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TECHNICAL REPORT

A Noncontributory Pension Program for Older Persons in Yucatan, Mexico

Implementing and Designing the Evaluation of the Program in Valladolid

Emma Aguila • Arie Kapteyn • Rosalba Robles • Oscar Vargas • Beverly A. Weidmer



Sponsored by the Government of the State of Yucatan and the National Institute on Aging



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Preface

Like most populations worldwide, the population of Mexico is aging, and a high proportion of its elderly are poor. This technical report describes a collaborative effort by the government of the state of Yucatan, Mexico, and the RAND Corporation to design, implement, and evaluate a state government program to alleviate poverty among the elderly by providing cash benefits to those age 70 and older. The goal is to improve their well-being as measured by a comprehensive socioeconomic survey and more than 15 anthropometric and biomedical indicators.

The program was introduced in phases in 37 localities in the state of Yucatan, Mexico, over a period of four years. Phases I and II, Reconocer Rural [Acknowledge Rural], were implemented in rural areas. Phase III, Reconocer Urbano [Acknowledge Urban], expanded the program to urban areas. Program evaluation, Escuchar [Listen], began when the program was expanded in phase III to the cities of Valladolid and Merida. The evaluation gathered extensive data on program beneficiaries, as well as control or comparison groups.

This document provides context and background for the program and describes its design and implementation. We also describe the design of the first evaluation of the program impact in Valladolid but not the evaluation's findings. Later documents will provide more details about the data analysis, the expansion of the program into Merida (the capital city of Yucatan), and findings from all the evaluations. The first follow-on document about the extension of the program in Merida is complete (see Aguila, Borges, et al., forthcoming). The technical reports (this one and Aguila, Borges, et al., forthcoming) will be available in both Spanish and English.

The experience of designing and evaluating this program has provided many lessons for the RAND team and the government of Yucatan. These may be of interest to a wide range of individuals and organizations in Mexico and worldwide, whether other governments, policy-makers, social-welfare organizations, or labor and social security experts, that seek to design or implement similar noncontributory pension programs to alleviate poverty among the elderly.

This research was made possible with funds from the government of the state of Yucatan, the U.S. National Institute on Aging (NIA) (through grants R01AG035008, P01AG022481, and R21AG033312), the RAND Center for the Study of Aging (with grant P30AG012815 from NIA), RAND Labor and Population, and the RAND Center for Latin American Social Policy (CLASP). Other institutions in Mexico are collaborating on the program: the Mexican National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía, or INEGI), the Yucatan Cultural Institute (Instituto de Cultura de Yucatán), and the Yucatan State Population Council (Consejo Estatal de Población, or COESPO). The program is also supported by an international advisory board of experts affiliated with the Autonomous University of Yucatan (Universidad Autónoma de Yucatán), Center of Research and Advanced

Studies (Centro de Investigación y de Estudios Avanzados, or CINEVESTAV) Merida Unit, University College London, Yale University, and the RAND Corporation.

RAND Labor and Population has built an international reputation for conducting objective, high-quality, empirical research to support and improve policies and organizations around the world. Its work focuses on children and families, demographic behavior, education and training, labor markets, social welfare policy, immigration, international development, financial decisionmaking, and issues related to aging and retirement with a common aim of understanding how policy and social and economic forces affect individual decisionmaking and human well-being.

CLASP, a part of RAND Labor and Population, unites a distinguished collective of international researchers invested in addressing the most-pressing challenges and finding unique solutions that can contribute to a path of sustainable development for Latin Americans at home, in the United States, and around the world.

For questions and comments regarding CLASP, please contact Lucrecia Santibanez, Director, CLASP, at 310-393-0411 x6310, or by email at Lucrecia@rand.org.

For questions and comments regarding this report, please contact the project leader, Emma Aguila, at 310-393-0411 x6682, or by email at eaguila@rand.org. Emma can also be reached at the University of Southern California, Sol Price School of Public Policy, 213-821-0702, or by email at eaguilav@usc.edu.

Materials related to this survey project, including the list of appendix materials, the list of technical reports and research papers, and other related information, are available at <http://www.rand.org/labor/centers/clasp/research/projects/social-security-program.html>.

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Summary

In many countries around the world, the percentage of the population older than 65 is growing because of reduced birth rates and mortality rates and technological advances in health care that have increased life expectancy. Because the elderly tend to be poorer than younger populations—in part because they are less able to work and more likely to suffer from chronic diseases—governments and policymakers are becoming increasingly concerned about providing for growing populations of older citizens now and in the future.

In Mexico, more than 65 percent of the population is of working age, including part of the largest number of young people in Mexico's history. By 2050, however, the large cohorts of current youths will begin to enter retirement age. The poverty rate in the population at large is 20 percent and rises to almost 30 percent among those 65 years old or older. As a result, the status of the elderly will be an even more critical issue in the future (Aguila, Diaz, et al., 2011).

Some Mexican workers contribute to a government social security system and receive pension benefits when they retire. But most workers—58 percent—are in the informal sector and do not contribute to social security (Perry et al., 2007).¹ Many of those depend on the non-contributory pension benefits the government provides, which are significantly smaller than social security benefits.² They tend to work independently in low-wage jobs or in noncompliant private firms that do not offer workers the opportunity to participate in government social security programs (Aguila, Diaz, et al., 2011).

Anticipating a growing population of elderly poor, the federal and state governments in Mexico are understandably concerned about providing for them and doing so cost-effectively. On August 1, 2007, the Mexican state of Yucatan elected a new government that included in its social-policy platform funds to support a noncontributory pension program for adults age 70 and older. The goal of this program is to alleviate poverty among the elderly and to improve their well-being by improving access to food, health care, and other basic needs. In September 2007, the RAND Corporation and the government of the state of Yucatan began implementing an experimental pension program. The program was implemented in phases, first in small rural communities, then in larger rural communities, then in several urban areas. The pension program's evaluation had two purposes. First, it sought to illuminate the relationship among financial security, health, and mortality, in order to improve public policies for the older population in Yucatan. Second, it sought to develop means-testing mechanisms to make the implementation of this type of program financially feasible for the government.

¹ The informal sector is composed of self-employed persons and wage earners who do not make social security contributions.

² *Noncontributory pension benefits* refers to cash-transfer programs in which an individual need not contribute during working years to obtain a benefit in retirement.

Other countries have experimented with various kinds of safety-net programs for their elderly poor. Such benefits may be cash—usually a fixed amount for everybody over a certain age—or transfers for food expenses. Benefits can also be in the form of a basic food basket, free meals, subsidies to help pay for utilities, and interventions to increase health care coverage or provide specific programs to improve health status.

The Yucatan noncontributory pension program provides MXN \$500 per month (about US\$61 at 2011 purchasing power parity [PPP]) and a basket of basic food to beneficiaries in rural areas and MXN \$550 per month to beneficiaries in urban areas (about US\$67 at 2011 PPP). This amount is equal to 31 percent of the minimum wage in Yucatan (MXN \$1,772.40 in January 2012).

The program was designed and implemented not only to improve the well-being of its participants but also to provide the data and information necessary to rigorously evaluate its effectiveness, tailor future programs accordingly, contribute to the body of research in relevant topic areas, and inform public policy. When the program was expanded to include urban areas in phase III, the first evaluation began in the city of Valladolid, in the northeastern region of the state. Since December 2008, pensions have been paid to all persons age 70 and older in Valladolid. Motul, another locality in the northeastern region of the state, was chosen as a comparison city whose older population initially did not receive benefits. Control groups will receive the noncontributory pension program at later phases, depending on the state government's annual budget and the introduction of similar programs from the federal government (the state program will not be expanded to localities that receive similar benefits from the federal government).

The evaluation of the program involves the design and application of a Survey of Household Economic Characteristics in the State of Yucatan (*Encuesta de Características Socioeconómicas del Hogar en el Estado de Yucatán*, or ENCAHEY). Through an in-person household survey, we gathered extensive data on individual and household characteristics from adults age 70 and older from Valladolid and Motul six months and 18 months after Valladolid started receiving the pension. Local staff working for the evaluation project interviewed participants in their homes. They also took baseline measures of health indicators: blood pressure, pulmonary capacity, grip strength, balance and walking tests, anthropometry (height, weight, waist circumference, arm length, height to knee, and arm circumference), and anemia tests. We also collected information about the localities' infrastructure and economic activity.

We also conducted additional evaluations of the program in Merida, the capital city of Yucatan. We describe these in a future report. In the present report, we describe the first evaluation of the noncontributory pension program in Valladolid.

The program has effectively “institutionalized” the topic of an aging population in the Yucatan government. That is, it has prompted more discussion about the issue and more strategic planning of social programs to ensure that economic resources are available to support the growing elderly population in the state.

This work required a great deal of administrative and logistic coordination between RAND staff and Yucatan government officials to prepare the collaboration agreement, define the interests of the government and a mechanism for improving the well-being of the elderly, and apply RAND's expertise in the rigorous evaluation of public policies.

The team in the field was made up of around 50 members, including interviewers, supervisors, coordinators, and computer technicians, all natives of Yucatan. Their professionalism ensured (1) confidentiality of information, (2) respect for and appropriate treatment of the

adults interviewed, (3) fulfillment of goals and work assignments, (4) care for and proper use of equipment, and (5) building of a professional and collegial environment for improving the well-being of the older population.

The complexity and diversity of the themes related to the project, as well as the applied evaluation questionnaire, allowed the collaboration between diverse institutions, universities, and research centers. This project established the basis for long-term relationships and collaboration and support on future projects.

This document describes the program and its implementation, as well as how the government of the state of Yucatan and RAND researchers are evaluating its impact on recipients' health and well-being. We will publish details about the data analysis and the findings from the impact evaluation in separate reports or journal articles. We will also describe the key findings from the evaluation, as well as recommendations for policymakers, in a separate publication.

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The topic of this report has generated a good deal of interest and the generous participation of many people and institutions around the world. We thank the large and diverse group of individuals from the RAND Corporation, the government of the state of Yucatan, and academic institutions who contributed to the design, development, and implementation of the pension program, as well as to its evaluation. Indeed, one of the lessons of this report is that a complex and ambitious program of this kind requires a team with diverse expertise. We also wish to thank RAND for its commitment to scientific policy evaluation and to the Latin American community through the RAND Center for Latin American Social Policy (CLASP). We would like to especially thank Ivonne Ortega Pacheco, former governor of the state of Yucatan, for her commitment to the well-being of the elderly population, her vision, and her support of the program and the evaluation project. We thank also the staff on the ground in Yucatan—supervisors, directors, coordinators, interviewers, programmers, and administrators—who made the project possible through the work they performed under sometimes-difficult conditions. They always knew how to confront these situations professionally and with enormous care and commitment to their state and its people.

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Abbreviations

CAPI	computer-assisted personal interviewing
CINVESTAV	Centro de Investigación y de Estudios Avanzados, or Center of Research and Advanced Studies
CLASP	RAND Center for Latin American Social Policy
COESPO	Consejo Estatal de Población, or Yucatan State Population Council
CONAPO	Consejo Nacional de Población, or National Population Council
DIF	Desarrollo Integral de la Familia, or Integral Family Development
ENCAHEY	Encuesta de Características Socioeconómicas del Hogar en el Estado de Yucatán, or Survey of Household Economic Characteristics in the State of Yucatan
ENE	Encuesta Nacional del Empleo, or Mexican National Employment Survey
ENSANUT	Encuesta Nacional de Salud y Nutrición, or Mexican National Health and Nutrition Survey
HRS	U.S. Health and Retirement Study
IADB	Inter-American Development Bank
INEGI	Instituto Nacional de Estadística y Geografía, or Mexican National Institute of Statistics and Geography
INSP	Instituto Nacional de Salud Pública, or National Public Health Institute
LICS	Low Income Card Scheme
MHAS	Mexican Health and Aging Study
MMIC	Multimode Interviewing Capability
MxFLS	Mexican Family Life Survey
NIA	National Institute on Aging
OECD	Organisation for Economic Co-operation and Development

PATH	Programme of Advancement Through Health and Education
PPP	purchasing power parity
PSID	U.S. Panel Study of Income Dynamics
SABE	Survey on Health, Well-Being, and Aging in Latin America and the Caribbean

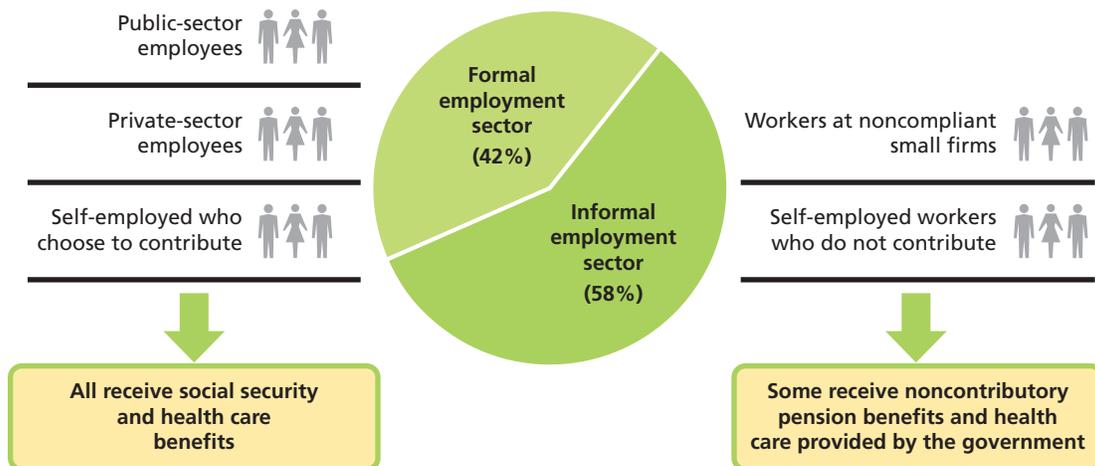
Introduction

In many countries around the world, the percentage of the population older than 65 is growing because of reduced birth rates and mortality rates and technological advances in health care that have increased life expectancy. Because the elderly tend to be poorer than younger population groups—in part because they are less able to work and are more likely to suffer from chronic diseases—governments and policymakers are becoming increasingly concerned about providing for growing populations of older citizens now and in the future.

In Mexico, more than 65 percent of the population is of working age, including the largest number of young people in Mexico's history. By 2050, however, these large cohorts will begin to enter retirement age. The poverty rate in the population at large is 20 percent and rises to almost 30 percent among those 65 years old or older. As a result, the status of the elderly could be an even more critical issue in the future (Aguila, Diaz, et al., 2011).

About 42 percent of Mexican workers contribute to a government social security system and may receive social security and health care benefits when they retire (see the left side of Figure 1.1), but 58 percent of Mexican workers work in the informal sector, do not contribute to a government social security system, and will not receive social security and health benefits when they retire (the right side of Figure 1.1) (Perry et al., 2007). Some in this group may

Figure 1.1
Mexico's Labor Market and the Social Security System



SOURCE: Aguila, Diaz, et al., 2011.

receive a noncontributory pension from the government, but it is much smaller than the pension received by workers in the formal sector. (For more information about Mexico's social security program, see Aguila, Diaz, et al., 2011.)

Types of Poverty Alleviation Programs for Older Populations

To alleviate poverty among the elderly, governments may provide cash or noncash benefits in the form of a basic food basket, free meals, subsidies to help pay for utilities, or health care (Willmore, 2007; Coady, Grosh, and Hoddinott, 2004; Bitrán and Giedion, 2003; Levy and Ohls, 2007; Gwatkin, 2004; McIntyre, Gilson, and Mutyambizi, 2005). In this section, we review such benefits in various countries before focusing on the design and implementation of a cash benefit for the elderly in one Mexican state.

Fee Waivers for Health Care

Some developing countries have introduced user-fee waivers for certain populations, including the elderly, aiming to improve access to health care services (Bitrán and Giedion, 2003). Jamaica provides education grants and health services for vulnerable families through the Programme of Advancement Through Health and Education (PATH); the elderly poor receive free medical care and a cash transfer (Levy and Ohls, 2007). In Ghana, individuals over age 70 are eligible for fee exemptions for certain medical services; health care providers must apply for reimbursement from the government to recover the cost of the exemptions (McIntyre, Gilson, and Mutyambizi, 2005). Thailand maintains the Low Income Card Scheme (LICS), which provides underprivileged groups, including older adults, with access to free health care at public medical facilities (Bitrán and Giedion, 2003). The impact of these waivers is unclear. Studies in Uganda (McIntyre, Gilson, and Mutyambizi, 2005), Cambodia (Damme et al., 2004), and Mexico (King et al., 2009) have shown improved access to health services and reduced probability of sickness when user fees were abolished, particularly for the poorest beneficiaries. Yet Gwatkin (2004) shows that, over time, free health services are more likely to flow to better-off recipients than to poorer ones. Additionally, in Mauritania, user fees helped increase quality of health care (Audibert and Mathonnat, 2000).

Food Price Subsidies

Food price subsidies, such as food stamp programs, and in-kind food assistance programs have been evaluated in the U.S. context by Lee and Frongillo (2001). The authors provide evidence suggesting minimal impacts of food stamps and food assistance programs on elderly individuals. The impact of food assistance programs that provide in-kind benefits has also been controversial in other countries. Inadequate targeting, lack of information, and low registration rates of the eligible population are issues mentioned in the case of Jamaica (Levy and Ohls, 2007).

Conditional Cash Transfers

Several conditional cash transfer programs throughout Latin America, which combine the dual objectives of long-term human capital development and short-term poverty alleviation, now include the elderly population in their benefit coverage (Handa and Davis, 2006). One example is PATH in Jamaica, which aims to better target those with scarce monetary and human capital resources by conditioning benefits on school attendance and health care visits.

PATH has replaced food stamp programs, as well as other public assistance programs. Though free regular health checkups were initially mandatory to receive benefits for the elderly participating in the program, this conditionality was later eliminated, and this program now offers a grant to all elderly poor. An evaluation of this program has shown no evidence of a treatment effect in terms of health for the elderly population covered by PATH (Levy and Ohls, 2007). Other well-known conditional cash transfer programs include Bolsa Família in Brazil or Oportunidades (formerly PROGRESA) in Mexico. Oportunidades offers a cash transfer and a food assistance transfer for elderly adults living in eligible households, conditional on attending nutrition and health training sessions. Gertler and Boyce (2001) find an improvement in the health status of individuals age 50 and over enrolled in this program in Mexico, measured in fewer days of difficulties with daily activities or illness and a greater ability to walk. Though several studies suggest a significant improvement in the health and nutritional status of conditional cash transfer beneficiaries, particularly for children, few studies provide evidence regarding their impact on the elderly population (Villatoro, 2005; Hoddinott and Skoufias, 2004; Attanasio and Mesnard, 2006).

Cash Benefits

Cash benefits may be in the form of cash transfers—usually a fixed amount for everybody over a certain age. Cash benefits have advantages over other types of benefits. Other poverty alleviation programs for older populations discussed above have not shown clear positive results. Some may rely on local infrastructure to provide health care services or are more challenging logistically to implement, increasing government cost. By contrast, cash transfers may be easier to manage because they do not require transporting bulky or potentially perishable items. Cash also provides recipients with greater income and places no restrictions on how it can be used but rather lets the recipient decide how to use the benefit (Case and Deaton, 1998). Such advantages of cash programs led the Yucatan government to adopt one when seeking to alleviate poverty among elderly in the state.

Yucatan's Noncontributory Pension Program

On August 1, 2007, voters in the state of Yucatan, in southeastern Mexico (see Figure 1.2), elected a new government. The new government elected included in its social-policy platform to provide a noncontributory pension program for adults age 70 and older.

The Reconocer program was designed to provide a cash payment of MXN \$500 per month (about US\$61 at 2011 purchasing power parity [PPP]) and a basket of basic food to beneficiaries in rural areas.¹ In urban areas, beneficiaries do not receive the food basket but receive instead a total cash payment of MXN \$550 (about US\$67 at 2011 PPP). Altogether, the monthly benefit is equal to 31 percent of the monthly minimum wage in Yucatan (MXN \$1,772.40 in January 2012). Table 1.1 summarizes the Reconocer noncontributory pension program, rural and urban. The pension program was introduced in phases in several Yucatan localities, beginning in rural areas with populations of 2,500 to 6,500 and then expanding to cities of at least

¹ The PPP exchange rate (which takes into account the amount of money needed to purchase goods and services in different countries) from Mexican pesos to U.S. dollars in 2011 is 8.18 (from Organisation for Economic Co-operation and Development [OECD], undated [a]). For more information, please see OECD (undated [b]).

Figure 1.2
Mexico and the State of Yucatan



SOURCE: Instituto Nacional de Estadística y Geografía (INEGI). Used with permission.

Table 1.1
Noncontributory Pension Program, Reconocer Rural and Reconocer Urbano

Phase	Noncontributory Pension Program	Targeted Population	Benefits	Starting Year
I	Reconocer Rural	10 localities with more than 2,500 inhabitants but fewer than 6,500 inhabitants each	MXN \$500 in cash and a food basket	2007
II	Reconocer Rural	16 localities with fewer than 20,000 inhabitants each	MXN \$500 in cash and a food basket	2007
III	Reconocer Urbano	11 localities with more than 20,000 inhabitants each, including Valladolid	Valladolid ^a	2008
			Merida ^b	2009
			MXN \$550 debit card	2010

^a Started the evaluation on the noncontributory pension program.

^b Of the 11 localities eligible to participate in phase III, the state has introduced the program to only two: Valladolid and Merida.

20,000. The first phase of the program started in rural areas because the proportion of older population is smaller than in highly urban areas and the population is more concentrated in a geographic area, making it easier to begin the implementation of the disbursement of the cash transfer.

Evaluation of the Noncontributory Pension Program

The program includes an evaluation component to measure its effect on the health, nutrition, and well-being of elderly recipients. The evaluation collected individual-level data on selected biomarkers, dietary practices, self-reported health, stress, depression, food security, and household-level data on availability of food. The evaluation also collected data allowing us to analyze changes in smoking and alcohol consumption, health care utilization and out-of-

Figure 1.3
Taking Anthropometric Measures of a Program Participant



SOURCE: Mariana Mussi. Used with permission.

pocket expenditures, financial and in-kind transfers among beneficiaries' children and neighbors, and the effects on the economic activity of older workers, among other topics. Furthermore, the evaluation sought to implement means-testing mechanisms for poverty programs for the elderly so as to target the cash transfer program to those in most need.

Together, the state of Yucatan and RAND researchers designed and implemented Reconocer Rural and Reconocer Urbano while conducting a parallel evaluation to improve the program as it is expanded to the whole state. This collaboration will illuminate the relationship among financial security, health, and mortality in order to improve public policies for the older population in Yucatan and provide lessons and findings useful around the world.

The evaluation began when the program was expanded to phase III (i.e., Reconocer Urbano). In this report, we describe the design of the evaluation and the information-gathering activities we conducted to analyze program impact on the health and well-being of older adults.

Previous Research on Noncontributory Pension Programs Around the World

At least 20 countries around the world, including Argentina, Brazil, Bangladesh, and South Africa, have introduced noncontributory pension programs for the elderly. Argentina has a noncontributory pension, Plan Mayores, for the poorest of the elderly who have no other pension coverage. Eligible persons must be at least 70 years old, and the cash transfer is equivalent to 70 percent of the minimum pension benefits provided by the country's contributory pension scheme. In 1993, Brazil introduced a universal noncontributory pension program (Previdência

Rural) for individuals in rural areas without social security benefits. The eligibility age for this program is 55 years for women and 60 for men. Another program was introduced in 1996 in urban areas (Benefício de Prestação Continuada) for those more than 66 years of age with a per capita household income no higher than one-quarter of the minimum wage. South Africa started a noncontributory pension program in 1928, but this program covered only a small percentage of the black population before being made available to all in 1996. The eligibility age is 60 years old for women and 65 for men. This pension is means-tested based on the combined income of the beneficiary and spouse (Carvalho Filho, 2012; Case and Deaton, 1998; Schwarzer and Querino, 2002; Duflo, 2003; Willmore, 2007).

Overall, the evidence suggests that such programs can reduce poverty and inequality among beneficiaries. Barrientos (2003), for example, shows that, in Brazil and South Africa, noncontributory pension programs have had a significant positive impact on income among households with elderly individuals. Similar studies in South Africa (Case and Deaton, 1998) and in other Latin American countries (Bertranou, Solorio, and van Ginneken, 2002; Dethier, Pestieau, and Ali, 2010), such as Costa Rica (Durán-Valverde, 2002) and Argentina (Bertranou and Grushka, 2002; Bertranou, Solorio, and van Ginneken, 2002), confirm that noncontributory pensions have substantially reduced poverty among the elderly.

Noncontributory pensions have also contributed to local economic development. Schwarzer and Querino (2002) describe pensions in Brazil as a crucial support to local economies. Because of their reliability and regularity, beneficiaries can use them as a proof of income or creditworthiness. Lund (2002) further stresses the significant role played by noncontributory pensions in the creation and support of small businesses. In particular, her analysis indicates that these pensions have a key function within the production cycle, allowing for improved agricultural inputs and capital investments and thus providing greater protection against fluctuating revenues from agriculture. Devereux (2001) also shows that noncontributory pensions have helped stimulate commerce in Namibia and South Africa because elderly beneficiaries use future pension revenues as a guarantee for credit at local stores, which enables them to purchase necessary goods before the next pension payment is received.

The majority of the elderly population in developing countries lives in multigenerational households. Hence, pension distribution affects others besides the direct recipients. Camarano (2002) and Edmonds, Mammen, and Miller (2005), for instance, report an increase in co-residence of children and grandchildren with elderly pension recipients in Brazil and South Africa. Overbye (2005) notes that old-age benefits trickle down to other household members, which improves the standing of the elderly people in their households and thus reduces their risk of abuse. Figure 1.3 shows two elderly friends. Recipients of the South African noncontributory pension often transfer this income to other family members, particularly through payment of the health care or education costs of younger generations (Duflo, 2003; Case and Deaton, 1998). Duflo (2003) shows that South African noncontributory pensions can particularly improve the health and nutrition status of a girl living in the household of an elderly pensioner. Similarly, Carvalho Filho (2012) observes higher school-enrollment rates in Brazil for girls living with female beneficiaries of the noncontributory pension program.

A potentially negative effect of this type of program is the substitution of family transfers or savings by public spending (the crowding-out effect). In South Africa, Jensen (2004) finds that, for every monetary unit (rand) received through a contributory pension, there is a 20- to 30-percent reduction in family transfers to older persons. (Bertrand, Mullainathan, and

Miller, 2003) find a sharp drop in the working hours of working-age individuals living with elderly beneficiaries of noncontributory pensions.

Still many questions remain. For example, what are the short-term and long-term effects of such programs on the health of the elderly? Do these programs help promote preventive health care? Do they distort retirement behavior? Do they change the preferences of individuals to work in the informal sector instead of the formal sector?

Answering these and other related questions requires joint work among governments, policymakers, researchers, and other experts. The evaluations derived from this joint work between the government of the state of Yucatan and RAND will help answer some of these questions.

This document, as noted, focuses on the implementation of the program and its evaluation; future documents will analyze results of the evaluation. In the next chapter, we describe the design and operation of the noncontributory pension program. In Chapter Three, we describe the design of the program evaluation. In Chapter Four, we offer some concluding observations and early lessons. At the end of the report, we provide a list of appendixes in English (A), Spanish (B), and Mayan (C) that are available online.

Implementation of the Noncontributory Pension Benefit Program

As noted, the noncontributory pension program in Yucatan has been implemented in three phases and in 37 localities in the state of Yucatan, Mexico, over a period of four years (see Table 1.1 in Chapter One). The program was introduced first in rural and then in urban areas. For evaluation purposes, a control group was selected that did not receive benefits but was surveyed and monitored for a rigorous evaluation of program effects.

Phase I: Reconocer

The first phase of the noncontributory pension program, Reconocer, commenced in September 2007, with the goal of designing and testing the program. Each month, 2,681 beneficiaries receive MXN \$500 (about US\$61 at 2011 PPP) and a basket of basic foods. These recipients live in ten rural localities with populations between 2,500 and 6,500 each (see Table 2.1 for a list of the localities). The localities selected for phase I of the project have high and medium poverty levels (see poverty levels in Table 2.1). These localities were chosen by the state government because of their easy access from Merida, the capital city of the state, which facilitated the beginning of the operations of the program in phase I.

Using data from the 2005 Mexican Population Count, we estimate that the 2,681 individuals enrolled in the noncontributory pension program represent 93.5 percent of the population age 70 and older in these localities. Because of the relatively high levels of poverty in these localities, as well as problems with targeting antipoverty programs, the state government decided to include all individuals above a certain age without conducting means testing to target benefits—i.e., to grant benefits to all adults age 70 and older without determining need. To implement the pension plan effectively, municipal authorities were asked to register all eligible persons in their localities, to deliver the monthly pension payments, and to provide monthly updates on all registered beneficiaries.

The municipal authorities collected applications and documents from all potential beneficiaries age 70 and older. This information was given to the Ministry of Social Development, which coordinated household visits to confirm age eligibility. The list of selected beneficiaries was posted in each municipality's town hall, and each beneficiary was given a photo identification card upon enrollment in the program.

The pensions are distributed monthly at the town hall and are paid in cash. Cash is home delivered to beneficiaries who cannot travel because of illness or physical difficulties. The benefit is lifelong and ceases upon the death of the beneficiary. The final monthly payment is dis-

Table 2.1
Pension Program Localities, Populations, and Poverty Levels

Phase	Locality	Elderly Population	Region of Yucatan	Poverty Level
I	Celestún	6,243	Northwest	High
	Chocholá	4,289	Northwest	Medium
	Chumayel	2,924	Southeast	High
	Dzilam González	5,798	North	High
	Ixil	3,538	Northwest	Medium
	Kinchil	5,705	Northwest	High
	Samahil	2,704	Northwest	Medium
	Sucilá	3,645	Northeast	Medium
	Teabo	5,529	Southwest	High
	Telchac Pueblo	3,377	Northwest	Medium
II	Chichimilá	4,985	Southeast	High
	Chikindzonot	2,607	Southeast	High
	Cuzamá	3,577	Northwest	High
	Mama	2,687	Southeast	High
	Maní	3,915	Southwest	High
	Mayapán	2,958	South	High
	Opichén	4,216	West	High
	Panabá	5,200	Northeast	Medium
	Peto	18,177	South	High
	Sacalum	3,399	Southwest	Medium
	Tetiz	3,747	Northwest	High
	Timucuy	3,576	Northwest	High
	Tixcacalcupul	3,207	Southeast	High
	Tixpéhual	3,312	Northwest	Low
	Tunkás	2,812	Northeast	High
	Yaxcabá	2,799	Southwest	High
III	Mérida	734,153	Northwest	Very low
	Valladolid	45,868	Northeast	Low

SOURCE: Consejo Nacional de Población, or National Population Council (CONAPO), 2005.

bursed to the beneficiary's family in the month in which the beneficiary passes away to help pay for funeral expenses.

Phase II: Continuation of Reconocer

Phase II commenced in December 2007 and enrolled an additional 1,827 beneficiaries in 16 localities with populations of fewer than 20,000 inhabitants each. The benefit amount was the same as in phase I of the program: a monthly payment of MXN \$500 and a basket of basic foods. The goal was to continue to design and test the implementation of the program, including tools and approaches (such as means-testing mechanisms) for identifying individuals living in poverty, increase the number of participants, and expand into larger localities. Among the localities added to the program, 13 had high levels of poverty (as based on the Marginalization Index published by CONAPO), two had medium levels of poverty, and one had a low level. After we acquired initial experience on the implementation of this type of program in phase I, localities with more-difficult access from Merida were chosen to be part of phase II.

In phase II, a data-collection team from the Ministry of Social Development visited the new localities to administer a brief questionnaire to verify addresses of potential beneficiaries and to collect information on socioeconomic characteristics, household composition, and income. Because the state government implemented means testing to target benefits, fewer beneficiaries were enrolled in phase II than in phase I. There were persistent problems with identifying eligible older adults through means testing, principally because of challenges in collecting meaningful data on poverty in old age. As a result, and in order to develop a new poverty index for old age, we decided to design a means-testing instrument that includes specific indicators for the elderly population. All together, 4,508 beneficiaries in 26 localities were enrolled in phases I and II.

Phase III: Reconocer Urbano

Reconocer was continued in phase III with Reconocer Urbano—an expansion of the program into cities with populations of more than 20,000 each (Figure 2.1). Program evaluation also began in phase III.

The first payment to beneficiaries in urban areas was made in December 2008. The benefit payment in this phase of the program consists of MXN \$550 per month (about US\$67 at 2011 PPP) but no food basket. The 11 cities that qualified for Reconocer Urbano according to their population size are located in the northeast, northwest, and south regions of Yucatan

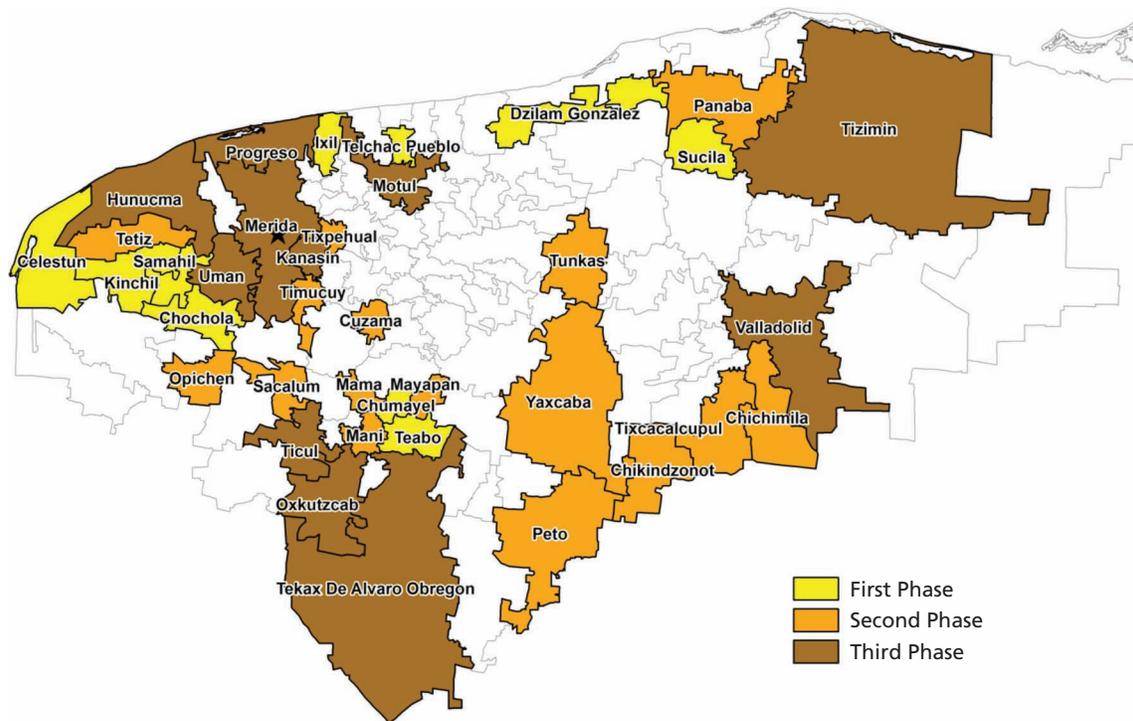
Figure 2.1
Logo for Reconocer
Urbano



as defined by INEGI. Figure 2.2 shows the locations of the 26 cities where the program was implemented in phases I and II and the 11 localities that qualified for phase III. The program has been so far implemented in two localities of phase III because, in urban areas, the number of people making up the older population is significantly larger than in rural areas, so they require a higher proportion of the government budget.

Table 2.1 lists the localities that have received the noncontributory pension program with their populations by phase and indicates the poverty level and region of the state for each location for phases I, II, and III. In the next chapter, we discuss implementation of the evaluation in these locations.

Figure 2.2
Yucatan Localities Eligible for a Noncontributory Pension Program



SOURCE: Instituto Nacional de Estadística y Geografía (INEGI). Used with permission.

Program Evaluation

This chapter describes the design and implementation of the first evaluation of the noncontributory pension program that began during phase III, when the pension program expanded into localities with more than 20,000 inhabitants. The evaluation program is called Escuchar. The logo in Figure 3.1 was developed for use on the evaluation materials.

We describe the evaluation in the order in which activities occurred (see Table 3.1). This document describes implementation of the first evaluation, in Valladolid. A separate document (Aguila, Borges, et al., forthcoming) describes implementation of the second and third evaluations, in Merida. We will present findings from both evaluations in later publications.

Figure 3.2 shows the timeline of surveys conducted for the first evaluation.

In this chapter, we describe how we built the infrastructure and tools necessary to implement the evaluation program, recruited and trained the data-collection team, established a

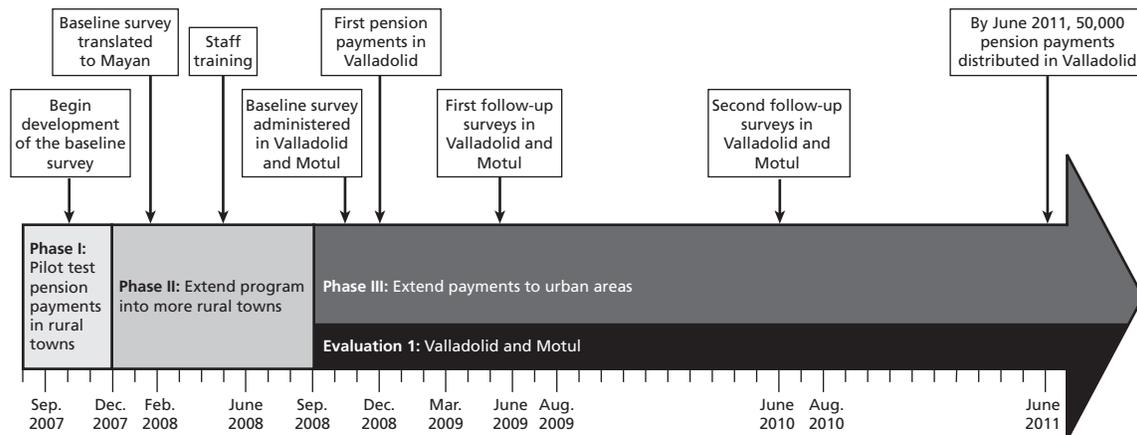
Figure 3.1
Logo for Escuchar



Table 3.1
Evaluation of the Noncontributory Pension Program, Escuchar

Evaluation	Location	Starting Year	Survey
1	Valladolid treatment group; Motul control group	2008	Baseline, Valladolid and Motul First follow-up, Valladolid and Motul Second follow-up, Valladolid and Motul
2	Merida	2009	Baseline, Merida First follow-up, Merida Second follow-up, Merida
3	Merida	2010	Baseline, Merida First follow-up, Merida Second follow-up, Merida

Figure 3.2
Timeline of the Noncontributory Pension Program and First Evaluation



program office, and purchased equipment and materials. We also describe how we developed, translated, tested, programmed, and applied the household-, individual-, and community-level surveys; processed the survey data; and implemented additional tasks required for this evaluation. Table 3.2 shows the calendar of activities and helps to describe the interventions and data-collection efforts sequentially for evaluation 1.

Selection of Treatment and Control Cities

A common problem in program evaluation is that it is difficult to determine whether changes in the target population are due to program or to other effects. In this project, the evaluation design includes one city where everyone age 70 and older received the cash benefit and another city where a similar population did not receive the cash. By learning about both populations before, during, and after the benefit was paid, we may measure the impact of the cash benefit on the program beneficiaries' health and well-being.

Among the 11 urban areas that qualified for phase III of the noncontributory pension program were Valladolid and Motul. The state government chose the northeastern part of the state for expansion of the pension program to urban areas because of its proximity to Merida, the capital city. This made it easier to operate the program. Three localities with more than 20,000 inhabitants each in the northeastern part of the state—Motul, Tizimin, and Valladolid—qualified for phase III, but budgetary constraints limited implementation of the program to one of these. (Table 3.3 provides population characteristics of these cities.)

The government of Yucatan chose Valladolid as the first treatment city, and all residents age 70 and older there were eligible to receive the noncontributory pension benefit. Government officials in Valladolid introduced the program, provided facilities to disburse the pension, and provided logistical support.

For the control group, RAND and the government of Yucatan chose Motul, where residents did not initially receive the noncontributory pension but were included in evaluation

Table 3.2
Calendar of Activities for the First Evaluation

Task Description	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
2008	Selection of treatment and control cities	■										
	Development of baseline surveys	■	■	■	■	■	■					
	Recruitment and training data-collection staff				■	■	■	■				
	Field testing					■	■	■				
	Conducting census in Valladolid								■			
	Baseline data collection in Valladolid									■		
	Conducting census in Motul										■	
	Baseline data collection in Motul											■
2009	Development of first follow-up surveys	■	■	■	■	■						
	First follow-up data collection in Valladolid						■	■				
	First follow-up data collection in Motul						■	■				
2010	Development of second follow-up surveys						■					
	Second follow-up data collection in Valladolid						■	■				
	Second follow-up data collection in Motul						■	■				

questionnaires.¹ This provided a “quasi-experiment” featuring one treatment locality and one control locality.

Following selection of Valladolid to receive the pension and Motul for comparison of program effects, the data-collection team conducted a new census to obtain all addresses of potential beneficiaries. The team applied three surveys: a baseline survey at the beginning of the evaluation and follow-up surveys at six and 18 months after implementation (see Appendixes A–C).

According to the 2005 Mexican census, Valladolid had a total of 45,868 inhabitants and Motul had 21,508 inhabitants. The population of those at least 70 years of age is 1,601 (3.5 percent) in Valladolid and 1,100 (5.1 percent) in Motul. The proportion of adults who are illiterate is similar in each city. Motul has a higher proportion of households without a sewer system, toilet, or potable water than Valladolid, but all other indicators are similar between the two cities. Overall, Motul was the most similar locality to Valladolid in the northeastern part

¹ The control group received the pension later, but not at the time of the first data collection.

Table 3.3
Characteristics of the Population in Valladolid, Motul, and Tizimin Obtained from 2005 Mexican Census Data

Variable	Valladolid	Motul	Tizimin
Illiterate population 15 years old or above (percentage)	11.0	11.2	15.1
Population 15 years old or above with incomplete primary education (percentage)	27.3	34.4	41.3
Households without sewer or toilet (percentage)	9.6	23.7	5.0
Households without electricity (percentage)	2.1	2.8	4.2
Households without piped water (percentage)	5.7	10.2	10.3
Households with earthen floor (percentage)	3.6	2.9	7.4
Households without refrigerator (percentage)	24.9	28.3	42.2
Level of poverty	Low	Medium	Medium
Poverty index	-1.1	-0.9	-0.8
Inhabitants	45,868	21,508	44,151

SOURCE: CONAPO, 2012.

NOTE: Estimations were conducted by CONAPO based on the 2005 Mexican census (INEGI, 2005).

of Yucatan. In addition to their sociodemographic similarities, Motul's proximity to Merida, where field operations were based, was a reason behind the selection.

Development of Surveys

After the localities were selected, we continued developing the household and individual surveys. We developed baseline and follow-up surveys of participants, as well as a community-characteristics survey. The baseline and follow-up survey instruments for participants were nearly identical in all three waves of data collection; we refer to them as the baseline survey, the first follow-up survey, and the second follow-up survey.

We had two goals in developing the survey instruments for this study. First, we aimed to make the instrument conceptually comparable to the Mexican Health and Aging Study (MHAS) so that the study's experimental outcomes can be compared with a survey that is representative of the total population of Mexico. Second, we aimed to adapt the survey measures to reflect the particular institutional and cultural characteristics of Yucatan. The result was the Survey of Household Economic Characteristics in the State of Yucatan (Encuesta de Características Socioeconómicas del Hogar en el Estado de Yucatán, or ENCAHEY).

Although the baseline and follow-up surveys were developed in English, we subsequently translated them to Spanish (using existing translations from the MHAS when possible) and Mayan (see Appendixes A–C). Bilingual reviewers (English-Spanish and Spanish-Mayan) checked the translated versions of the baseline instrument and the program's interviewers and tested them extensively in the field. The English-Spanish and Spanish-Mayan translations were cross-checked by bilingual reviewers. The translation to Mayan was done by Miguel May, a Mayan speaker, noted translator, and Mayan studies professor. Here is a sample question:

- English: Do you have any difficulty with getting into or out of bed or a hammock?
- Spanish: ¿Usted tiene dificultad al acostarse o levantarse de la cama o hamaca?
- Mayan: Teche' istikiaj a chital wáa a líik'il ti' a kaama wáa ti a k'aan?

Our evaluation included a comprehensive set of measures related to health, working hours, access to medicine and doctors, access to food, and the price of food and medicines. We included survey measures that have been validated and tested in other surveys in both English and Spanish. We adapted measures from other studies, including the MHAS; the U.S. Health and Retirement Study (HRS); the impact evaluation tools of the Oportunidades program; the U.S. Panel Study of Income Dynamics (PSID); the Survey on Health, Well-Being, and Aging in Latin America and the Caribbean (SABE); surveys developed by the World Bank and the Inter-American Development Bank (IADB) to analyze informal markets and social security coverage; the 2006 Mexican National Health and Nutrition Survey (Encuesta Nacional de Salud y Nutrición, or ENSANUT) of the National Public Health Institute (Instituto Nacional de Salud Pública, or INSP); the Mexican Population and Household Census; the Mexican National Employment Survey (Encuesta Nacional de Empleo, or ENE) and the Household Income and Expenditure Survey (Encuesta Nacional de Ingresos y Gastos de los Hogares) of INEGI; and the Mexican Family Life Survey ([MxFLS] home page, undated).

Topics in the baseline and follow-up surveys were as follows:

- self-reported health status
- dietary practices
- chronic conditions
- mortality expectations
- smoking and alcohol consumption
- health care utilization
- out-of-pocket health expenditures
- expenditures on nondurable goods
- food security and availability of food
- cognitive capabilities
- life satisfaction
- depression
- family characteristics
- financial and in-kind transfers from family
- income and assets.

In addition to the surveys, we prepared the protocols to collect anthropometric measures and biomarkers of all eligible adults.² These were

- height
- weight
- waist circumference

² We followed the protocols to collect height, weight, waist circumference, blood pressure, pulmonary capacity, balance tests, timed walk, and grip strength used in the HRS (Crimmins et al., 2008). For arm length, height to knee, and arm circumference, we used the protocols from SABE (Palloni, 2002). For anemia, we used the method of the HemoCue[®] analyzer (for more information, see HemoCue, undated).

Figure 3.3
Measuring the Blood Pressure of a Program Participant



SOURCE: Mariana Mussi. Used with permission.

- arm circumference
- arm length
- height to knee
- blood pressure
- pulmonary capacity
- balance tests
- timed walk
- grip strength
- anemia.

We collected anthropometric measurements and biomarker measures at baseline and in each follow-up interview (see Appendixes A–C). Using direct assessments offers a significant advantage in tracking changes in health in a population, particularly for participants who may be unaware of existing disease conditions and thus unable to provide accurate self-reports on health status. To test for anemia, we included measured hemoglobin levels with a portable hemoglobin analyzer used in various surveys around the world, including the 2006 ENSANUT.

As part of the follow-up surveys, we asked about eligible respondents who died between waves of data collection. We conducted this brief interview with each deceased respondent's next of kin, asking about the date, cause, and place of death, as well as marital status and temporary changes in living arrangements before death (see Appendixes A–C). We also asked

about health care utilization, out-of-pocket health expenses, and financial and in-kind transfers that occurred between the previous interview and the respondent's death.

In addition to the household and individual surveys, we conducted a community-level survey (adapted from the 2002 MxFLS; see MxFLS, undated) on available health services, public and private programs, and institutions that provide services and support for older adults in the community. We conducted the survey on August 28, 2009, in Valladolid and on September 3, 2009, in Motul. As part of the community survey, we interviewed three key community members, such as the local municipal president, in each city.

The MxFLS community survey, in its "Locality Characteristics Book, Community 1," had 20 sections by content, but we dropped six of these because they were irrelevant for our purposes: Infrastructure History (HI), Educational Services (SED), Transport Means (MT), Infrastructure (INF), Notes from Interview Sessions (NE), and View Control and Personal Records. Furthermore, from the sections we did use, we also dropped 15 questions for being inapplicable to the characteristics and history of populations.³

Recruiting and Training Data-Collection Staff

The size and structure of the team required to conduct the evaluation were defined by the size and complexity of the surveys to be used; the number of interviews to be conducted; the logistical, operational, and administrative needs of the program; the timeline; and the budget. The team consisted of a general coordinator, an operating director, a fieldwork coordinator, an administrator and administrative assistant, two programmers, a logistics manager, five field supervisors, and 35 interviewers. Together, our fieldwork staff had 48 members.

In order to provide employment opportunities for persons residing outside Merida and to attract Mayan speakers, we posted the announcement for fieldwork jobs throughout the state. The field-interviewer position required someone with good communication, social, and computer skills; Mayan-Spanish bilingual abilities; and the ability to travel and work in the communities where the surveys were conducted. We received applications from all regions of the state. Applicants had education levels ranging from middle school to university. Their diversity of education, work experience, skills, and cultural training enriched the selection process and ultimately the team.

We first screened field-interviewer job candidates by telephone. We scheduled those passing this screening for an in-person group interview that was conducted using a scripted interview guide. We required candidates for the bilingual field-interviewer position to take part in a Mayan-language evaluation conducted by a bilingual Mayan speaker (a professor of Mayan studies at a local university). The Mayan-language evaluation included exercises to assess job candidates' comprehension of, as well as written and spoken skills in, the Mayan language. In addition to the job interview, we required job candidates to provide references. We invited job candidates who passed these assessments to take part in a 2.5-week training held at the program's offices in Merida, Yucatan. We based hiring decisions on successful completion of training and obtaining a minimum passing score on the evaluation exams and quizzes that trainees had to complete as part of training.

³ The excluded questions are PB03, PB04, PB05, PB06, PB10, and PB11 from Population; ASC09 from Community Social Aspects; and AS01–AS08 from Social Assistance.

RAND and the government of the state of Yucatan invested a considerable amount of time and effort in training the data-collection staff to conducting the evaluation surveys. Over the course of the evaluation study, data-collection staff received well over 250 hours of training. Training topics included

- sample identification and listing
- cartography and census methodology
- application of the survey instruments
- human-subject protection
- working with elderly populations
- data safeguarding
- data transfer
- validation and quality control
- reading and writing the Mayan language
- field safety
- professionalism and teamwork.

The interviewers received training in general interviewing techniques, question specifications, refusal aversion and conversion, informed consent, guidelines for handling multiple eligible respondents, the use of proxy respondents and secondary informants, guidelines for handling common problems and adverse events, data confidentiality and safeguarding, research ethics, field safety, management of toxic or infectious materials in the field, issues in surveying elderly respondents, and protocols for managing case assignments and transferring data on completed cases. In addition, all data collectors were trained and certified in collecting anthropometric measurements and biomarkers that were part of the baseline and follow-up surveys. Figure 3.3 shows a participant having anthropometric measures taken.

We conducted training through classroom lectures, role-playing exercises, practicing in pairs using computers, mock interviews, and, finally, pretesting under actual field conditions. To evaluate interviewer performance and adherence to study protocols and procedures and to recertify all data-collection staff on the measurement of biomarkers, all staff received additional training (including formal assessments and quizzes) approximately every six months.

Staff attrition was moderate. Since 2008, we trained 47 interviewers; over the course of this evaluation, we lost 16 interviewers (34 percent). Most who left did so voluntarily to go back to school, for health reasons (including maternity), to pursue other job opportunities, or to get married. A small number, however, were dropped for not complying with their work schedule, not following data-collection protocols or procedures, or performance issues.

Each interviewer had a manual that he or she was required to follow strictly, along with the protocols and procedures established for fieldwork and office work. The formats that the interviewers used in the census process were receipt format, summary of block listing, household listing, and historical form.

The survey coordinator and field supervisors also received specialized training on field procedures, how to supervise the interviewers, reporting, validation and quality control, logistics, and data safeguarding and transmission.

Finally, the staff responsible for security, information transfers, statistical and geographic analysis, data cleaning, and the coordination of field equipment received training provided by the RAND Corporation and INEGI. The training included map reading, software, statistical

analysis, survey programming, and database management. The team acquired the necessary knowledge and skills to professionally handle and process the information collected.

This training helped shape a capable, professional, ethical, and efficient team that carries out its duties with a clear commitment to the program, as well as to the population involved. It is evident that the training received by the staff of RAND and the staff from Mexican institutions established in Yucatan has had a huge impact on each one of the members of the field team, the technicians, and the coordinators. They demonstrate their desire to contribute to the understanding of this social issue and to support this segment of the population.

Field-Testing

The primary goal of the field test was to evaluate whether respondents understood the survey questions as intended, the proposed data-collection approach, the quality of the translation, and the time and cognitive burden on respondents in completing the survey.

Following the first field test, we revised the survey instrument and programmed it for computer-assisted personal interviewing (CAPI) administration. We conducted field-testing in the cities of Teabo, Progreso, and Merida. Field-testing provided an opportunity to identify problems in the questionnaire content, as well as to evaluate survey measures and response options, interview length, and navigation of the programmed instrument. This field test also provided an opportunity to continue field-staff training and test the procedures for implementing the survey, including field logistics, data-collection methods, and data-transfer protocols.

Following the second round of field-testing, we made further revisions to the survey instrument and revised and refined interviewer training materials, data-collection procedures, and data-transfer protocols. We tested the Mayan version of the survey in the city of Teabo. The field tests were an essential part of the success of the survey process because the field team faced real-world conditions and gained valuable experience and insight into working with elderly adults.

Conducting a Census of the Targeted Population

To build the sample of individuals who were included in the first evaluation, the data-collection team conducted a census, listing and screening all households in Valladolid and Motul. We signed a collaborative agreement with INEGI, which provided us with maps of the communities where the evaluation was conducted, updated maps as necessary (with a cartographer accompanying our data-collection team to selected communities and updating the maps as necessary), assisted us in training our data-collection team in the household-listing process, and provided quality assurance during the listing process. In conducting the census, interviewers listed and screened each household in selected communities to identify age-eligible respondents and, using a brief screening form, collected first and last names, age, date of birth, gender, preferred language, and capacity to participate in the interview for each eligible adult.

We conducted our census of all households in Valladolid and Motul in June and July 2008, identifying all adults 65 years old and over. We included the 65–69 age group because it would soon be among those eligible for the program.

Once this task was completed, field interviewers returned to those households that had eligible residents to invite them to participate in the study by completing an interview and allowing the collection of anthropometric measurements and biomarkers.

Data Collection in Valladolid and Motul

We performed three data collections in Valladolid and Motul. Specifically, we conducted a survey at baseline, administered before the pension program was announced or implemented in the treatment city (Valladolid), and again at six months and 18 months after the evaluation began and the pension program was implemented. The survey involved an in-person interview that collected information on socioeconomic, demographic, and household characteristics; expenditures on nondurable goods; family transfers (financial support from family members); health status, physical functioning, and physical activity; health access, utilization, and medication use; social networks and social support; and care-giving responsibilities and diet. In addition to the in-person interview, we asked study respondents to take part in a series of health measurements, including blood pressure (illustrated in Figure 3.4), pulmonary capacity, grip strength, balance, timed walk, and anthropometry (height, weight, waist circumference, arm length, height to knee, and arm circumference), as well as an anemia test using a portable hemoglobin analyzer (the anemia tests were conducted in the follow-up interviews only).

All adults age 70 and older were included in the study. In cases in which an adult was unable to complete an interview (because of poor health or a language barrier, for example), we attempted to conduct the interview with a proxy respondent (an adult who was able to provide

Figure 3.4
Friendship Among the Elderly



SOURCE: Armantina García. Used with permission.

information on the health, well-being, and daily life of the eligible adult) from the same household. The survey included a series of questions about household (rather than individual) food expenditures and consumption, other expenditures, assets, and other characteristics. Proxy respondents were asked to complete only a subset of the survey questions for which they could provide an appropriate response. They were not asked questions that only the respondent could adequately answer (e.g., on self-reported health, mental health, life satisfaction, cognitive function). Proxy respondents also did not take part in any of the physical or anthropometric measurements. For questions (e.g., on finances) on which the eligible adult was not the best informant, we asked the person within the household best able to provide this information (referred to as the secondary or financial respondent). After the second follow-up survey in June 2010, we gave study participants a market shopping bag with the program's logo to thank them for participating, following the practice of other international surveys that provide incentives for participation.

Prior to the start of each interview, interviewers described the study and what participation entailed and asked participants to provide informed consent for participation in the survey interview (consent was obtained orally with interviewers acting as witnesses to the informed-consent process). In addition to obtaining consent for the survey interview, interviewers asked participants to provide consent for other survey activities, including the collection of anthropometric measurements and biomarkers, access to administrative records related to government-program enrollment, and access to records from health providers (consent for participation in these activities was obtained in writing from the participant). All study materials and informed-consent documents were written at an appropriate reading level using simple language and provided in both Spanish and Mayan. Interviewers reviewed the informed-consent documents with the respondents and their families and allowed respondents to ask questions (and responded to all questions) before asking them to sign the forms. Respondents were given copies of all informed-consent documents.

Field staff conducted survey interviews in-person in respondents' homes at a time convenient for respondents. Interviews in Spanish took an average of two hours, including informed consent and anthropometric measurements; interviews conducted in Mayan took an average of 2.5 hours. Survey interviewers used small laptops (netbooks) for CAPI administration. The use of CAPI dramatically reduces interviewer errors and incidence of missing items and increases the ability to detect and correct coding errors quickly. The programmed instrument required interviewers to ask questions in a specific order, prevented them from skipping questions or leaving questions blank, and prompted the interviewer when a response was inconsistent or out of range.

All surveys were programmed using a RAND survey system called Multimode Interviewing Capability (MMIC™; see MMIC, undated). MMIC is a comprehensive information system that integrates various traditional modes of collecting interview data, including telephone interviewing, self-administered surveys, and interviewer-administered surveys.

MMIC supports the organization and management of the sample, among the most-important parts of the data-collection process. For example, through MMIC, the research team can obtain and edit contacts and determine what to do with each sample record. MMIC can help tailor and design a complete sample administration and management system that includes reports, sample loads, data transfer, and periodic printouts of appointment schedules and contact lists. MMIC can also help manage the entire data-collection process, from questionnaire design to fieldwork monitoring.

Through the use of this system, we programmed and managed the questionnaires for the various modes of data collection. This tool provides an extensive visual display and aids by leveraging the latest Internet technologies. MMIC allows easy collection of anthropometric measurements and biomarkers, such as those for anemia, hypertension, and pulmonary capacity. The system allows the interviewer to switch languages during the interview (in this case, between Spanish, English, and Mayan) and between the respondent version of the survey and the proxy version of the survey and includes a platform for data dissemination.

Field supervisors used laptop computers to manage the sample, assign cases to interviewers, compile the information gathered on a daily basis, run productivity reports, and document problems in the field. To protect the confidentiality of all data collected, we use a double encryption protocol: Netbooks and supervisor laptops were password protected and had whole-disk encryption. In addition, all information contained on the netbooks and laptops was encrypted automatically as the data were collected. This double encryption protects the integrity of the data and prevents any data loss that could occur in the event that a computer is stolen or lost. Data from the netbooks and supervisor laptops were compiled on a daily basis and transmitted by Internet using a secure data-transfer protocol to a server located in the evaluation program's office in Merida, Yucatan. The server was backed up locally on a daily basis and remotely from RAND's offices in Santa Monica on a periodic basis.

Having the data-collection team stay in one location each time a new survey was conducted was cost-effective and facilitated logistical arrangements but required an efficient administration to ensure resources for food, lodging, and transportation for approximately 50 workers. The data-collection team typically worked Monday to Friday (and Saturday if necessary). Team members usually stayed in public facilities (hostels or Integral Family Development [Desarrollo Integral de la Familia, or DIF] installations) or rental houses; a team of cooks accompanied them to prepare meals. The interviewers' daily data-collection schedule varied by respondents' availability and preferences. This required flexible schedules for the workday and for meals.

Quality Control

To ensure the quality of information collected in the field, the operational coordinators, RAND supervisory staff, and field supervisors implemented various quality-control measures. The operational coordinator and field supervisors, following the standards and procedures previously approved, were required to review the informed-consent documents and forms used to record anthropometric measurements. Throughout the data-collection period, the survey coordinator also randomly selected cases from each supervisor's case load and re-reviewed the informed-consent documents, anthropometric forms, and other documentation that interviewers were required to complete. This process allowed the survey coordinator to review both the interviewer's and the supervisor's work.

In addition, throughout the data-collection period, field supervisors randomly selected 10 percent of each interviewer's completed or finalized cases for validation. Validation involved visiting households again to verify that an interview was conducted (or finalized in some way), to confirm a small number of survey responses, to ask about the interviewer's behavior throughout the interview, and to ensure that incentives were provided to participating respondents.

The results of the validation process were used to provide feedback, identify opportunities for quality improvement, and identify interviewers who needed retraining.

Upon completion of each wave of data collection, the survey coordinator and field supervisors validated all informed-consent documents and confirmed that CAPI and paper recordings of anthropometric measurements matched. This ensured the highest quality standards in documentation and information processes and helped identify areas for quality improvement and retraining.

As part of the processing of information, two research assistants and two programmers were trained in the management of the appropriate software and the correct way to present data for subsequent statistical analysis.

Concluding Remarks

The noncontributory pension program described in this document has been designed and implemented not only to improve the well-being of its participants but also to provide the data and information necessary to judge its effectiveness, tailor future programs accordingly, contribute to the body of research in relevant topic areas, and inform public policy.

Program features include the following:

- Yucatan, RAND, and other team members working together to contribute essential expertise for a successful program and evaluation. Without question, the attention and interest from the government to the elderly poor during 4.5 years of working with RAND and the coordination between the different levels of government required a strong commitment for the design, implementation, and follow-up of social policies.
- heavy investment to develop local capacity. A large staff received extensive training in conducting survey interviews and field operations, administrative support, and technical matters. The team includes operational and analytical professionals, as well as Spanish and Mayan speakers.
- a control group whose members did not initially receive pensions but were surveyed simultaneously with those who did
- “institutionalization” of the topic of the aging population in Yucatan, resulting from the joint work between government and researchers. This included more academic and media discussion about the issue. It also included the September 2012 replacement of the program Reconocer Urbano with Reconocer Universal, which will coordinate diverse federal, state, and municipal social programs to serve the needs of vulnerable persons age 70 and older.

The program also took on considerable challenges. These included the following:

- integrating, training, and strengthening a local team of data collectors composed mainly of young workers with no experience in electronic survey administration or in taking anthropometric and biomedical measures. These local program staff members had to share a residence away from their homes, adding to the logistical challenges.
- constructing and sustaining a logistical plan to continuously support the team, regardless of location or timing of the operation
- adapting and translating the surveys to Mayan
- establishing and constructing, in a consistent and professional manner, interdisciplinary networks of institutional collaboration to provide support and viability to the program.

Figure 4.1
Improving the Living Conditions of Elderly People.



SOURCE: Armantina García. Used with permission.

The government of Yucatan is an active partner in all aspects of this work. We highlight the importance of the program and the evaluation in developing a working relationship between the government and researchers, in beginning to institutionalize the issues related to an aging population, and in demonstrating the urgent need to train professionals in this area.

Two additional randomized treatment and control experiments are now being conducted in Merida, the capital city of Yucatan. These additional evaluations are important because they are designed as randomized controlled trials. In the first additional experiment, the benefit is distributed in cash. In the second, beneficiaries receive the pension through a debit card.

With these two reports (the present report and Aguila, Borges, et al., forthcoming), we completed the first part of the descriptive documentation of the operational part of this project. We are planning separate reports that describe other aspects of the project in more detail before we report findings from the evaluations. This second part of our work will include technical reports with a more detailed description of experiments mentioned in these two reports. The third part of the project will include technical reports and other publications that will present findings from the data analysis. We hope that this project and its findings will affect the well-being of the growing community of older adults in Mexico and around the world.

Appendixes

Appendixes for this technical report are available online:

<http://www.rand.org/labor/centers/clasp/research/projects/social-security-program.html>

Appendix A. English-Language Surveys

- A.1 Baseline Questionnaire Individual-Level Survey
- A.2 Biomarkers Baseline Individual-Level Survey
- A.3 Proxy Baseline Questionnaire Individual-Level Survey
- A.4 Cover Screen Baseline Questionnaire Household-Level Survey
- A.5 Listing Baseline Questionnaire Household-Level Survey
- A.6 First Follow-Up Questionnaire Individual-Level Survey
- A.7 Biomarkers First Follow-Up Individual-Level Survey
- A.8 Proxy First Follow-Up Questionnaire Individual-Level Survey
- A.9 Cover Screen First Follow-Up Questionnaire Household-Level Survey
- A.10 Exit First Follow-Up Questionnaire Individual-Level Survey
- A.11 Second Follow-Up Questionnaire Individual-Level Survey
- A.12 Biomarkers Second Follow-Up Questionnaire Individual-Level Survey
- A.13 Proxy Second Follow-Up Questionnaire Individual-Level Survey
- A.14 Cover Screen Second Follow-Up Questionnaire Household-Level Survey
- A.15 Exit Second Follow-Up Questionnaire Individual-Level Survey
- A.16 Pharmacy Baseline Questionnaire Individual Level Survey
- A.17 Establishment Baseline Questionnaire Individual Level Survey

Appendix B. Spanish-Language Surveys

- B.1 Baseline Questionnaire Individual-Level Survey
- B.2 Biomarkers Baseline Individual-Level Survey
- B.3 Proxy Baseline Questionnaire Individual-Level Survey
- B.4 Cover Screen Baseline Questionnaire Household-Level Survey
- B.5 First Follow-Up Questionnaire Individual-Level Survey
- B.6 Biomarkers First Follow-Up Individual-Level Survey
- B.7 Proxy First Follow-Up Questionnaire Individual-Level Survey
- B.8 Cover Screen First Follow-Up Questionnaire Household-Level Survey

- B.9 Exit First Follow-Up Questionnaire Individual-Level Survey
- B.10 Second Follow-Up Questionnaire Individual-Level Survey
- B.11 Biomarkers Second Follow-Up Questionnaire Individual-Level Survey
- B.12 Proxy Second Follow-Up Questionnaire Individual-Level Survey
- B.13 Cover Screen Second Follow-Up Questionnaire Household-Level Survey
- B.14 Exit Second Follow-Up Questionnaire Individual-Level Survey

Appendix C. Mayan-Language Surveys

- C.1 Baseline Questionnaire Individual-Level Survey
- C.2 Proxy Baseline Questionnaire Household-Level Survey
- C.3 Cover Screen First Follow-Up Questionnaire Household-Level Survey
- C.4 First Follow-Up Questionnaire Household-Level Survey
- C.5 Proxy First Follow-Up Questionnaire Individual-Level Survey
- C.6 Cover Screen Second Follow-Up Questionnaire Household-Level Survey
- C.7 Exit Second Follow-Up Questionnaire Individual-Level Survey
- C.8 Second Follow-Up Questionnaire Household-Level Survey
- C.9 Proxy Second Follow-Up Questionnaire Individual-Level Survey
- C.10 Cover Screen Second Follow-Up Questionnaire Household-Level Survey
- C.11 Exit Second Follow-Up Questionnaire Individual-Level Survey

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