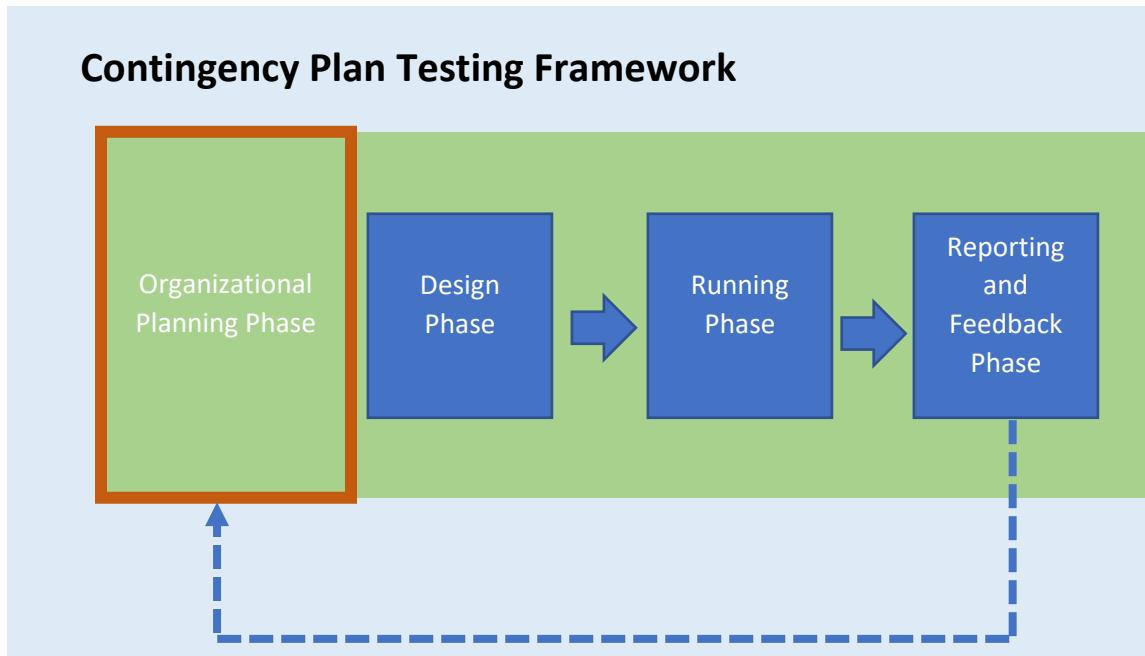
The above distinctions were made to understand granular level information associated with the contingency plan testing framework in RCNA organizations. The organizational planning phase exists permanently within the framework and is constantly adapting and evolving as a result of the lessons learned from testing activities over time. The design, running, and reporting and feedback phases follow each other sequentially for an individual testing activity. Each of these phases are distinct and are influenced by the organizational planning phase. Most importantly, each phase can also positively contribute to the evolution of the organizational planning phase. A graphical illustration of the phases is demonstrated in Figure 1.

---

<sup>2</sup> The business units in RCNA organizations also conduct unit-specific process related testing activities which are not discussed in this paper.



Figure 1 - Contingency Plan Testing Phases



The research analysis deploys qualitative research methodologies such as a literature review, member survey, case studies, and IADI surveys. The paper is organized as follows. Section Two is a literature review. This is followed by a comparative analysis on the business-as-usual (BAU) stage for contingency plan testing in Section Three that is written using the information gathered from a survey distributed to RCNA members in early February 2020, pre-COVID-19. Section Four discusses the changes implemented for regular contingency plan testing programs in response to the COVID-19 pandemic. Case studies on contingency plan testing activities from North American jurisdictions are presented in Section Five to provide real-life examples from the region. Section Six concludes the paper by presenting the key findings and suggestions for future research on this topic.

## II. Literature Review on Contingency Plan Testing

### Main Findings:

- Noticeable increase in literature on the topic following the Global Financial Crisis
- Limited available information regarding the running phase of contingency plan testing activities. Often, only a press release or short reports are shared with a wider audience
- The literature revealed the following areas deposit insurers and resolution authorities should continue to develop and refine:
  - the right balance between structure and flexibility in the running phase
  - the use of effective decision-making methods during exercises
  - reliable information sharing mechanisms between the financial safety net organizations
  - inter-agency coordination

IADI recommends that “all deposit insurers should develop contingency plans” and that “contingency plans should be regularly tested.”<sup>3</sup> The rise in use of contingency plan testing has also contributed to an increase in the volume of literature on the topic. Despite the increase in literature on the topic, there is still little public information regarding contingency plan testing. Press releases and short articles posted on the deposit insurer’s or resolution authority’s website are often the most detailed information on contingency plan tests and their findings.

The literature review found that the terms have yet to be formally defined in a consistent manner. For example, “stress-testing” is often used to refer to the act of simulating various models of macroeconomic distress, whereas “crisis simulation exercises” and “contingency plan testing” are often used interchangeably with no formal distinction.

The literature identified the primary jurisdictions testing prior to the Global Financial Crisis: the United States, European Union members, and the Nordic countries. Tests were often conducted at the domestic level with talks of eventually conducting cross-border exercises in the future.

Following the Global Financial Crisis, more jurisdictions became involved in developing and testing contingency plans. While progress has been made at the agency-level, cross-border testing progress remains muted with most progress being made for those institutions designated as a G-SIB. A good example of cross-border testing concerning non-G-SIBs has been in the Nordic region. The Swedish Riksbank leads the Nordic Baltic Stability Group (NBSG), which was established in 2017 to help coordinate regular testing exercises between eight Baltic and Nordic jurisdictions.<sup>4</sup> The NBSG is believed to have

---

<sup>3</sup> International Association of Deposit Insurers, *Deposit Insurers’ Role in in Contingency Planning and System-wide Crisis Preparedness and Management*, Guidance Paper (Basel, Switzerland: International Association of Deposit Insurers), 8. [https://www.iadi.org/en/assets/File/Papers/Approved%20Guidance%20Papers/IADI%20Guidance%20Paper\\_DI%20role%20in%20contingency%20planning%20&%20crisis%20management.pdf](https://www.iadi.org/en/assets/File/Papers/Approved%20Guidance%20Papers/IADI%20Guidance%20Paper_DI%20role%20in%20contingency%20planning%20&%20crisis%20management.pdf)

<sup>4</sup> Single Resolution Board, “Statement Regarding Nordic-Baltic Financial Crisis Simulation.” February 1, 2019. <https://srb.europa.eu/en/node722>.

hosted the largest cross-border simulation in January 2019 involving 300 people from 31 different regulators.<sup>5</sup> Another example was the European Central Bank's UNITAS crisis communication tabletop exercise in late 2018.<sup>6</sup> Participants discussed how they would respond to a cyber-attack on important financial market infrastructures resulting in a loss of data integrity.<sup>7</sup> It was unique as it sought to improve the responses at both the national and regional (i.e. European) level.

The findings of the literature under the four distinct phases are discussed below.

### **Organizational planning phase**

Very few jurisdictions are willing to explicitly announce the frequency of testing, operational budget and resources provided. As such, the information regarding the organizational stage in literature is limited.

In 2007, Michael Krimminger noted the importance of connecting the practical elements of the exercise with a strong understanding of laws and policies.<sup>8</sup> To that end, the most comprehensive document in the literature that helps with the organizational planning phase is the Toronto Centre "Crisis Binder" (the Binder).<sup>9</sup> The Binder "[lays] out the policies, skills, legal powers and practical arrangements that may be needed to manage the crisis and mitigate its cost."<sup>10</sup> As a result, it may be used to help guide and inform decisions that are made during an exercise. The Binder provides pre-written documents, statements, and contracts that can be quickly adjusted for a variety of events and that can help connect various aspects of the organizational planning phase, identifying business units and processes that should be involved in an exercise.<sup>11</sup>

### **Design phase**

Mauro Grande, writing about the experience of the European Central Bank's exercise,<sup>12</sup> notes three elements that designers must be mindful of when creating a testing activity. First, designers must be neutral about the outcome.<sup>13</sup> Outcomes are normally a function of two factors, the design of the scenario and the behaviors of the participants.<sup>14</sup> Upon the development of a terms of reference document, the scope and objectives of the testing activity will be well-defined. Further, a testing activity is intended to be an open-ended exercise where participants have the freedom to share, openly and honestly, how they would respond in the scenario. The objective of a testing activity is not to resolve the situation successfully, but, rather, to identify areas of improvement that can "[enhance] the existing

---

<sup>5</sup> Sveriges Riksbank, *The Riksbank's Measures During the Global Financial Crisis 2007-2010* (Stockholm, Sweden: Sveriges Riksbank, 2020), 31. <https://www.riksbank.se/globalassets/media/rapporter/riksbanksstudie/engelska/2020/the-riksbanks-measures-during-the-global-financial-crisis-2007-2010.pdf>.

<sup>6</sup> European Central Bank, *UNITAS Crisis Communication Exercise Report* (Frankfurt am Main, Germany: European Central Bank). <https://www.ecb.europa.eu/pub/pdf/other/ecb.unitasreport201812.en.pdf>.

<sup>7</sup> European Central Bank, 2.

<sup>8</sup> Michael Krimminger, "Contingency Planning and Simulation Exercises: Practical Applications," in *Simulating Financial Instability*, ed. European Central Bank (Frankfurt am Main, Germany: European Central Bank, 2008), 134.

<sup>9</sup> Toronto Centre, *Crisis Binder: An Essential Tool for Crisis Preparedness*, TC Notes (Toronto, Canada: Toronto Centre, 2019). <https://res.torontocentre.org/guidedocs/Crisis%20Binder.pdf>.

<sup>10</sup> Toronto Centre, 3.

<sup>11</sup> Toronto Centre, 4.

<sup>12</sup> Mauro Grande, "Recent Experiences in the Conduct of Domestic Crisis Simulation Exercises," in *Simulating Financial Instability*, ed. European Central Bank (Frankfurt am Main, Germany: European Central Bank, 2008), 144-147.

<sup>13</sup> Grande, 145.

<sup>14</sup> Grande, 147.

arrangements.”<sup>15</sup> Most of the press releases and reports tend to emphasize the successes while underplaying the challenges, difficulties and lessons learned. It raises the question whether the rise in importance of these activities could undermine neutrality for the outcome.

Second, there must be a balance between realism and complexity.<sup>16</sup> To ensure that organizations are prepared and adequately tested, new situations must be devised and significantly differentiated from previous ones, but must still be able to serve as realistic representations of what may occur during a financial crisis. Because details of exercises tend to be closely guarded, it is difficult to ascertain whether the balance between realism and complexity is sufficiently tested. Third-party observers, such as the International Monetary Fund and the World Bank, may be able to provide independent insight into the usefulness of these activities.

Third, Grande argues that a good testing activity should not be foreknown by participants to ensure participants are analyzing the situation as they would in a real crisis.<sup>17</sup> This ensures that there is a proper balance between preparedness, human analysis and decision-making. The “surprise factor” ensures that the next phase – the running phase – has enough importance and that participants are encouraged to participate actively and use their critical thinking abilities to make decisions.

The UNITAS tabletop exercise on market-wide crisis communication was carried out by Eurosystem’s Market Infrastructure and Payments Committee in June 2018. The report of this exercise suggests additional steps that could be taken during the design phase to improve outcomes, such as the creation of a financial sector map identifying the critical nodes within the system to provide a better structure for similar future scenarios.<sup>18</sup> A sector map outlines the various participants in the financial sector and shows the linkages between them. Thus, it provides participants with a stronger understanding of their operating environment and allows them to better coordinate their responses.<sup>19</sup>

### **Running phase**

Most jurisdictions keep the running phase confidential, and, as such, there is little available literature on this area. Some information on this phase can be gathered from disclosures by the Toronto Centre.<sup>20</sup> The Toronto Centre recommends when running an activity to use an “on-the-rails” method, which assumes that participants will follow the anticipated decision-making path designed by the organizer.<sup>21</sup> This method assumes a sequential path of actions for participants to follow. The Centre also suggests constructing alternate paths that could be implemented based on the decisions made by participants, although in these circumstances there must be binary decisions that can be made with only minor variances amongst possible responses.<sup>22</sup>

---

<sup>15</sup> Grande, 146.

<sup>16</sup> Grande, 145.

<sup>17</sup> Grande, 146.

<sup>18</sup> European Central Bank, *UNITAS Crisis Communication Exercise Report*.

<sup>19</sup> European Central Bank, 6.

<sup>20</sup> Toronto Centre, *Designing and Implementing a Systemic Financial Crisis Management Simulation*, TC Notes (Toronto, Canada: Toronto Centre, 2020).

<https://res.torontocentre.org/guidedocs/Designing%20and%20Implementing%20a%20Systemic%20Financial%20Crisis%20Management%20Simulation%20FINAL.pdf>.

<sup>21</sup> Toronto Centre, 9.

<sup>22</sup> Toronto Centre, 10.

## Reporting and feedback phase

The reporting and feedback phase has the most consistently available information in the literature. For example, the European Central Bank used the lessons learned and recommendations from the UNITAS exercise to inform the four areas of focus for the Euro Cyber Resilience Board for pan-European Financial Infrastructures.<sup>23</sup> However, it can be difficult to ascertain the implementation progress from other contingency plan testing activities. Oftentimes, the recommendations are broad, with very few explicit commitments.

The literature review finds four common themes that could be used to inform future contingency plan testing.

## Key Takeaways from Literature

- **Building structure vs. maintaining flexibility**

The design of a contingency plan testing exercise is crucial to maximizing the benefit it provides to an organization. Developing structure provides participants with a common knowledge base to establish their thought processes in an exercise. However, the World Bank cautions that too much structure can often act as a crutch for some participants who do not treat it as an analytical exercise and instead rely on documents like the Binder to make decisions.<sup>24</sup>

While structure guides the decision-making process, preserving flexibility is equally important as participants should exercise their decision-making ability. Striking a balance between structure and flexibility is no easy task. The Toronto Centre's Binder is a case in point as it is meant to serve as a "step in the process of building up crisis preparedness", not as an end-goal.<sup>25</sup> It aims to achieve a balance between structure and flexibility by providing ample background information to help guide decision-making without forcing participants to make a pre-determined decision.

The Toronto Centre also recommends creating short institutional profiles to help participants understand the various powers and duties of each organization and provide relevant background information for major financial institutions. This will allow participants to better understand the environment in which they operate and make informed decisions.<sup>26</sup> Thus, the literature reminds organizations that no two crises are alike, and, as such, they must balance their preparation with their ability to maintain flexibility.

- **Importance of the human element**

The literature agrees that preparation is essential, but it must be remembered that these exercises are designed to be analytical and should challenge the decision-making of individuals. This is especially true given that testing activities are designed to be unique, and, as such, preparation materials may not be

---

<sup>23</sup> Benoit Coeure, "Introductory Remarks at the Second Meeting of the Euro Cyber Resilience Board of the ECB," speech presented at the second meeting of the Euro Cyber Resilience Board for pan-European Financial Infrastructures, European Central Bank, Frankfurt am Main, Germany, December 7, 2018.

<https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp181207.en.html>

<sup>24</sup> Aquiles Almansi, Carol Yejin Lee, and Emiko Todoroki, "World Bank Crisis Simulation Exercises: What is at Stake in Coordinating and Making Decisions in a Crisis," *FIRST Lessons Learned Series* no.4 (Washington, DC: World Bank, 2016), 3.

<sup>25</sup> Toronto Centre, *Crisis Binder: An Essential Tool for Crisis Preparedness*, 4.

<sup>26</sup> Toronto Centre, 6.

able to cover all the intricacies of an exercise. Development of the preparation materials will help shape how the participants behave in a situation, but the results will depend on the choices made by the individual participants. No matter how good the crisis management plan is, it is important to highlight the fact that the plan is only as good as the people using it.<sup>27</sup> The literature encourages regular testing to encourage consistent decision-making in the organization.

- **Realistic and reliable information-sharing mechanisms**

Almost all the literature highlights issues with sharing information effectively in a crisis. Participants from the UNITAS tabletop exercise felt that they could handle the issue internally, but more coordination was needed at the cross-border level.<sup>28</sup> This shows that progress has been largely achieved at the organizational level, but progress is still needed to break silos and encourage information-sharing with external stakeholders.

While Memoranda of Understanding and other information sharing arrangements with external stakeholders have gained increased prominence, their operationalization has been more challenging than anticipated. This would suggest that additional work needs to be done to ensure that information can be shared quickly and securely during a crisis.

- **Inter-agency cooperation and coordination**

The literature reveals that most testing exercises are conducted within an organization with minor involvement of other financial safety net partners. For example, as mentioned in the UNITAS Crisis Communications tabletop exercise findings, most regulatory agencies feel comfortable in their ability to handle a situation internally, but there is a lack of understanding of operational interdependencies.<sup>29</sup>

Financial safety net agencies need to have a solid understanding of the roles and responsibilities among the agencies and how one's decisions could affect another organization in fulfilling its mandate.<sup>30</sup> Intervention options and major financial institution profiles could provide the necessary context to ensure that participants have sufficient knowledge to make informed decisions and limit unforeseen impacts affecting other financial sectors.<sup>31</sup>

Further, closer cooperation is necessary to prepare a comprehensive and coordinated response. In doing so, regulatory agencies can ensure that their actions do not overstep their authority and that individual actions are not contradictory.<sup>32</sup> By creating this harmony between participants, their coordinated actions can restore market confidence.

---

<sup>27</sup> Almansi, Lee, and Todoroki, "World Bank Crisis Simulation Exercises: What is at Stake in Coordinating and Making Decisions in a Crisis," 4.

<sup>28</sup> European Central Bank, *UNITAS Crisis Communication Exercise Report*, 9.

<sup>29</sup> European Central Bank, 6.

<sup>30</sup> Toronto Centre, *Designing and Implementing a Systemic Financial Crisis Management Simulation*, 6.

<sup>31</sup> For examples of relevant information, see Toronto Centre, *Crisis Binder: An Essential Tool for Crisis Preparedness*.

<sup>32</sup> Almansi, Lee, and Todoroki, "World Bank Crisis Simulation Exercises: What is at Stake in Coordinating and Making Decisions in a Crisis," 2-3.

### III. Contingency Plan Testing Practices

The analysis in this section is based on the responses received from a survey distributed to RCNA members in February 2020. Responses were collected from the AMF, CDIC, FDIC and IPAB.<sup>33</sup> The analysis also serves as a complement to the literature review by identifying other areas related to contingency plan testing in RCNA jurisdictions that may not have been discussed in the literature.

#### Origins of Testing Programs

The history of contingency plan testing in the region dates to the pre-Global Financial Crisis era. CDIC and FDIC began testing in the early 2000s, while the AMF and IPAB began testing after Global Financial Crisis. The organizations that established their testing programs prior to the Global Financial Crisis (CDIC and FDIC) have conducted more than twenty testing activities, and those that began testing afterwards (AMF and IPAB) have conducted between six and twenty to date.

As RCNA members have gained experience, they have begun to refine their objectives and processes. The FDIC began testing in the early 2000s. The original objective was to plan for risks outside the typical resolution experience. Following the Global Financial Crisis, testing increased, partly in response to increased responsibilities due to legislative changes in the Dodd-Frank Wall Street Reform and Consumer Protection Act.<sup>34</sup> Specific changes to the testing program addressed Title I resolution planning requirements and the increased focus on cross-border resolution preparedness under the Orderly Liquidation Authority.

Similarly, CDIC started ad-hoc testing contingency plans prior to the Global Financial Crisis and began developing a more robust program in 2011 to improve resolution preparedness considering the lack of actual bank failures in Canada. In 2019, in support of the enhanced Enterprise Risk Management (ERM) program, CDIC elevated its focus on contingency plan testing by creating a separate business unit (a dedicated testing department called “Centre of Excellence for Crisis Simulations”) to take a systematic and enterprise-wide approach to setting testing priorities.

Multiple events and factors contributed to the creation of contingency plan testing programs in other RCNA jurisdictions. For example, the AMF cites numerous foundational events that each played an important role, such as the H1N1 pandemic, having a designated domestic systemically important financial institution in its jurisdiction (Quebec’s financial cooperative group), and receiving the resolution authority mandate from the Quebec government through the amendment of the Deposit Insurance Act in 2018.<sup>35</sup> The development of an ERM framework since 2011 has also served as a driving force for the AMF to develop contingency plan testing activities. The IPAB notes that testing began in accordance with international best practices, as well as to promote continual improvement of the resolution processes.

---

<sup>33</sup> As RCNA members are at different stages in the development of their contingency plan testing programs, not all RCNA members participated in the research project.

<sup>34</sup> Title I of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) requires designated institutions to file resolution plans with the FDIC and the Federal Reserve. Title II, the Orderly Liquidation Authority, gives the FDIC resolution authority for designated non-bank financial institutions when specific conditions are met.

<sup>35</sup> As of June 2018, Bill 141 was passed by the National Assembly of Québec and the Deposit Insurance Act was amended. Then, the legal provisions relative to resolution came into force and the AMF was formally designated as the resolution authority of Québec’s Domestic Systemically Important Financial Institution.

Perhaps most notably, RCNA organizations are enhancing their capabilities to drive meaningful progress in other areas that might not be explicitly mentioned in contingency plan test reporting and feedback documents. This is promising as it suggests that contingency planning is improving preparedness and driving continuous progress. The next section will explore how this played a critical role in the responses to the COVID-19 pandemic which underscores the commitment in North American jurisdictions for ongoing improvements in preparedness.

Testing programs were largely developed internally with an organization's own expertise. However, on occasion, external consultants have provided support to RCNA jurisdictions. During 2011, the World Bank assisted Mexican financial authorities in coordinating and assessing an inter-agency simulation of a contingency plan proposed by the IPAB, which served as the basis for further internal simulations. Moreover, the IPAB developed its first tabletop exercise in 2015 with support from CDIC.<sup>36</sup> The AMF utilized external consultants at the beginning of the process for testing activities regarding payout and resolution. Also, it has sought out external consultants when testing business continuity plans (BCPs) when it is a non-financial event, such as a natural disaster. The FDIC was able to draw on a wide professional background from their own staff who possessed relevant planning experience from, for example, the military.

The analysis of this section focuses on the following types of contingency plan testing activities:<sup>37</sup>

- **Fire drills**
- **Simulations**
- **Tabletops**
- **Walkthroughs**
- **Workshops**

The above list is not exhaustive. The focus of this section does not include other preparatory testing that individual business units may conduct as part of its overall preparedness, such as stress testing or the testing of emergency funding availability.

### **Analysis of Testing Phases**

The following sub sections take a close look at practices in the North American region under each testing phase.

---

<sup>36</sup> The IPAB and CDIC have a Memorandum of Understanding to share good practices between the two organizations.

<sup>37</sup> Please see the Definition of Terms section for more information on testing activities.



## Organizational planning phase

### Main Findings:

- The three organizational approaches used by RCNA members for contingency plan testing are: centralized, distributed, and hybrid
- RCNA jurisdictions have developed multi-year testing plans and test the plans, typically, on a quarterly to semi-annually basis
- Flexibility is the greatest strength as it allows organizations to better respond to the ever-changing global financial landscape
- Challenges: Human resources shortage; planning for certain large-scale contingency plan testing activities; effectively communicating the role of contingency plan testing

The first phase of the contingency plan testing framework is the organizational planning phase. It differs from the other phases in that it is permanent and constantly evolving over time, while the other phases are specific to a contingency plan testing activity. As such, it is concerned with broader matters associated with the overall program and not involved with the specifics of individual testing activities. This phase is largely concerned with administrative and strategic decisions as opposed to operational matters.

### *Internal Organization*

Contingency plan testing programs can be structured in a variety of manners depending upon the internal structure of an organization. It can be the responsibility of a separate business unit (centralized approach) or distributed across multiple business units (distributed approach). They can also use a combination of both centralized and distributed approaches (hybrid approach).

The internal structuring of planning responsibility raises an interesting dilemma about subject matter expertise and operational expertise. While subject matter expertise is required for effective contingency plan tests, competing work priorities are an unfortunate reality for any organization. A dedicated business unit or a centralized business unit monitoring the overarching program can ensure that robust testing carries on with a solid rotation and improve consistency between testing activities. Having dedicated staff also allows the organization to develop expertise in the design of contingency plan testing activities. Nevertheless, there will still be a reliance on subject matter experts both for conducting the exercise and for input into the development of the exercises.

Whichever model is used, an effective coordination mechanism should be put in place to garner the internal buy-in from all relevant business units and elicit specific information relevant to the exercise. Internal communication is a major consideration in this regard. Dedicated contingency planning staff may be in a better position to communicate with participants across the organization, while subject matter experts may be in a better position to elicit specific information relevant to the exercise.

A separate business unit may be more adept at taking a broader approach to a scenario and incorporating business units that may otherwise be overlooked. This wider approach may add perspectives that may not be as apparent to the primary business unit. To the extent this produces a more comprehensive

approach, the scenario becomes more complex and realistic. One can explore new dimensions that may be outside of the core business unit’s normal consideration with this approach.

Organizations internally evaluate these options when deciding on whether a separate business unit is necessary. An overview of the potential benefits and challenges for each of the three primary approaches can be found in Table 1.

**Table 1 – Internal Organization of Contingency Plan Testing**

Internal Organization Approach	Potential Benefits	Challenges
<b>Distributed approach</b>	<ul style="list-style-type: none"> <li>• Strong subject matter knowledge base</li> <li>• Quick operationalization to begin testing program</li> <li>• Greater familiarity with relevant safety net participants outside the organization</li> </ul>	<ul style="list-style-type: none"> <li>• May result in less regular, systematic testing opportunities</li> <li>• May create knowledge silos</li> <li>• Fewer human resources with specific planning expertise</li> </ul>
<b>Centralized approach</b>	<ul style="list-style-type: none"> <li>• Develops a specialized simulation expertise</li> <li>• May lead to more comprehensive and systematic approach to preparedness</li> <li>• May promote communication across the organization</li> <li>• May avoid redundancies and maximize the efficiency of testing efforts across the organization</li> <li>• Consistent rotation of topics</li> </ul>	<ul style="list-style-type: none"> <li>• Significant human resources commitment</li> <li>• Effective communication and collaboration are needed to enlist support from subject matter experts across the organization</li> </ul>
<b>Hybrid approach</b>	<ul style="list-style-type: none"> <li>• Combines organizational-wide perspective of centralized approach while resting planning authority with the business unit</li> <li>• Efficient use of human resources</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer human resources with specific planning expertise</li> <li>• Need to ensure that testing priorities and expectations are aligned</li> </ul>

With the expansion of testing programs, RCNA organizations have adopted approaches that reflect their organizational dynamics and resource levels. Deviating from the distributed approach it used in the past, CDIC established a dedicated business unit for contingency plan testing programs in 2019 under the oversight of the Chief Risk Officer. The unit’s centralized testing function devotes full-time resources to contingency plan testing to ensure CDIC’s top risks are tested with enough frequency and optimal efficiency. Testing activities sit alongside ERM and will be used to drive continuous improvement in CDIC’s operational capabilities. Likewise, the IPAB utilizes a centralized approach and has granted operational independence to the unit in charge of contingency planning activities, by providing it with autonomy on the assessment of results obtained from exercises. The fact that this independent unit oversees synergic

activities, such as strategic planning, continual process improvement, and risk management, is a key consideration for its effectiveness.

The AMF and FDIC have organized their contingency plan testing programs using a hybrid approach. The AMF's Integrated Risk Management Committee is the central business unit responsible for the planning of multi-year testing programs for the BCPs and for the crisis management plans (high-level), including the resolution and deposit insurance testing activities.<sup>38</sup> Each business unit (Resolution and Deposit Insurance, Supervision, Securities, etc.) develops in detail a crisis scenario closely linked to its sector and ensures that its scenarios are harmonized with the central organ. The programs are determined and defined by considering the objectives and requirements of the ERM process. The centralization of the planning process ensures consistency across the organization while not having the effect of removing the implication of the business units at each testing phase.

In many cases, the FDIC uses a combined approach where the agency's Corporate University supports the design of contingency plan testing exercises and business units are responsible for conducting testing. Further, it is also necessary to consider the vast skillsets required to develop an effective contingency plan test. The FDIC notes that most tests are inter-divisional by nature and terms of reference are often created jointly by relevant business units. Open communication internally and across business units at the initial stages is vital for creating a coherent vision for the exercise and obtaining internal buy-in for testing activities.

#### *Testing Plans and Frequency of Exercises*

All survey respondents have developed multi-year testing plans to ensure regular testing, with the frequency generally occurring either quarterly or semi-annually. Most RCNA organizations have multiple key areas that are tested at regular intervals, as suggested by IADI Core Principle 6, Essential Criteria 2.

As contingency plan testing exercises are unique, the time required to design each activity varies. Due to the unique nature of testing activities, the time consumption entries are best estimates and may be higher for some testing activities if more training materials need to be prepared in the design phase. The organizational planning phase would consider the information in Table 2 to determine its testing schedule, priorities and other high-level strategic matters. The actual selection and development of the appropriate testing activity format is reserved for the design phase. Table 2 presents insights into the planning processes and the approximate time commitments needed for selected exercises at CDIC.

---

<sup>38</sup> The scope of the Integrated Risk Management Committee's responsibilities goes beyond the planning phase when the AMF's crisis management unit is involved with testing activities. In such case, the Integrated Risk Management Committee is also part of the designing, the running, and the reporting and feedback phases.

**Table 2 – CDIC Testing Frequency<sup>39</sup>**

	Frequency of specific testing activity (monthly/quarterly/annually/etc.)	Time consumption (Approximate hours per one exercise)	
		Design Phase	Running Phase
Simulations	Annually (payout)	100 – 150 hours	24 – 40 hours
Tabletop	Quarterly	20 – 100 hours	2 – 3 hours
Walkthrough	Ad hoc throughout the year	15 – 24 hours	1 – 2 hours
Fire drill	Quarterly	15 – 24 hours	1 – 2 hours
Interagency exercises (with financial safety net)	Annually to semi-annually	20 – 100 hours	2 – 3 hours

With different forward-looking orientations, RCNA organizations have developed different paths to achieve readiness. The AMF’s Resolution and Deposit Insurance Department develops a three-year testing plan but preserves flexibility to make timely changes to the original plan. To ensure continuity management, the AMF’s Integrated Risk Management Committee ensures there is a proper rotation. Meanwhile, the IPAB adopts a slightly similar approach by updating the planning based on assessments from previous contingency plan testing activities. CDIC strives to find a middle ground in this regard and has developed a rotating pool of exercise themes primarily focusing on resolving member financial institutions, including payout and liquidation processes.

The AMF and CDIC have many commonalities in this area as they both received numerous powers and responsibilities for resolution following the Global Financial Crisis. Areas related to D-SIFIs/D-SIBs have been refined and tested, but many of the new special intervention powers related to non-systemic institutions remain undertested. The FDIC notes that testing is particularly helpful given that many of the new powers and tools received after the Global Financial Crisis have not been extensively used in practice.

Multi-year plans have been developed in RCNA organizations to systematically test contingency planning activities. In doing so, organizations maintain the flexibility to modify or add business areas that have not been sufficiently tested in future testing activities. For example, the AMF intends to address governance issues and coordination with the resolution board when established and financial safety net partners in the coming years.

RCNA organizations reported positive internal support for contingency plan testing activities. This includes buy-in and active support from higher management, which is key in developing regular and systematic testing processes. However, financial support differs among RCNA organizations. With a separate department, CDIC is the only organization to have financial and human resources directly allocated to the testing program within its operating budget. The AMF bases these items off allocations from each department’s budget as the business units are responsible for their BCPs and their crisis management plan.

<sup>39</sup> CDIC conducts additional testing as needed, and, as such, the testing activity may occur more frequently than stated.

Member financial institutions are generally not involved in contingency plan testing with RCNA organizations. Nevertheless, they are required to fulfil annual compliance testing requirements and may also be required to conduct resolution tests by themselves.

### *Challenges*

The organizational planning phase is associated with several complexities. Human resources are a significant obstacle, given the numerous business units involved in a comprehensive testing exercise. Additionally, RCNA organizations initially encountered minor issues with properly communicating the role of contingency plan testing and its necessity. At the beginning, some organizations were concerned about whether these activities would be construed as indicating that a failure was expected.

Obtaining support and buy-in from senior management and relevant business units is necessary to enhance preparedness and resiliency. Regular testing and familiarity with the activities help allay concerns and fears employees may have and provide a better understanding to the objectives and assuage larger fears or concerns that may be present. In doing so, there will be a shift in culture and appetite for these activities.

### **Design phase**

#### **Main Findings:**

- The most reported testing activities among RCNA organizations were tabletop and simulation exercises
- Inter-agency testing activities can improve cohesion and serve as a baseline of awareness of statutory frameworks, clarity of mandate and objects for each agency in a crisis scenario
- Challenges: Limited human resources; testing fatigue; crafting complex but realistic testing scenarios; leveraging subject matter expertise for testing exercises without compromising their ability to participate; sharing the optimal amount of information with participants prior to the running phase

The design phase differs from the organizational planning phase in that it is focused only on a specific testing activity. The design phase can provide numerous opportunities to examine existing processes and procedures. The FDIC notes that the design phase can drive continual improvement as the process of designing a contingency plan test might produce additional useful insights. The AMF Case Study in Section 5 A exemplifies how the design phase contributes to meaningful improvements. Thus, there are benefits to contingency plan testing beyond the exercise itself.

### *Format of Testing Activities*

The design phase involves decision-making related to the appropriate testing activity's selection (these activities can include simulations, tabletops, walkthroughs, fire drills, workshops, etc.) and resources necessary to test a process or function. As each situation is unique, the type of testing activity and resources required for an individual testing activity will differ.

To shape the structure of a testing activity, terms of reference are drafted to ensure there is a coherent vision for the running phase. The development of the terms of reference is generally a collaborative effort

by the staff from relevant business units. This allows the design phase to proceed smoothly and create a seamless transition to the running phase.

The most common contingency plan tests in the RCNA region are tabletops and simulations. Between the two types, tabletops are preferred given that they require fewer resources and are easier to plan. Simulations can take considerably more hours to plan,<sup>40</sup> which may affect the testing frequency. Despite the substantial time commitment for simulations, most organizations aim to conduct one simulation exercise per year at a minimum due to the potential insights these exercises may offer.

Workshops often follow a tabletop exercise. Workshops provide a comprehensive and well-planned process for developing specific actions to address issues identified in a tabletop. Utilizing a workshop adds the element of developing specific, targeted deliverable products ready for implementation at the end of the testing activity.

Fire drills and walkthroughs are two other types of contingency planning exercises that offer desirable outcomes in terms of improving operational effectiveness. Fire drills directly challenge participants' decision-making abilities as well as their ability to gather important information spontaneously. Interestingly, fire drills require substantially less time in the design phase compared to more popular tabletops. Fire drills also align with one of the criteria Mauro Grande identifies: retaining spontaneity.<sup>41</sup> Walkthroughs provide opportunities for staff to understand the process better by providing a more relaxed setting; they can also complement corporate training programs.

Section Five presents a few case studies from RCNA jurisdictions to further illustrate different types of contingency planning testing activities.

### *Scope*

Consistent with the literature review, most tests for all RCNA respondents were internal and did not involve other financial safety net agencies or external stakeholders. However, given the importance of such undertakings, inter-agency testing among the safety net organizations is on the rise in some jurisdictions, especially regarding the resolution of a G-SIB. For example, CDIC has been conducting inter-agency tabletop exercises for several years. The testing activities were organized on a biennial basis since 2014 and the frequency was increased to an annual basis in 2018. In 2020 alone, CDIC conducted two tabletop exercises with Canadian federal safety net organizations. This is in addition to regular system testing activities undertaken with interagency working level staff to test technical areas, such as funding processes.

### *Challenges*

The survey elicited insights into overall programs and ongoing, self-identified issues. Testing fatigue is a major concern because frequent testing can weaken participants' engagement level in future testing activities. This is an element insufficiently covered in literature given its limited focus on the running phase. Further, some organizational disconnect exists with defining the scope and objectives for exercises between business units. Creating a coherent vision is essential in the design phase, which is why all

---

<sup>40</sup> Simulations often take 100-150 hours of planning, but it could require upwards of 200 hours if a significant amount of new materials need to be prepared.

<sup>41</sup> Grande, "Recent Experiences in the Conduct of Domestic Crisis Simulation Exercises," 146.

relevant business units should assist in the drafting of the terms of reference for the exercise, as noted by the FDIC.

In addition, Mauro Grande's second element of striking a balance between realism and complexity for effective testing activities creates two connected issues.<sup>42</sup> First, one must create complex but realistic scenarios. For example, the IPAB experiences difficulties with designing sufficiently complex testing activities, especially those that involve third party roles, such as the services of an agent bank for payouts. To address this issue, organizations leverage critical details and in-depth knowledge that is best provided by the appropriate business units. However, in doing so, the second issue emerges with regards to leveraging this subject matter expertise without compromising their ability to participate in the exercise. CDIC's Centre of Excellence for Crisis Simulations often solicits feedback from the core business units. However, the staff who help with the design of the exercise are precluded from attending the exercise as participants, albeit they can attend as observers. This measure is undertaken to offer the opportunity for more staff from core business units to have an authentic experience in dealing with a crisis scenario. This is to preserve the surprise factor referred to in literature by Mauro Grande<sup>43</sup> and the Toronto Centre.<sup>44</sup>

Finally, determining the right amount of information to share with participants prior to the exercise can be difficult. CDIC's Centre of Excellence for Crisis Simulations informs the participants of the testing activity and ensures that all business units can contribute effectively. Doing so has made it difficult to determine how much information is necessary to ensure everyone has the same baseline of knowledge. Participants need to be sufficiently informed to better use the limited time during the running phase. However, sharing too much information can also either detract from the main objective or reduce the need for analytical thinking. Thus, it requires a measured approach to ensure that all these factors are considered when deciding what information to share.

### Running phase

#### Main Findings:

- The number and level of staff involved in depends on the business area being tested and the type of testing activity
- Moderators play a pivotal role in a testing activity's success
- Challenges: Properly exploring all aspects of a testing activity takes more time than initially anticipated in the design phase; Creating a realistic environment for participants is challenging as they may not have the same level of pressure or urgency for decision-making; Difficulty in ensuring an equal level of information/knowledge-sharing among all participants

---

<sup>42</sup> Grande, 145.

<sup>43</sup> Grande, 146.

<sup>44</sup> Toronto Centre, *Crisis Binder: An Essential Tool for Crisis Preparedness*, 8-9.

Once the design phase has concluded, the testing activity can move to the next phase. The running phase encompasses the activities of the actual exercise. Guidelines need to be formalized to ensure consistent results through activities and minimize external influences on participants. Objectives or measures of success are always determined *ex ante* through the terms of reference.

There is no ideal number of participants for testing activities. Instead, the level of staff varies depending on the business area or process being tested. Some limited scope testing activities could be performed with a small group of staff. Nevertheless, operation-based exercises that mobilize all the necessary personnel and logistics such as simulations can necessitate considerably more participants, as experienced by CDIC in its payout and liquidation simulation in 2020.

During a testing activity, the moderator guides participants through the testing activity. The moderator generally takes a neutral role in the exercise and is tasked with taking notes, maintaining engagement and tracking time. However, the moderator can assume a more active role by drawing out tension areas to facilitate further discussion. In doing so, the moderator can effectively move the needle on the state of readiness. CDIC has experienced success when moderators actively draw out tension areas during the testing activity. Exploring these tension areas focuses on granular details and actions and requires participants to thoroughly evaluate their actions. This challenges secure beliefs and invites participants to analyze areas they might not have considered otherwise. With the support of an active moderator, the running phase can identify more opportunities for improvement and also help drive continuous improvement.

### *Challenges*

RCNA members identified several challenges associated with the running phase. A common challenge that was also noted in earlier phases is the difficulty in ensuring key participant availability. As testing is preparatory, each business unit is still responsible for its pre-existing priorities and deadlines. This can make it difficult to coordinate the testing activity. The AMF has encountered this when scheduling testing activities for its BCPs. This difficulty is highlighted by Mauro Grande's second element, as there is a cost in terms of disruption of regular tasks.<sup>45</sup> Despite that challenge, the FDIC adds that these tests are excellent opportunities to improve relationships, integrate newer employees, and eliminate knowledge gaps for new employees. Regular testing ensures a better transfer of knowledge over time and addresses any gaps that may emerge from natural employee succession. Overcoming scheduling issues may be difficult, but it reaps substantial benefits for the organization.

As contingency plan testing activities are complex events with numerous intricacies, addressing all the intended topics within the allotted timeframe is generally more difficult than originally anticipated. The AMF encounters difficulties with creating a sense of urgency in decision-making to reflect a crisis scenario. The IPAB strives to carefully balance the scope of a scenario, between the ambitious goals and limited resources allocated to the exercise.

Containing the discussion to the scope of the exercise on the primary objectives is challenging. Participants need to filter out additional information and events that do not reflect the primary objectives of the exercise in order to make effective decisions. The human element can be more difficult to anticipate and

---

<sup>45</sup> Grande, "Recent Experiences in the Conduct of Domestic Crisis Simulation Exercises," 145.



requires a focused approach to keep the running phase on track. Clearly established terms of reference can help mitigate these issues in combination with a seasoned moderator.

In addition, it can be difficult to ensure that participants receive the right amount of information prior to an exercise. During the running phase, participants must utilize their analytical decision-making abilities, which may benefit from having a strong foundation of common information to help inform and guide their thought processes. As referenced in the literature, the Toronto Centre's Crisis Binder provides guidance for creating a repository that can be used for contingency plan testing exercises. It can create a standard level of knowledge for all participants and provide accessible information on the financial regulatory system.

### Reporting & feedback phase

#### Main Findings:

- Feedback from testing exercises informs future exercises and shapes organizational structure
- The most common method is to share feedback reports with management and develop a plan to address the areas for improvement. Workshops, conducted by the FDIC, are a more systematic way to address recommendations and lessons learned from other testing exercises
- Challenges: Timely feedback can be difficult at times given limited resources

The reporting and feedback phase connects the lessons learned from the running phase with the organizational planning phase. A successful reporting and feedback phase should provide new insights that an organization can leverage to improve or refine its processes. As such, it is important to nurture a conducive environment to stimulate honest and critical dialogue. The feedback process should aim to extract granular details that can drive meaningful change and improve the overall preparedness of an organization.

The AMF's 2014 payout simulation is a prime example of how contingency plan testing feedback can generate positive results. While it did provide numerous immediate benefits for the deposit insurer's intervention framework, it also raised future issues to address and provided guidance that aided the development of the new deposit insurance reimbursement system. Testing activities contribute to baseline awareness of statutory frameworks and improve coordination at the business unit level and at the inter-agency level for the FDIC. By addressing the feedback and reporting provided in conjunction with testing activities, organizations will be able to prepare coordinated responses to future crises.

The most common method of preparing feedback is to develop a report based on the main findings and lessons learned. The report is disseminated to participants and a feedback session is organized with the participants to identify areas for improvement. The feedback report may also be shared with the senior management and Board of Directors (governance body). CDIC has started conducting tabletop exercises

for its Board of Directors resulting from the Board's positive reactions to the findings and feedback solicited from previous testing activities.<sup>46</sup>

FDIC has developed a systematic process for implementing feedback and recommendations from testing activities. Workshops are used to develop specific responses and improvements that were identified during the running phase of other activities, such as tabletops. In a workshop, business units can address recommendations from other testing activities with credible responses. Outcomes of workshops are used to improve organizational planning and preparedness. Notably, the FDIC finds that workshops improve coordination between different business units and help to clarify roles and responsibilities in a crisis.<sup>47</sup>

Although each test is unique, common gaps and barriers persist that emphasize the need to improve feedback and reporting to address them. Continuous testing and proper feedback can improve decision-making that respects the roles of other business units and financial safety net partners. The findings of this section portray the realities of contingency plan exercises and the issues faced. There is no one approach that fits each organization. The RCNA members have been successful in finding the approach that works well for the circumstances and the resource levels of their organizations.

### *Challenges*

Similar to other phases, RCNA organizations identified challenges inherent to the reporting and feedback phase. This phase may not receive the same level of importance compared to other phases due to the absence of urgency associated with it. While the reporting and feedback phase produces meaningful lessons learned, and can even improve the organizational planning phase eventually, its impacts are not felt immediately. Producing a final report will formalize and solidify these lessons learned and possibly help formulate recommendations, but other business units will be less directly involved. RCNA members also highlighted the difficulty in developing feedback reports due to other business priorities. Sometimes a presentation will be made to the governance body in lieu of a formal report in order to strike a balance between timely reporting and minimal resources.

---

<sup>46</sup> The scope of the Board exercises may include technical areas such as decision-making processes when a member financial institution is in distress, as well as bail-in tools.

<sup>47</sup> A case study is provided in Section Five C.

## IV. Contingency Plan Testing in Response to COVID-19

### Main Findings:

- RCNA organizations demonstrated resilience in shifting to new priorities in the remote working environment during COVID-19
- The AMF adapted its pre-planned testing activity to better reflect current realities. CDIC increased the frequency, and scope of contingency plan testing activities, and organized additional exercises with the Board of Directors and the financial safety net partners to identify the areas for improvement and advance overall resolution preparedness
- The FDIC and IPAB resolved banks during the crisis. The experiences provided information that will help inform future contingency plan testing activities

Since March 2020, COVID-19 has posed major public health risks and created uncertainty globally. Contingency plan testing gained increased relevance as deposit insurers and resolution authorities sought to increase their preparedness. This section is designed to capture the role contingency plan testing played in responding to COVID-19 in North American jurisdictions. Information for this section is derived from: IADI surveys (IADI Survey on COVID-19 Implications for Deposit Insurers), RCNA meeting minutes (April 1, 2020), and follow-up meetings with RCNA members.

RCNA members took decisive actions to protect their staff while continuing to perform their responsibilities, including contributing to financial stability. Most employees at RCNA organizations shifted to working remotely and the organizations prepared comprehensive regulatory relief measures in coordination with other financial safety net players in order to stabilize financial markets. The AMF, CDIC, and FDIC were able to activate relevant BCPs that they had previously developed for pandemics and other major office disruptions to help minimize the impact and disruption due to COVID-19.

Flexibility reigned paramount as RCNA organizations swiftly adjusted their plans to address the new financial vulnerabilities that emerged. Among other disruptions caused by the COVID-19 pandemic, many RCNA jurisdictions adjusted their testing schedules for the first half of 2020. For example, the AMF was scheduled to conduct a payout simulation in March 2020. A decision was made to convert the payout simulation into a tabletop exercise, which is less resource and time intensive than simulations. The AMF was able to successfully adapt the extensive resources it had devoted to the design phase of the simulation and present it in a tabletop that better reflected the time and human resource challenges that emerged as a result of COVID-19.

CDIC encountered a similar challenge that impacted the pre-planned testing activities for the first half of the 2020 calendar year. The testing plan was modified to reprioritize the planned activities in order to address CDIC's highest risks and preparedness priorities to better reflect the evolving risk environment. CDIC also reviewed and strengthened its overall preparedness for operational risks arising from multiple or concurrent member financial institution failures in the same quarter.

CDIC's Centre of Excellence for Crisis Simulations organized a series of testing activities starting from early May 2020. The first was an inter-agency tabletop exercise for the Canadian federal safety net agencies. The second tabletop exercise occurred with the CDIC Board of Directors. The objective was to test the risk appetite for taking early and pre-emptive actions in respect of certain high-risk member financial

institutions. In these exercises, CDIC presented a set of hypothetical case facts along with recommended resolution strategies for a few member financial institutions. The tabletop exercises helped CDIC's preparedness activities by clarifying the practical applicability of some resolution tools, decision-making rights among the financial safety net organizations, and understanding the areas where the efforts of more preparedness activities should be focused.

In addition, more than 90 staff from across CDIC attended a three-day simulation in July. The objective of this exercise was to test CDIC's ability to execute a payout and liquidation in pandemic mode, focusing on the: timeframe for completing the key elements of a payout in the current virtual/working-from-home circumstances; internal decision-making and risk appetite when faced with imperfect/incomplete information (e.g. incomplete brokered deposit/beneficiary data); and the roles and responsibilities of business units, including for liquidation and estate management. The exercise was a resounding success as it helped CDIC understand the practical aspects of the liquidation process and identify areas for improvement in the context of decision rights, communications, governance, resource gaps (key person risk) and optimal work arrangements in a virtual office setting.

The FDIC and IPAB dealt with bank failures in 2020 which impacted their regular testing schedules. Although the IPAB's contingency plan testing activities were scheduled for the second half of the year, an actual payout event occurred in July 2020, involving a bank with more than 600,000 depositors with eligible covered deposits. Due to the volume of depositors and the complexity of payout conditions, no contingency plan exercises were considered plausible from July to September.<sup>48</sup> The fact that the payout activities took place following the COVID-19 contingency measures allowed for a better understanding of these challenges, providing useful lessons that will be taken into account in the design of future contingency plan testing activities.

In April 2020, the FDIC managed a bank failure. Because of the pandemic, the agency changed its approach to marketing the failed institution since regular onsite due diligence was not possible. The FDIC sent fewer staff on-site and relied more heavily on third parties (contractors and other service providers) to make data available for staff to review offsite. The FDIC also employed a health and safety officer to address concerns of those who went on-site and provided increased janitorial services and personal protective equipment. Two additional failures were managed by the FDIC in October 2020. The FDIC applied the same precautions that it used in the earlier failure.

The FDIC was able to successfully manage the resolution without consequence. Despite the challenges, the FDIC planned to retain its regular schedule for contingency plan testing.

---

<sup>48</sup> While Mexican regulations state that a depositor payout must be made in 90 days, IPAB's internal procedures aim to ensure that the payout process is concluded as soon as possible.

## V. Case Studies

The following section provides four case studies of recent contingency plan testing activities conducted by the RCNA survey respondents. In order to provide greater insights into the testing activities, the case studies are framed into the four phases identified by this paper.

### a. AMF Simulation

#### 1. Context

The AMF has carried out simulations and tabletop exercises over the years to test its contingency and crisis management plans. The specific objectives of these exercises were:

- to improve the understanding of the reimbursement process prior to developing the automated reimbursement system (2014);
- to test the first iteration of Québec’s D-SIFI resolution plan (2017); and
- to stress-test the cheque printing process and equipment (2017).

A complete reimbursement activity (i.e., simulation exercise) was to be carried out just after the development of the AMF automated deposit reimbursement system. The planning of the simulation exercise included the AMF staff who could be involved in case of an authorized deposit institution failure.

The following case study presents some steps accomplished for a simulation exercise the AMF originally planned to undertake in 2019.

#### 2. Design phase

The simulation exercise aimed to test the decision-making process of the reimbursement, the functionalities of the deposit reimbursement system and the required training material, which will help to develop the working plans for the next few years. The exercise was designed on the premise of a member financial institution failure, which would result in the AMF reimbursing depositors. Having this general scope in mind, the next step was to identify relevant participants and stakeholders within the AMF who would have a high probability to be called upon to intervene in case of a real reimbursement.

A kick-off meeting was hosted by the Superintendent, Solvency to present the project and to boost the involvement of the participating staff in the simulation exercise. The level of involvement required was presented for planning purposes. During the following months, groups of participants met separately to design the processes based on their roles and responsibilities in a payout activity, or to enhance existing processes when possible. The result was a high-value activity yielding deliverables usable as references during any simulation or real payout.

The detailed scenario was developed during the same period. It was known only by a few people designated to act as the “gamemasters.” As the simulation exercise unfolded, the scenario was revealed to participants. The scenario presented the failure of a member financial institution having a few thousand depositors and located in a remote area under significant economic distress. The events leading to the

failure and some alternative paths were designed for use during the simulation exercise with the AMF Crisis Management Unit. Data compliant with the published data table requirements were also produced using an in-house tool. This tool can randomly generate thousands of realistic depositors, as well as specific data for many complicated or fringe situations expected to require some human intervention during a payout. Many of the situations were linked to call scripts written for the call center agents involved in the simulation exercise. The aim was to cover as many situations as possible, in order to test the processes, the training and the system. Member financial institution reconciliation data, needed to track the fictional payments, were also generated. Developing the scenario and generating data were the most time-consuming steps of the entire exercise and required in-depth knowledge of the system and its processes in order to make the exercise as realistic as possible.

The reimbursement system already had very comprehensive documentation, but it was geared towards the Information Technology Department and a few members of the Resolution and Deposit Insurance Department dedicated to operating and maintaining the system. Proper user-centric training material was lacking and very few people had practical experience with the system. Since payout situations are infrequent in Québec, it was determined that the best way to make sure all parties involved would have the necessary skills to perform their duties was to develop training videos. The videos are always available, allowing users to re-watch them. About 60 videos, amounting to 8 hours of training, were developed to present the system and its processes in-depth. These videos targeted specific subjects and were bundled into six different user profiles. Dynamic screen captures were taken, and the proper actions were narrated as the analyst operated the deposit reimbursement system with a set of data like the one to be used in the simulation exercise. It ensured that every single function of the system could be shown. Even if this was not the intention, the development of training videos served as a realistic integrated test of the system. Also, previously undetected bugs were found and subsequently corrected. The video format had the advantage of being quicker to develop, and be more detailed and more engaging to watch than by reading an equivalent user manual.

One challenge of the design phase was linked to the planning of the simulation exercise. Since it was decided to involve AMF high-level executives who are members of the Crisis Management Unit, the potential dates for the simulation exercise were very limited. A compromise had to be made and some parts of the simulation exercise were run asynchronously with the core simulation exercise, for example, the activities involving the Public Relations and Communications Department.

### **3. Running phase**

During the first week of December 2019, part of the simulation exercise was held with the Public Relations and Communications Department. The scenario presented an operating member financial institution that was about to fail. The members of this department debated the implementation strategy with the goal of keeping the situation under control. They did not want to induce panic amongst depositors, and they examined the actions to take in case information about the member financial institution's situation leaked among the general public. The department produced a series of visuals (i.e. pictures, diagrams), press releases, a communication plan and also made the necessary adjustments to the existing dark site, all of which could be deployed if necessary. Another meeting was held a few days later, during which the department were informed that the situation had evolved, as the failure of the member financial

institution was about to be made official. Members of the Public Relations and Communications Department made the necessary adjustments to their plan and produced the necessary deliverables for the situation. Those proved to be of high quality and could serve as templates if a similar situation were to occur in the future. This part of the simulation exercise, which was ran asynchronously with the others, proved to be a success.

The continuation of the simulation exercise was supposed to be held on December 10, 2019, with the Crisis Management Unit. The scenario included evaluating whether interventions other than a payout were possible. The exercise, however, was designed to conclude that a payout was the only realistic option. During the next two days, AMF staff involved in the simulation exercise were supposed to receive the data from the failed member financial institution, process it, print the payout cheques and the statements and make them ready for mailing, while dealing with the scripted interactions with depositors. Cheque reconciliation activities, payout approval and some interactions with the AMF Crisis Management Unit were also part of the plan.

Nevertheless, an unforeseen event, which required the immediate attention of the AMF Crisis Management Unit and the many resources involved in the simulation exercise, occurred and forced the exercise's postponement. As stated previously, ensuring that everyone was available at the same time proved to be a challenge and the exercise was re-scheduled for the week of March 16, 2020. However, the COVID-19 crisis occurred, and all the AMF staff started working from home on this date. Since the simulation exercise required a physical presence, the exercise was postponed. At the time of writing this case study (September 2020), no new dates had been scheduled.

The public health crisis prompted the AMF Extended Crisis Management Unit to re-evaluate its contingency plans.<sup>49</sup> The Extended Crisis Management Unit had to make sure that any solvency situation that could occur in the following months could be properly dealt with. The team implicated in the planning and development of the simulation exercise was asked to prepare a scenario similar to the original one. The scenario presented to the Extended Crisis Management Unit included checklists for every major step of the pre-reimbursement and reimbursement processes. The experience gathered during the planning of the initial simulation exercise allowed the team to prepare a very detailed document in a short period of time. The presentation occurred early in April 2020. It was in the format of a short remote tabletop exercise. It was well received by the AMF Extended Crisis Management Unit and raised awareness regarding the reimbursement process across the organization.

#### **4. Reporting and feedback phase**

The initial simulation exercise included plans to debrief all participants. The debriefs were meant to analyze what went well or wrong, and aspects needing any improvements. As with the simulation exercise, the debriefs were pushed back, resulting in no official feedback gathering or results dissemination activities following the alternative exercise.

---

<sup>49</sup> The AMF Extended Crisis Management Unit was, prior to COVID-19, composed of original members of the Crisis Management Unit. Additional executive members joined the unit when the COVID-19 outbreak began.

Although the planned simulation exercise could not be held, the process had greatly increased the involved staff's preparedness. This was demonstrated during the tabletop exercise with the AMF Extended Crisis Management Unit, as only two issues arose:

- 1) The legal steps necessary to obtain a winding-up order needed to be clarified and made shorter. As this was not part of the initial simulation exercise, work had to be done on this aspect in the following months;
- 2) The depositor reimbursement system had to be duplicated to ensure its availability at all times, as the general alert level had been raised. The necessary steps were then taken to make this duplication permanent.

Feedback was gathered through email exchanges on the simulation exercise held with the Public Relations and Communications Department during the first week of December 2019. Some minor improvements to the deliverables were noted and potential communication issues with a designated liquidator were identified.

## **5. Lessons learned**

The series of unforeseen events plaguing the simulation exercise prevented the AMF from gathering all the expected lessons normally raised by this kind of exercise. Nevertheless, the organization benefited from a lengthy and thorough design phase. It yielded many positive results, notably:

- The reimbursement process and sub-processes awareness was improved throughout the organization.
- The step-by-step processes designed with each department clarified roles and responsibilities. These processes could be reused for other payout scenarios.
- The depositor reimbursement system now has proper end-user documentation and training material, accessible at any time.
- The bugs identified during the development of the training material were fixed. The importance of completing integrated acceptance tests during the system development was highlighted.

The design phase and the exercises conducted with the Public Relations and Communications Department and the AMF Extended Crisis Management Unit also helped to identify the following weaknesses:

- The trainees' feedback indicated that the training videos were not sufficient for training purposes. Although they proved a great way to get acquainted with the system and its processes, they are not as efficient as user manual documents when a quick checkup or research needs to be done. As such, a user manual was developed for those situations.
- The design of a pre-closing scenario leading to a member financial institution failure and reimbursement of its depositors has shown that a lot of work needs to be done, notably for interventions such as financial assistance, purchase and assumption agreements and receivership. The processes, as well as the roles and responsibilities surrounding those interventions, need to be detailed and eventually, become part of a dedicated simulation.
- All legal aspects surrounding a winding up order and a financial institution's reimbursement need to be looked at more closely. They were purposely excluded from the planned simulation



exercise, and as such, they became one of the sore points identified during the tabletop with the AMF Extended Crisis Management Unit.

- Interactions with a potential liquidator also needed to be clarified.

Likewise, the following lessons were learned regarding the design and planning of testing activities themselves:

- Preferably, future exercises should separate the tabletop exercise to be held with the high-level executives (i.e. the Crisis Management Unit) from the operational simulation exercise, in order to alleviate most planning issues. Had this been done, the operational simulation exercise would probably have happened in December 2019, and not postponed due to the COVID-19 outbreak.
- Exercises with the AMF Crisis Management Unit needed to be held even if another crisis was underway, as such events can often happen at the same time. Executives must be able to handle such concurrent situations. In the same vein, the absence of key executives should not mean the postponement of the exercise, as backups should be able to play their role.
- Simulation exercises taking into consideration social distancing measures will become unavoidable if these measures stay part of our reality for a while.

## **6. Conclusion**

As mentioned, the simulation exercise was scuttled due to unfortunate events. Nevertheless, the alternative exercise was a success considering preparedness had been improved, notably due to all the work done prior to the simulation. The seriousness shown by all participants, who prepared as if a real failure was about to happen, was a key to this success. It also demonstrated that proper onboarding of resources, as well as allocating the necessary time and effort, are of utmost importance. The AMF still intends to hold a hands-on reimbursement simulation exercise soon to confirm this general impression, but the preparation required will be greatly reduced.

## **b. CDIC Fire Drill**

### **1. Context**

As part of its robust and comprehensive contingency plan testing program, CDIC conducts multiple testing activities throughout the year to maintain a high level of preparedness. To serve as a counterbalance to its major tabletops and simulations, CDIC also undertakes spontaneous and less resource-intensive testing activities such as fire drills and walkthroughs. These activities serve as a regular opportunity for staff to practice and refine their decision-making in crisis scenarios. Frequent testing develops a proactive culture that is more aware of risks facing CDIC.

This case study presents a fire drill exercise CDIC's Centre of Excellence for Crisis Simulations organized in December 2019 and discusses the steps involved in the design, running, and reporting and feedback phases.

## 2. Design phase

The hypothetical scenario of the fire drill was premised on a member financial institution and assumed the institution had suddenly lost access to a major source of brokered deposit funding (posing a significant refinancing risk). The Centre of Excellence for Crisis Simulations prepared an e-mail with relevant key information for the model institution and a list of questions participants would be asked to answer during the two-hour exercise. The fire drill was designed as a desktop exercise and did not include a moderator.

The objectives of the fire drill were to:

- a. understand the roles and responsibilities when an unplanned event occurs, and senior management is away from the table;
- b. prioritize tasks, taking a corporate-wide view as well as a view from respective divisions; and
- c. identify challenges and single points of failure in a crisis management scenario.

Senior management was intentionally excluded from the scenario to test operational-level decision-making and processes.

## 3. Running phase

The scenario was delivered at 9:00AM over e-mail and sent to all (13) members of the then Management Risk Committee, which was a collection of business owners across the organization that would be involved if a member financial institution were to experience financial distress. The respondents were tasked with identifying their top priorities and assigning resources to those priorities while ensuring the continuity of business as usual activities. The participants were given two hours to respond to the questions attached to the e-mail. They were also explicitly informed that senior management would be unavailable, and that the responses must be compiled without any input from senior management.

The e-mail contained a mock financial institution with relevant financial information, such as the amount of insured deposits, its Common Equity Tier 1 ratio, and its CDIC member risk rating. In the scenario, the supervisor, the Office of the Superintendent of Financial Institutions<sup>50</sup>, informed CDIC that its primary deposit broker had stopped doing business with the institution, and a short-term funding shortage could emerge within the next 90 days. As an added difficulty, it was revealed that the brokered deposit data might not be in the proper data format.

Upon receiving the e-mail, participants convened an emergency meeting to submit a single response to all questions on behalf of all business owners. Replacement delegates represented some staff who were attending pre-existing engagements at the time of the fire drill exercise. While it was originally intended to focus on individual actions and responses, participants decided to address the situation collaboratively.

As part of their final response, participants responded to multiple questions outlining their anticipated responses to certain scenarios and events in the pre-intervention phase and the intervention phase, as well as how it would impact BAU activities during the process.

---

<sup>50</sup> The Office of the Superintendent of Financial Institutions (OSFI) is the Canadian federal prudential supervisor that ensures federally regulated financial institutions and pension plans are in sound financial condition and are meeting regulatory and supervisory requirements.

#### 4. Reporting and feedback phase

Feedback for this testing activity was gathered by the Centre of Excellence for Crisis Simulations following the exercise through a survey distributed to participants. Over 90% of participants agreed that the fire drill met its expectations and there was a united desire for additional fire drill activities in the future.

The Centre of Excellence for Crisis Simulations developed a findings report and recommended action items (reflecting the views of the Centre of Excellence for Crisis Simulations, as well as responses received through the feedback survey). Integrating recommendations into the new ERM framework increases organizational cohesiveness, avoids potential conflicting objectives, and synergizes recommendations with current initiatives. Thus, contingency plan testing should be viewed from an organizational perspective to better understand how it contributes to other corporate priorities. Table 3 provides a sample action items table that CDIC uses during the reporting and feedback phase to identify and monitor the status of implementing recommendations.

**Table 3 – CDIC’s Sample Action Items Table**

Action item	ERM Taxonomy	Priority	Lead	Contributor	Status
Action Item #	Risk type (Operational, reputational, resolution, etc.)	Low, Medium, High	Specific business unit and/or individuals in charge of implementing the action item	Secondary business units that will support the Lead business unit	To discuss; In progress; Complete

#### 5. Lessons learned

The fire drill exercise presented a valuable learning opportunity for the Centre of Excellence for Crisis Simulations, which was less than a year old at the time of the exercise, regarding how to design future contingency plan testing activities.

On a broad level, the fire drill helped shape future planning and testing schedules as the fire drill demonstrated a higher trade-off value compared to other testing activities in order to achieve corporate objectives. CDIC values the ability to increase testing frequency throughout the year to refine soft skills, such as decision-making under pressure. While CDIC has attracted, developed and retained a highly educated and skilled staff, the absence of failure has not provided them with sufficient opportunities to develop and refine these skills and apply them in a crisis scenario. Fire drills provide regular opportunities to test these skills under time constraints. Regular testing will develop and reinforce a learning culture where staff learns to apply their skills and identify areas for improvement.

On a practical level, the fire drill testing activity provided useful insights into internal communication lines and methods. For example, e-mails were identified as not the most desirable method of communication for immediately capturing a participant’s attention during a crisis scenario. As fire drills are unannounced, many participants were in meetings and indicated they would prefer a higher priority system, such as text messages. While participants did respond quickly to the message, they recognized that a text notification could be more helpful in immediately capturing their attention. In addition, some difficulties were encountered in communicating with staff at different offices underscoring the need for a dedicated

conference line between the two offices.<sup>51</sup> These small details are essential in ensuring processes run smoothly in a real crisis scenario and CDIC staff are able to concentrate solely on the important demands of the circumstance. Testing activities provide excellent opportunities to identify and resolve minor issues that would not be considered in major crisis preparedness strategies.

On the human capital side, there is a strong cultural element that emphasizes teamwork and collaboration. Active collaboration between participants was not anticipated, but the participants addressed the situation as a team instead of as individual business units as originally anticipated. Further, participants responded within 15 minutes of receiving the e-mail, which demonstrates a high degree of alertness and preparedness.

While the exercise was an overarching success, the testing activity also identified numerous areas that should be addressed in the near-term to drive continuous improvement and enhance preparedness. Some key takeaways are briefly discussed below:

- The fire drill exercise revealed the need to further clarify the accountabilities of business units. CDIC has developed a formidable knowledge baseline and shared understanding that employees can rely on during a crisis scenario to create a cohesive response. Participants leveraged risk appetite statements<sup>52</sup> from the organization's ERM framework and the resolution playbook<sup>53</sup> to guide their decision-making process. While these pre-established guidelines are helpful, the exercise proved the need to create greater clarity regarding roles and responsibilities in a crisis. In response to this, CDIC's resolution playbook was updated. A resolution integration workstream was introduced in early 2020 to establish a target operating model to better reflect corporate-wide resolution orientation and harness expertise across the organization in the event of a member failure. Since then the resolution integration workstream has taken stock of CDIC's current preparedness for a resolution scenario and undertook an organization-wide review to better ensure that the roles and responsibilities of each business unit are more clearly delineated. Resource gaps and single points of failure have been identified and remedied.
- The exercise also shed light on the resource requirements for the post-intervention stage. While it is difficult for CDIC to effectively estimate optimal resource levels given the rapid advancements in technology over the past 20 years, business units need to further analyze their resource needs to determine how many resources will be required in the post-intervention stage. By underestimating the resources needed, the business units may limit their ability to respond effectively to a crisis and hamper other business units if they require resources that had been allocated elsewhere.
- CDIC staff also had the opportunity to discuss and establish a common understanding on internal policies regarding the measurement and management of risks. Exercises such as a fire drill serve as an opportunity to debate the granular aspects of risk and develop a mutual understanding of expectations and interpretations.

---

<sup>51</sup> CDIC has two physical offices: one in Ottawa and the other in Toronto.

<sup>52</sup> A risk appetite statement is a formalized statement outlining the risks that an organization is willing to accept to achieve its goals and objectives.

<sup>53</sup> CDIC's Resolution Playbook is a collection of manuals, guidelines and other documents on CDIC's resolution tools and processes, put together with a view to developing, coordinating and maintaining preparedness to resolve CDIC's member financial institutions of any size, using one or more resolution tools.

## c. FDIC Workshop

### 1. Context

The FDIC utilizes “Strategic Planning and Process Improvement Workshops” (“workshop”) to deliver program area improvements, the need for which are often identified through feedback delivered by principal program stakeholders following a tabletop exercise. Working from identified strategic objectives to specific and calendared actionable deliverables, workshops have been used to deliver measurable, actionable improvements to key elements of several FDIC failed-bank program areas. The difference between a workshop and a tabletop centers on the method and purpose of each exercise.

At the FDIC, workshop exercises have been successfully used on several occasions. In one case, for example, workshop deliverables resulted in quick and comprehensive revisions to one business organizational unit’s role, responsibilities, action protocols, and documentation (including significant revisions to fundamental template forms and agreements). The changes resulting from the workshop were immediate and measurable, with all deliverables vetted by appropriate organizational authorities and technical experts. One change to certain key template legal agreements helped to identify the possible need for similar changes in other FDIC agreements.

### 2. Design phase

The first phase of a workshop is the designation of one or more workshop developers who will function as a design and control group, termed the Control Team, for the course of the Workshop. All developers are required to be subject matter experts (SME) in one or more of the substantive subjects essential to the targeted program area. Additionally, an educational specialist can be included to provide educational and exercise development and evaluation expertise. Administrative support participants may assist with audio/video resources and other support needs.

The Control Team is tasked with a number of discrete responsibilities, including:

- setting the time duration and phase progression of the workshop;
- identifying and engaging the appropriate group of stakeholders and supporting participants who will be invited to the various phases of the workshop;
- taking all appropriate action to ensure the successful completion of all workshop objectives;
- making certain that all necessary resources are made available for the workshop;
- scheduling facilitated discussions with stakeholders and other Workshop participants, as needed; and
- ensuring the Control Team or other workshop participants produce all deliverables.

The duration of the workshop is flexible and can be tailored based on the complexity or urgency of the identified issue. Workshops can run for weeks or possibly months, with numerous meetings, product drafting sessions, or intermittent progress evaluations. Setting time expectations for participants is critical to ensuring that workshop participants remain engaged and invested in the outcome of the exercise. As such, the Control Team needs to plan for the project’s measurable forward movement. An unduly long gap between workshop activities, for example, can result in the meaningful decline of participant focus and engagement, and the loss of key participants to organizational attrition. SMEs should be carefully

identified by the Control Team and invited to participate in the project upon a detailed explanation of the workshop's goals and expected work contributions.

The workshop's success is heavily reliant on the efforts made during the design phase to ensure that the right Control Team members and SMEs are brought together to work on clearly defined objectives set within a defined time frame.

### **3. Running phase**

#### *Phase One – Facilitated Discussions*

Initial facilitated discussions between the Control Team and the stakeholders and participants provide specificity to the priority and scope of the targeted program areas. The results determine scheduling, deliverables, and a measurable reference point regarding program area improvements. In past FDIC workshop exercises, these discussions have been essential to the formation of achievable expectations for the project and have resulted in fostering significant support from a range of possible contributors and project stakeholders. Stakeholders may or may not be active project participants, but they will always be critical to the ultimate success of the workshop since they often control necessary levels of authority or access to needed project resources.

Past FDIC facilitated workshop discussions have allowed stakeholders and participants to openly explore the issues or problems that need to be addressed through the exercise and have set expectations as to the quality and nature of expected workshop deliverables. In one instance, for example, the facilitated discussions led to identifying the need for more detailed early incident response protocols for the coordination of inter-unit responsibilities related to possible bank failures. The needed protocols were then developed using a workshop, and fully and expeditiously implemented by all work units.

Members of the Control Team should engage the assistance of experienced facilitators to help plan and conduct the discussions. The Control Team will schedule the discussions, develop orientation materials for participants, and ensure the capture and validation of discussion outcomes and decisions. More than one discussion may be needed, but the number should be held to a minimum in order to maximize participant engagement. Discussions involving larger numbers of participants can yield broader stakeholder input and buy-in, but also increase the risk of producing decisions that diminish the ability of the Control Team to produce actionable deliverables within a reasonable time schedule.

A critical, specific decision item to be derived from the facilitated discussions will be a set of working assumptions that will act as grounding points for the improvement measures generated by the workshop. Assumptions should include, for example, action commitments by program area stakeholders regarding matters essential to enable other stakeholders to deliver on their commitments. For example, stakeholder A must commit to making certain documents available to stakeholder B for stakeholder B to be able to complete its action commitment. Alternatively, for example, stakeholder B will commit to providing the necessary staff to complete its action commitment upon the delivery of documents by stakeholder A. Experience with past Workshops has shown that there are usually only a few such assumptions, but they are critical to the ability of the Control Team to be able to produce actionable deliverables.

An inability of stakeholders to make action commitments in the form of assumptions represents a block that in itself flags a prioritized target for improvement. Without such a commitment, the production of actionable deliverables represents an exercise in contingent action that raises immediate questions about

the viability of continuing with the workshop. With the commitments, and with the agreement about assumptions, the stakeholders and the Control Team can move to Phase Two – Identification of Points of Improvement.

#### *Phase Two – Identification of Points of Improvement*

Working from the assumptions, the stakeholders and the Control Team will need to engage in focused, facilitated discussions resulting in the identification and prioritization of improvements that will be the basis for actionable deliverables by the Control Team. The number and nature of the identified improvements should fit with the scope and duration of the workshop and be within the range of accomplishable action. The identified and prioritized improvements should be memorialized in writing, including necessary details, soon after the close of the facilitated discussion. The written product will form the basis for work by the Control Team to produce the deliverables. A clear time schedule for production should also be included.

Prior FDIC workshops have tried to keep the list of improvements to a material number. The temptation has sometimes been to be over-inclusive in identifying and listing possible improvements but staying with just necessary improvements has minimized completion delays, and helped to maintain the overall quality of the final deliverables. Identified non-material improvements can be saved for future projects or discussions.

#### *Phase Three – Production of Deliverables*

The Control Team, under the direction of the team lead, will produce actionable deliverables as specified in writing upon the conclusion of the facilitated discussions. The production should follow the calendar plan agreed upon for the deliverables. If reasons are identified that give cause for an amendment of the production schedule, the Control Team will document the reasons and communicate them in a form acceptable to the Control Team and the stakeholders. Included among the deliverables will be process maps, document templates, job aids, analyses, and other scheduled deliverables.

The production of deliverables can be a team effort or assigned to a single SME. In either case, focused time and effort will be needed to produce quality deliverables that can withstand vetting and be quickly implemented. Several phases of revision may be necessary in order to provide the highest quality deliverable. Upon completion of the deliverables, the Control Team will schedule a facilitated discussion with the stakeholders and present the deliverables. The Control Team, as necessary, will address final changes or comments resulting from the discussion. The changes or comments might give rise to the need for the Control Team to make final revisions to the deliverables, provided such revisions are made within a timeframe agreed upon by the stakeholders and the Control Team.

#### *Phase Four - Implementation*

Implementation of the deliverables will be the responsibility of the Control Team, led by the SME(s) who produced the deliverable. The development SME is in the best position to lead the implementation effort, with the support of the Control Team members, due to his/her detailed knowledge of the deliverable's functionalities and limitations. Past FDIC experience indicates that this phase will go smoothly if the prior phases have been well-managed. Active support of the stakeholders is critical at this stage, since such support will provide the needed buy-in from the work units affected, and will also facilitate access to needed resources. Implementation should proceed without undue delay in order to maximize the

certainty that the deliverable will be of immediate use and be fully implemented in work protocols and practices.

#### **4. Reporting and feedback phase**

Reporting of feedback from stakeholders and the Control Team shall occur on a continuous basis in the form of a feedback journal to be maintained and regularly updated by the Control Team. The journal will form the initial basis of analysis during the final Lessons Learned Phase. Reporting should be timely and comprehensive.

The lessons learned summary will form the basis of a full-scope lessons learned presentation to the stakeholders and other discussion participants. The presentation should occur within a few months after the implementation of the deliverables. The Lessons Learned summary should focus on both the positive and negative results of the project and provide detail as to the means by which the workshop deliverable(s) was/were identified, designed, developed, and implemented. Focus should be on the benefits derived directly from the deliverable(s) and the identification of any restraints on use or limitations on possible scope of utilization or implementation. Recommendations as to possible improvements on any aspect of the project should be a critical component of the lessons learned.

Past FDIC workshops have produced detailed lessons learned memoranda which have been the subject of various follow-up meetings and discussions. They have also been the launching grounds for additional future workshops.

#### **5. Lessons learned**

After completing several workshops, the FDIC has come to one certain conclusion: Workshops work. The FDIC's use of these workshops has greatly contributed to the implementation of program-area, change-management initiatives. The FDIC has used workshops to bring stakeholders together effectively to identify, plan, and produce measurable program improvements in relatively quick timeframes. The following are among the benefits created by use of the Workshops:

- scalable and measurable program area improvements defined by targeted, actionable objectives;
- detailed delivery schedules targeting actionable change objectives;
- strong stakeholder engagement in the planning and vetting of program changes;
- articulated bases for possible future-state program improvements;
- accountability for contributions made by Control Team and other participants throughout all phases of the project;
- identification and participation of change-management champions to ensure successful implementation of improvements; and
- efficient, time-sensitive development of targeted objectives.

The FDIC has also learned that for a workshop to meet its maximum potential, workshop organizers and participants must have clear timeframes, objectives, and stakeholder commitment. With these factors effectively managed, any organization may improve their change-management processes using workshops.



## d. IPAB Tabletop

### 1. Context

IPAB carries out simulation activities of bank resolutions annually to assess the efficiency and readiness of these processes. An internal division independent from business units, the Strategic Planning & Processes Unit (SPPU), is responsible for designing and coordinating simulation exercises.

These exercises help identify each business unit's strengths and weaknesses during a bank resolution and allow staff to practice and refine the decision-making process during crisis scenarios. Through these activities, IPAB ensures it is prepared to respond to real situations and evaluate adjustments to improve its operations.

In 2019, the financial authorities were worried about the troubling financial situation of a mid-size bank. Since carrying out a simulation using real information of a Mexican commercial bank involved different confidential risks, IPAB decided to use a "hypothetical bank" case, which was very similar to the real case scenario that could be faced in the mid-term. The simulation's main objective was to evaluate if IPAB and its staff were ready to resolve a bank with more than 600,000 depositors.

This case study illustrates the general aspects of a discussion-based tabletop exercise carried out during the last quarter of 2019.

### 2. Design phase

The objective of this exercise was to evaluate the readiness of IPAB, as the deposit insurance agency in Mexico, to address a mid-size bank resolution in the short term. The simulation scenario would have to consider enough elements to incite a response from business units and allow the SPPU to evaluate the strengths and weaknesses of the IPAB's institutional capacities.

A working group composed of members of the SPPU and of business units prepared a hypothetical, but highly possible, scenario in which a retail-related commercial bank faced a severe problem that would lead to its resolution. The main challenge in this stage was to conceive a plausible situation that could happen to a real-life banking institution.

In qualitative terms, the hypothetical scenario detailed several adverse events that would cause a deterioration in the bank's financial situation over several months, up to a point where it would trigger the revocation of its license to operate by the banking supervisory agency, the National Banking & Securities Commission (CNBV).

The bank would have ownership and transactional links to a retail company, engaged on selling furniture and electrical appliances, under the following scheme: the bank's primary business would be financing consumer goods purchases made in the retail company's stores, facilitating the sales through loans, and providing the bank access to customer markets that would not otherwise buy the products.

On the quantitative side, the case figures derived detailed information from the bank in which the case was based. It was obtained from periodic regulatory reports (with the latest quarterly data available, 2Q19), a resolution plan, and an on-site inspection review completed two years earlier.

To carry out the exercise, no external parties or resources were used, and the following roles were established:

*Participants:* composed by the Heads of IPAB's business units involved in the decision-making exercise during a bank resolution process.

*Coordinator:* the Head of the SPPU carried out the planning, preparation, coordination, and evaluation functions of the 2019 simulation and served as moderator in the presentations and discussions.

The simulation activities began with the assumption that the CNBV had notified the IPAB that it had revoked the bank's operating license. The case assumed that this would trigger an immediate meeting between IPAB's departments involved in a bank resolution to establish the steps to follow. Each head of unit would then present proposals to IPAB's Governing Board on each of the different processes of the resolution, including the control takeover, resolution method, settlement of operations, payout of covered deposits, the possible sale of assets and communication strategy to the public.

### **3. Running phase**

During the first day of the exercise, simulation activities began just after the CNBV informed the IPAB about the bank's license revocation. As a first activity, the responsible areas presented a proposal to IPAB's Governing Board to determine the possible resolution schemes to apply, based on the least cost rule.

An analysis of the geographical distribution of depositors, which were present along every single local state jurisdiction of the country, showed that the bank's failure would have widespread effects. Hence, a depositor payout procedure would be needed.

With these considerations in mind, the group explored the activities and steps to achieve the payout to depositors and tried to identify possible obstacles that could prevent the objectives of the process.

Considering the complexity of reimbursing more than 600,000 depositors throughout all the country, the group agreed that the IPAB would need to hire a commercial bank to carry out the payout of covered deposits.

The second day of the exercise began with a presentation on the public communication strategy. Prior to the presentation, the Public Awareness Department analyzed and developed the social communication strategy to avoid bank runs and provide enough information to depositors, clients, and the general public.

Finally, important issues were also reviewed, such as taking control of the failed institution and its management. The IPAB's resources were found to be insufficient to control the branches. Due to these constraints, the group decided to hire a specialized third party (liquidator) to help the IPAB with the controlled takeover of the failed bank's facilities and management during the resolution and liquidation process. Nevertheless, the group also defined a series of minimum activities for the takeover as a reference that the specialized third party should put into place.

On the one hand, concerning the payout activities, the department in charge of this process determined a preliminary amount to reimburse each depositor based on the information available at the moment. Nevertheless, the actual information for the payment would be gathered the same day of the takeover

and transferred to the Agent Bank, which would oversee the covered deposits' pay-out. On the other hand, the Public Awareness Department would implement a robust information campaign, featuring a call-center and a website to clarify questions and inform clients of the steps to follow to collect their deposits.

#### **4. Reporting and feedback phase**

After the exercise, all the analysis, evaluation of the responses, and proposed actions were gathered in a final report. The SPPU prepared a report describing the objective, scope, scenario, and activities developed during the simulation, as well as the main findings and areas of opportunity identified.

The activities developed in the tabletop and the proposed responses fulfilled the defined simulation's objectives. However, it was also possible to identify areas of opportunity and improvements to operational procedures.

A preliminary version of the report was discussed with the heads of participating business units. After their feedback, it was then presented to IPAB's Executive Secretary.<sup>54</sup>

#### **5. Lessons learned**

This exercise allowed participants to execute the procedures related to the payout of deposit insurance and analyzed the legal and operational problems to face in case of a banking resolution. In general, the simulation exercise allowed to strengthen organizational and human capabilities. The following main benefits were observed.

A re-calculation of the least cost rule confirmed the proposed bank resolution method to be applied, included in the previously developed resolution plan.

The exercise helped to identify the most critical activities and assets to take control of in the case of a real-life resolution process. The activities to implement during the takeover and the information sources to safeguard were determined.

Due to the complexity of reimbursing more than half a million depositors throughout all the country, it was determined that an agent bank would be needed to carry out a deposit payout process. The department in charge of the payout identified the most important actions for implementing a reimbursement process through an agent bank.

Legal consultations were derived from the exercise, to confirm the legal duties and powers for the resolution activities in a situation such as the case. For example, the IPAB confirmed that it may use resources from the Protection Fund<sup>55</sup> to pay for third parties that could provide support in the resolution activities, if necessary. This was a relevant topic, due to recent legal constraints on the use of public resources.

The Legal Department also identified possible changes to the Federal Competition Law that could be made in the future to facilitate a banking resolution, regarding the authorization process for assets sales by the

---

<sup>54</sup> The head of the IPAB.

<sup>55</sup> IPAB's ex ante fund to resolve failing member financial institutions.

Antitrust Commission. Several conclusions and analyses in the simulation dynamics were considered useful to update previously developed resolution plans.

A mid-sized bank's situation and possible resolution deserved special attention regarding the communications strategy and communications tools. The Public Awareness Department upgraded its public communications plan to avoid bank runs and to provide enough information to the bank's clients, with a special emphasis in the use of third parties (such as a call center and a media buying agency). This team also identified the most relevant channels (T.V., radio, and social networks) to inform the specific target population of these type of banks about the resolution process and how to collect their insured deposits.

The public awareness, the on-site inspections, and the information technology divisions enhanced their coordination protocols in developing a dark site section in the institutional website to provide information on a banking resolution, as well as in sending messages to the bank's clients, processing deposit's insurance claims, and sharing information obtained from the bank.

The report on the simulation will be used as a reference for future study, personnel training, and real-life decisions. Activities were subsequently strengthened in the months to follow, ensuring that IPAB had the best response ready if needed. This experience was, in fact, very useful to address the real-life failure of a mid-sized bank (Banco Ahorro Famsa) in 2020, less than a year later.

## VI. Conclusion

Contingency plan testing programs have risen in importance following the Global Financial Crisis. Of the four contributors to this paper, two established their programs prior to the Global Financial Crisis while the other two established their programs in the years following. All RCNA testing programs have evolved their objectives over time to better reflect the new challenges facing their organizations. Comprehensive testing schedules have been drafted to ensure that topics are regularly rotated, and new powers and responsibilities are tested on a regular basis in a systematic manner.

All four RCNA jurisdictions have had positive learning experiences with contingency plan testing activities. It was noted that contingency plan testing activities drive open dialogue that fosters a culture of continuous improvement and allows employees to better understand the roles of other business units. In jurisdictions where no real-life bank failures have been occurred in the recent past, contingency planning exercises have become an essential element in employee training initiatives.

The RCNA experiences spotlight the complexities organizations are compelled to deal with in developing and implementing comprehensive contingency testing programs. There is no one-size-fits-all strategy and as such, every organization must make decisions considering the resource levels and unique circumstances under which it operates. The RCNA experiences demonstrate that preserving flexibility is a critical element of a testing program, as situations are constantly evolving and no crises are alike.

This research paper is an attempt to shed some light on the contingency planning activities in the North American region and is not intended to provide guidance on the topic. From a research perspective, the scope of the paper is limited, as the four contributory organizations are somewhat similar in their history, financial system, and mandate. Future IADI research papers could explore regions beyond North America to identify where there is greater divergence among the IADI Membership.

Crisis simulations in relation to G-SIFIs/G-SIBs and testing activities that are conducted by business units to improve their own preparedness are out of scope of this paper. Future research projects could expand the scope or take deep dives on the impacts of select series of testing activities and analyze their lasting impacts. Another area for research could be analyzing the future of contingency plan testing with the recent widespread adoption of virtual communication applications. Perhaps the shift to remote working in 2020 may lead to more cross-border testing activities as virtual communication applications become more integrated among the financial safety net.

## Bibliography

Almansi, Aquiles, Carol Yejin Lee, and Emiko Todoroki. "World Bank Crisis Simulation Exercises: What is at Stake in Coordinating and Making Decisions in a Crisis." In *FIRST Lessons Learned Series*, Note 4. Washington, DC, USA: World Bank, 2016.

Coeure, Benoit. "Introductory Remarks at the Second Meeting of the Euro Cyber Resilience Board of the ECB." Speech presented at the second meeting of the Euro Cyber Resilience Board for pan-European Financial Infrastructures, European Central Bank, Frankfurt am Main, Germany, December 7, 2018. <https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp181207.en.html>.

European Central Bank. *UNITAS Crisis Communication Exercise Report*. Frankfurt am Main, Germany: European Central Bank, 2018. <https://www.ecb.europa.eu/pub/pdf/other/ecb.unitasreport201812.en.pdf>.

Grande, Mauro. "Recent Experiences in the Conduct of Domestic Crisis Simulation Exercises." In *Simulating Financial Instability*, edited by the European Central Bank, 144-147. Frankfurt am Main, Germany: European Central Bank, 2008.

International Association of Deposit Insurers. *Deposit Insurers' Role in Contingency Planning and System-wide Crisis Preparedness*. Guidance Paper. Basel, Switzerland: International Association of Deposit Insurers, 2019. [https://www.iasi.org/en/assets/File/Papers/Approved%20Guidance%20Papers/IADI%20Guidance%20Paper\\_DI%20role%20in%20contingency%20planning%20&%20crisis%20management.pdf](https://www.iasi.org/en/assets/File/Papers/Approved%20Guidance%20Papers/IADI%20Guidance%20Paper_DI%20role%20in%20contingency%20planning%20&%20crisis%20management.pdf).

Krimminger, Michael. "Contingency Planning and Simulation Exercises: Practical Applications." In *Simulating Financial Instability*, edited by the European Central Bank, 126-134. Frankfurt am Main: European Central Bank, 2008.

Single Resolution Board. "Statement Regarding Nordic-Baltic Financial Crisis Simulation." February 1, 2019. <https://srb.europa.eu/en/node/722>.

Sveriges Riksbank. *The Riksbank's Measures During the Global Financial Crisis 2007-2010*. Stockholm, Sweden: Sveriges Riksbank, 2020. <https://www.riksbank.se/globalassets/media/rapporter/riksbanksstudie/engelska/2020/the-riksbanks-measures-during-the-global-financial-crisis-2007-2010.pdf>.

Toronto Centre. *Crisis Binder: An Essential Tool for Crisis Preparedness*. TC Notes. Toronto, Canada: Toronto Centre, 2019. <https://res.torontocentre.org/guidedocs/Crisis%20Binder.pdf>.

Toronto Centre. *Designing and Implementing a Systemic Financial Crisis Management Simulation*. TC Notes. Toronto, Canada: Toronto Centre, 2020. <https://res.torontocentre.org/guidedocs/Designing%20and%20Implementing%20a%20Systemic%20Financial%20Crisis%20Management%20Simulation%20FINAL.pdf>

## Annex I: Main Characteristics of RCNA

Key Features	AMF	CDIC	FDIC	IPAB
<b>Governance structure</b>	Provincial/Public (Québec-Canada)	Federal /Public (Canada)	Federal /Public (U.S.)	Federal /Public (Mexico)
<b>Year established</b>	1967	1967	1933	1999
<b>Mandate</b>	<ul style="list-style-type: none"> <li>▪ Integrated regulator (Supervisor, deposit insurer, &amp; resolution authority)</li> <li>▪ Risk minimizer</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deposit insurer &amp; resolution authority</li> <li>▪ Loss minimizer</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervisor for some financial institutions<sup>56</sup>, deposit insurer, &amp; resolution authority</li> <li>▪ Risk minimizer</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deposit insurer &amp; resolution authority</li> <li>▪ Loss minimizer</li> </ul>
<b>Structure of member financial institutions (As of December 2019)</b>	<ul style="list-style-type: none"> <li>▪ Financial cooperatives, insurers, and trust &amp; loans authorized financial institutions in Québec</li> <li>▪ One D-SIFI, a financial cooperative group.</li> <li>▪ No G-SIBs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Banks, trust &amp; loan, federal credit unions</li> <li>▪ 6 D-SIBs of which 2 are G-SIBs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Commercial banks, savings banks, and savings associations (under the <i>FDI Act</i>) as well as certain financial companies (under Title II of the <i>Dodd-Frank Wall Street Reform and Consumer Protection Act</i>)</li> <li>▪ 8 G-SIBs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Full service or commercial banks.</li> <li>▪ 51 commercial banks, of which only 47 hold insured deposits</li> <li>▪ 7 D-SIBs (5 of 7 are subsidiaries of foreign Banks, including 3 G-SIBs)</li> </ul>
<b>Total asset balance in member institutions<sup>57</sup> (USD Billion)</b>	280.5	4,898.5	18,735	519.2
<b>Deposit insurance fund size (as a % of total covered/insured deposits)<sup>58</sup></b>	0.82	0.65	1.41	1.98

<sup>56</sup> The FDIC is the primary federal supervisor for state-chartered commercial banks and savings institutions that are not members of the Federal Reserve System. These institutions are regulated by both federal and state authorities.

<sup>57</sup> Source: IADI Annual Survey 2020.

<sup>58</sup> Source: IADI Annual Survey 2020.

## Annex II: Contributors

Organization	Jurisdiction	Contributors
Autorité des marchés financiers (AMF)	Québec	Sylvain Tanguay Guylaine Bourret Maxim Fournier Giguère
Canada Deposit Insurance Corporation (CDIC)	Canada	Rishanthi Pattiarachchi (Research Project Lead) Ryan Melnik Nadine Saryeddine Badr Barhoumi
Federal Deposit Insurance Corporation (FDIC)	United States	Rose Kushmeider Shilpa Shah Frederic Ortiz
Instituto para la Protección al Ahorro Bancario (IPAB)	Mexico	Luis Palau Dorian Castellanos Julio Arteaga Vicente Vargas

The research project lead would also like to thank Ruth Walters, Senior Adviser of the Financial Stability Institute for her insights and feedback for the first draft of the paper, and CDIC’s Communications and Public Affairs Department for their assistance in copy editing and desktop publication of the paper.