



End High School Under-Enrollment through Pay-for-Success in Mexico

[slide presentation](#) / [versión español](#)

We are Escalera

We're on a mission to end high school under-enrollment in twenty years, and we're looking for partners to establish Mexico's first impact bond in order to do so.

Our challenge is high school under-enrollment

Every year fourteen million fifteen year-olds don't go to high school because they don't know it's within their reach. It's an information gap, and we offer an innovation to bridge it.

Our innovation is a mentor-in-a-box

We send children to high school through an RCT-proven, cost-effective mentor-in-a-box enrollment service. More kids would go to high school if they knew about it. So we tell them. And they go. It's pretty cost-effective, and we can prove it with randomized control trial evidence. Our mentor-in-a-box uses the combined effect of motivational and practical information to induce students to go to high school who otherwise would not.

We're interested in partnering with you

We have a replicable intervention, sources of financing and a public outcome payer; but we need additional outcome payers in order to scale. If you would like to show the world that pay-for-success works; pay for outcomes instead of spend on inputs; causally increase high school enrollment in Mexico; or increase outcomes associated with high school enrollment, then contact us to learn more: info@escalera.org

Our challenge is high school under-enrollment. Despite high returns to schooling and improved access to financial aid and school houses, under-enrollment in upper secondary education persists in low-income communities due to an information gap that can be bridged. Every year in Mexico over 700,000 students do not continue to upper secondary school (INEE 2012)— about half of whom due to information constraints (Huse et al 2012/Escalera Field Data 2014). Of the 140 million fifteen-year-olds in middle- and low-income countries worldwide (UNFPA 2010/PRB 2013/DESA 2013), Escalera estimates that at least 14 million do not continue to high school annually due to information constraints. Classrooms exist, scholarships are available (eg Oportunidades), and returns are high (Chacón and Peña 2012), but upper secondary remains under-enrolled because many students remain under-informed.

Under-enrollment matters

Under-enrollment is costly because every additional year of school is associated with large social and economic returns. Students in Mexico (rural Chiapas) earn 12% (8%) more over their lifetime for every additional year of upper secondary education (Chacón and Peña 2013 / Chacón and Peña 2012), are less likely to commit crime (SEMS 2013), enjoy greater social mobility (Intemann 2014), and transfer these benefits across generations (Psacharopoulos 2002).

Our innovation is a mentor-in-a-box

Escalera proposes to dramatically reduce high school under-enrollment through REACH, a service that mass delivers a proven, cost-effective method to increase upper secondary enrollment by providing information on financial aid, role models and returns (Jensen 2010/Nguyen 2008/Dinkelman and Martinez 2012/Hoxby and Turner 2013). REACH is a mentor-in-a-box for ninth grade students that leverages the combined effect of motivational and practical information to induce additional years of upper secondary schooling.

Through a year-long series of activities, REACH, delivered by public school teachers, engages ninth grade students and their parents to consider and discuss why and how to enroll in upper secondary schooling. The REACH mentor-in-a-box kit, co-produced with the Secretary of Education (SEP), includes a [role model video series](#) featuring frank interviews with local high school graduates who share similar backgrounds as the students; [student workbooks](#) that incorporate information on local returns to high school as well as how-to-enroll and scholarship application instructions; and [teacher lesson plans](#) that integrate the videos and workbook with class activities and discussions.

Our mentor-in-a-box could impact millions in a decade

Of the 140 million fifteen-year-olds in middle- and low-income countries (UNFPA 2010/PRB 2013/DESA 2013), Escalera estimates that at least 14 million do not continue to high school due to information constraints. Of the 2.2 million fifteen-year-olds in Mexico, Escalera estimates that 360,000 do not continue to high school due to information constraints ([Beneficiary Calculation Assumptions](#)).

Escalera expects REACH to dramatically reduce upper secondary under-enrollment caused by the information gap in Mexico within ten years and in all middle- to low-income countries within twenty years. In the next three years (2014-2017), Escalera expects REACH to causally induce 14,902 additional years of upper secondary education in Chiapas, Mexico, as detailed in subsequent sections. The increase in additional years of schooling is associated with large social and economic returns, as mentioned previously ([Chacón and Peña 2013](#) / [Chacón and Peña 2012](#)/ [Psacharopoulos 2002](#)).

Under-enrollment persists among the poor, but we can change that

Under-enrollment persists in Mexico due to an information gap caused by competing short-term interests in low-income households. Low-income households overvalue the present (i.e. current income without school) relative to the future (i.e. larger future income with school) in part because they are information-constrained ([Huse et al 2012](#) / [Escalera Field Data 2014](#)).

It is costly for low-income households to learn about the monetary benefits of enrolling (eg [Oportunidades](#) Conditional Cash Transfer program), how to apply, and future returns (eg through local role models) to high school due to an overload of other immediate, competing interests ([Ashraf](#)) and a dearth of high school graduates in the local community. REACH relaxes this constraint by providing easy-to-understand information on local returns, relatable role models (authentic local examples of success through video) and practical information on how to apply for financial aid.

Information constraints may partly explain why the majority of students who drop out cite economic necessity (60%) or work (25%) as the cause ([Encuesta Nacional 2012](#)) despite the widespread availability of means-tested financial aid (eg [Oportunidades](#)) and high measured economic returns ([Chacón and Peña 2012](#)). This trend is prevalent in Chiapas, Mexico where approximately half of all ninth-grade students do not continue to high school (INEE 2012/INEGI 2010). A telling 53% of ninth grade students either believe high school is not a possibility (20%), or are uncertain about their ability to attend high school (33%) ([Escalera Field Data 2014](#)).

The high-return-low-enrollment paradox suggests that an information-oriented intervention like REACH could, by relaxing information constraints in low-income households, foster greater demand for schooling and reduce under-enrollment ([Chacon and Peña 2012](#) / [Huse et al 2012](#)). REACH offers a well-timed nudge that frames high school as the new default option for low-income households ([Thaler and Sunstein 2009](#)) by harnessing the power of peer effects ([Encuesta Nacional 2012](#)) and role model effects ([Nguyen 2008](#)).

We address under-enrollment in a way that strengthens public policy

Enrollment rates in upper secondary have remained low compared to basic and lower secondary education over the past decade ([INEE 2012](#)), despite the presence of means-tested financial aid at all education levels (eg [Oportunidades](#)). This suggests that an intervention such as REACH that specifically targets demand where supply remains underused, could have significant policy implications ([Chacón and Peña 2012](#)).

REACH is an enrollment service that can significantly increase the social returns to existing

government spending on education (e.g. financial aid). As opposed to traditional third sector solutions such as mentorship or scholarships, which only incrementally reduce under-enrollment, REACH offers the public sector a high-return, complementary, scaleable service suitable for adoption as public policy. REACH’s complementarity means that the government can significantly increase the returns to current spending on upper secondary education. For example, through REACH’s enrollment service, the government could increase their social return by 50% with only a 20% increase in spending. For instance, of the 60,000 annual middle school graduates in Chiapas (INEGI 2010), half do not continue to high school (30,000) ([Beneficiary Projection Data](#)). Of the 30,000 who do not continue to high school, we estimate half (15,000) would go if treated by REACH (Chacón and Peña 2012 / [Escalera Field Data 2014](#)). *(Numbers are approximations used for illustrative purposes.)*

At this scale—with 15,000 new enrollees in addition to the 30,000 who already go—the federal government would pay \$200 USD per student (causally sent to school because of REACH) in addition to the \$1,000 USD per student currently budgeted for financial aid ([Oportunidades](#)). This result would increase the social return in Chiapas by 50% while increasing costs by only a fifth.

RCT evidence shows our mentor-in-a-box causes kids to go to school

From a decade’s experience of serving over 25,000 students with scholarships and school building, a three-year randomized control trial (RCT) of a merit-based scholarship program, and an ongoing RCT-evaluation of REACH, Escalera finds the presence of information on three things can trigger a student’s decision to continue to upper secondary: financial aid, real returns, and relatable role models.

This finding enjoys significant empirical support from similar contexts. In Chile an RCT-evaluated program similar to REACH used information on financial aid (also delivered through videos) to increase upper secondary participation ([Dinkelman and Martinez 2012](#)). In the Dominican Republic an RCT-evaluated program used information on local returns to education (as does REACH) to induce additional years of schooling ([Jensen 2010](#)). In Madagascar an RCT-evaluated program used information on local returns and the presence of relatable role models (as does REACH) to increase student attendance ([Nguyen 2008](#)). In the USA an RCT-evaluated program used information on how to apply (as does REACH) to increase college enrollment among low-income households ([Hoxby and Turner 2013](#)). REACH contributes to this literature by testing a similar intervention at scale in a novel context. In Mexico, preliminary results from REACH’s RCT-evaluated pilot year (2013-14) are consistent with the studies mentioned above. Table A presents the results of a preliminary exit survey of just over half the REACH pilot sample (1,425 students surveyed of a total 2,722 students).

Table A: Preliminary Exit Survey Summary Statistics

	REACH Materials		No REACH Materials		Difference	
	n	value	n	value		
Knows distance to nearest high school	738	0.75	687	0.66	0.0939***	(3.92)
Know how to register for high school	738	0.66	687	0.61	0.042	(1.64)
Is happy with his/her self	738	0.45	687	0.37	0.0503	(1.94)

Believes is capable of attending high school	738	0.38	687	0.33	0.0395	(1.56)
Wants to go to university	738	0.36	687	0.29	0.0612*	(2.47)
Plans to study in high school	738	0.62	687	0.52	0.0858**	(3.28)
*p<0.05, **p<0.01, ***p<0.001 t statistics in parenthesis						

According to these preliminary results, students who received the REACH treatment were more likely to report having plans to continue to high school. The magnitude size of this difference is large and significant at the 95% confidence interval (Table B). For classrooms where teachers implemented the program (Treatment on the Treated), students were 29% to 43% more likely to report having plans to continue to high school, significant again at the 95% confidence interval (Table B). This suggests that, with full implementation (REACH's pilot year was halved due to a statewide teacher strike), the magnitude size of the program's effect could significantly exceed initial projections. These results lose significance when standard errors are clustered at the classroom level (Table C) likely because the entire sample was not surveyed ([Intemann 2014](#)).

In sum, preliminary results suggest that, with a full sample and a full school year to implement the program, REACH is on track to causally induce additional years of upper secondary with a significant impact. Enrollment outcomes for the pilot year will be available in October 2014.

Table B: Preliminary Regression Results for Plans to Go to High School

Variables	(1) OLS	(2) PROBIT	(3) IVPROBIT	(4) IVPROBIT
REACH	0.0809**	0.0940**		
Materials				
	(0.0374)	0.0424		
D (Compliance with treatment)			0.291**	
			0.133	
D2 (Full compliance with treatment)				0.431**
				(0.194)
Subsidies	-0.124***	-0.132***	-0.328***	-0.307**
	(0.0401)	(0.0455)	(0.122)	(0.127)
Materials and Subsidies	-0.00493	-0.00584	-0.0141	-0.0647
	(0.0530)	(0.0609)	(0.158)	(0.173)
Male	0.0940***	0.117***	0.292***	0.279***
	(0.0274)	(0.0316)	(0.0816)	(0.0817)
Education level of father	0.0290**	0.0340**	0.0883**	0.0888**
	(0.0132)	(0.0151)	(0.0389)	(0.0387)
Education level of mother	0.0256**	0.0286**	0.0728**	0.0676**
	(0.0117)	(0.0132)	(0.0341)	(0.0340)
Sibling in / finished High School	0.240***	0.272***	0.792***	0.779***
	(0.0359)	(0.0340)	(0.118)	(0.117)
Television at home	-0.0144	-0.0112	-0.0431	-0.0409
	(0.0303)	(0.0345)	(0.0896)	(0.0891)
Rooms at home	0.0132	0.0143	0.0332	0.0382
	(0.0104)	(0.0120)	(0.0312)	(0.0309)
School size	0.00323***	0.00366***	0.00939***	0.0100***
	(0.000798)	(0.000919)	(0.00237)	(0.00238)
Distance from San Cristobal	0.119***	0.130***	0.324***	0.305***
	(0.0137)	(0.0158)	(0.0411)	(0.0434)
Constant	-0.0843			
	(0.0682)			
F-STAT			6.40	6.09
P >chi2			0.011	0.014
Observations	1,127	1,127	1,127	1,127
R-squared	0.167			

Standard errors in parenthesis
 *** p<0.01, ** p<0.05, * p<0.1

Table C: Preliminary Regression Results for Plans to Go to High School Clusters at Classroom Level

Variables	(1) OLS	(2) PROBIT	(3) IVPROBIT	(4) IVPROBIT
REACH	0.0809	0.0940		
Materials				
	(0.0695)	(0.0760)		
D (Compliance with treatment)			0.291	
			(0.241)	
D2 (Full compliance with treatment)				0.431
				(0.351)
Subsidies	-0.124*	-0.132*	-0.328*	-0.307
	(0.0649)	(0.0724)	(0.197)	(0.208)
Materials and Subsidies	-0.00493	-0.00584	-0.0141	-0.0647
	(0.0925)	(0.105)	(0.275)	(0.311)
Male	0.0940***	0.117***	0.292***	0.279***
	(0.0317)	(0.0350)	(0.0925)	(0.0972)
Education level of father	0.0290**	0.0340**	0.0883**	0.0888**
	(0.0133)	(0.0150)	(0.0393)	(0.0393)
Education level of mother	0.0256*	0.0286*	0.0728*	0.0676*
	(0.0146)	(0.0159)	(0.0407)	(0.0404)
Sibling in / finished High School	0.240***	0.272***	0.792***	0.779***
	(0.0410)	(0.0430)	(0.137)	(0.135)
Television at home	-0.0144	-0.0112	-0.0431	-0.0409
	(0.0316)	(0.0357)	(0.0921)	(0.0921)
Rooms at home	0.0132	0.0143	0.0332	0.0382
	(0.0114)	(0.0132)	(0.0339)	(0.0338)
School size	0.00323***	0.00366***	0.00939***	0.0100***
	(0.00120)	(0.00136)	(0.00349)	(0.00349)
Distance from San Cristobal	0.119***	0.130***	0.324***	0.305***
	(0.0269)	(0.0302)	(0.0782)	(0.0848)
Constant	-0.0843			
	(0.0797)			
F-STAT			3.70	2.67
P >chi2			0.035	
CLUSTERS	87	87	87	
Observations	1,127	1,127	1,127	1,127
R-squared	0.167			

In Mexico, we plan to end high school under-enrollment caused by the information gap in ten years

The REACH project is part of a strategic plan to end high school under-enrollment caused by the information gap in Mexico in ten years. Over the next three school years (2014-17), the project will serve **43,607** middle school or *telesecundaria* students (indirect beneficiaries). In that period, we expect the project to causally induce **7,451** students (direct beneficiaries) to attend an additional two years of high school for an estimated project total of **14,902** causally induced additional years. Beneficiary definitions and calculation methodology follow below.

Definition of direct beneficiary: The number of students who attend an additional year of upper secondary in public, private or commonly recognized alternatives as a result of the treatment.

Escalera calculates the anticipated number of direct beneficiaries by taking the annual total lower secondary graduates based on SEP Chiapas Data 2014 and INEGI Census Data 2010 who will be exposed to the REACH treatment and multiplies that number by the estimated average treatment effect (10% for first two years; 15% in year three; and 35% thereafter) as modeled in the [Beneficiary Projection Calculation](#). Specifically, in the 2014-15 academic cycle (year one), REACH is expected to serve 6,837 final-year middle school students (SEP Chiapas Data 2014), and as per previous implementation experience we expect an average treatment effect of 10%, which translates to 684 direct beneficiaries for that year (or a cumulative 933, as shown in the table below).

Definition of indirect beneficiary: The total number of students exposed to the treatment who can demonstrate (as compared to the counterfactual as measured in the control groups): a stronger knowledge of how to enroll, a more realistic expectation of the returns to education, and heightened aspirations or an increased desire to further their education. Escalera calculates the anticipated number of indirect beneficiaries by taking the annual total lower secondary graduates based on SEP Chiapas Data 2014 and INEGI Census Data 2010 who will be exposed to the REACH treatment and adds that number to the cumulative sum of years previous.

Cumulative Beneficiary Totals

	Direct	Indirect
2013	249	2,492
2014	933	9,329
2017	7,700	46,099
2019	89,726	280,458
2024	1,067,391	3,073,786

The table above shows the cumulative number of beneficiaries across years. Beneficiary totals assume a gradual expansion to the total addressable market in Chiapas over the initial three years (2014-17) followed by a more aggressive expansion period (2018 - 2022) to strategically identified states as the intervention is adopted as public policy (see [Beneficiary Projections](#) for more detail).

Direct beneficiary estimates are likely conservative considering the possible spillover effects of the intervention. Because peers influence 30% of students in their decision to continue studying ([Encuesta Nacional 2012](#)), REACH's effect in the classroom may see increasing returns to scale. Nevertheless, for planning purposes, this assumption is not considered in calculating beneficiary totals. Indirect beneficiary estimates are also conservative considering that as a direct beneficiary attends high school, he or she is likely to transfer benefits to family members and future children ([Psacharopoulos 2002](#)).

Our research also suggests that in addition to causing direct beneficiaries to enroll in high school ([Intemann 2014](#)), REACH will positively influence rates of retention, and induce approximately two additional years of schooling per student sent (Chiapas State average for students who begin high school, [Encuesta Nacional 2012](#)). Escalera will track retention outcomes as detailed in the evaluation section.

Our target beneficiaries are children from low-income communities

Target beneficiaries are fourteen- to sixteen-year-old male and female students from low-income households who are not expecting to continue to upper secondary school. They must reside in areas that have the necessary complementary infrastructure (i.e. existing upper secondary schools and sources of financial aid) for an information intervention to be effective. During 2014-17 Escalera will expand to serve the total addressable market in Chiapas while prioritizing regions where indigenous languages are spoken in the home.

Low-income households are defined as those households whose income lies at or below the government-defined poverty line ([CONEVAL 2013](#)). This corresponds to families whose monthly incomes are at or below 1,200 pesos/92 USD in urban areas or 851 pesos/65 USD in rural areas.

In twenty years, we could serve millions

REACH can dramatically reduce upper secondary under-enrollment caused by the information gap in Mexico in ten years and in all middle- to low-income countries in twenty years. Escalera estimates that REACH could serve 14 million students in developing countries and 360,000 students in Mexico annually. Of the 140 million fifteen-year-olds in middle- and low-income countries ([UNFPA 2010/PRB 2013/DESA 2013](#)), Escalera estimates that at least 14 million of them do not continue to high school due to information constraints, and of the 2.2 million fifteen-year-olds in Mexico, 360,000 of them do not continue to high school due to information constraints ([Beneficiary Calculation Assumptions](#)).

There are several avenues to scale up

Escalera foresees at least three avenues for scale up over the next 3 - 10 years:

- *Primary Avenue*: Expand to and prove at state level in four years through traditional funding and results-based financing (RBF, see diagram below). Government adopts program as public policy. Expand to a different region within two years with RBF and/or Social Impact Bond.
- *Secondary Avenue*: Expand to and prove at state level in six years through traditional funding. Government adopts program as public policy. Expand to different regions.

- *Tertiary Avenue:* Expand to and prove at state level in six years through traditional funding and results-based financing (RBF). Sustain at scale through social impact bond and expand to different regions.

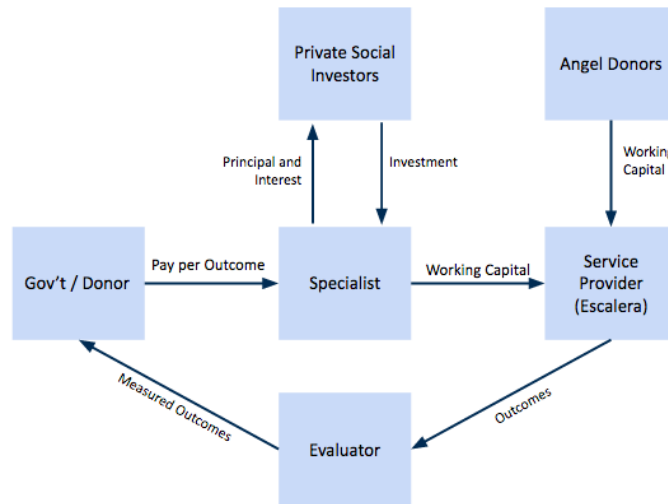
Escalera plans to pursue the primary avenue to scale up, but will use the secondary and tertiary avenues, or a combination of all three, as circumstances require. In essence, Escalera plans to establish a composite public/private outcome payer, raise working capital from grantmakers and prove the intervention at scale to prepare for adoption as public policy as detailed in the business plan response below.

We will use impact bonds to facilitate scale up by sharing costs and responsibilities

The primary avenue to scale, as mentioned above, involves sharing costs, risks and responsibilities between government, Escalera, private investors and/or other critical partners until, at full scale, the government finances and operates the REACH intervention. During scale up, a social impact bond or a performance-based contract will help to accelerate government adoption by proving the innovation in a way that transfers the risk of program failure away from the government and incentivizes greater cost-effectiveness from the service provider.

In a social impact bond (depicted below) government commits to pay in the future for pre-defined outcomes as measured through an independent evaluation (i.e. government pays Escalera \$200 USD per causally-induced additional school year) while private impact investors provide up-front working capital to Escalera to implement the program.

REACH Impact Bond Financing Model



In a performance-based contract government commits to pay in the future for pre-defined and independently-verified outcomes but does not involve private investment capital because the service provider (i.e. Escalera) is able to self-finance and is willing to absorb full risk.

In each model, cost and responsibilities are shared. Government pays for successful outcomes; investors and/or service providers bear performance risk and provide up-front working capital. Escalera operates the intervention in an outcomes-oriented way, incentivized to rapidly incorporate new learning so as to increase outcomes and thus government payments.

Escalera anticipates establishing a composite of outcome payers, consisting of five to ten public and private donors who will pay a pre-determined amount to induce an additional year of upper secondary for a three-year period, as discussed in the subsequent section.

Though social impact bonds are new, early evidence shows they have been used as a pathway to successful government adoption in other areas. For example, the first social impact bond in Peterborough, UK showed preliminary results of reducing criminal recidivism by 11% in its treatment group compared to a 10% increase nationally. After these results were published, the UK government announced a new nationwide criminal justice policy that incorporated many elements initially piloted in the Peterborough Social Impact Bond ([UK Ministry of Justice](#)).

We have a business plan to scale up

Escalera's effort to pursue the primary avenue to scale up falls into four stages, depicted below:

- *Stage I: Design and Prototype (2011 - 2013)*
- *Stage II: Pilot, Iterate and Recruit Outcome Payers (Aug 2013 - Oct 2014)*
- *Stage III: Scale and Increase Outcome Payer Base (Oct 2014 - Aug 2017)*
- *Stage IV: Mainstream and Expand to New Regions (2017-2019)*

Escalera's path to scale began with a two-year Design and Prototype Stage I (2011-2013) followed by a Pilot, Iterate and Recruit Outcome Payers Stage II (Aug 2013 - Oct 2014). Escalera plans to generate the scale and evidence necessary for REACH to be adopted as public policy in Stage II and Stage III, while recouping costs in Stage II to further finance scale-up in Stage III through a combination of traditional funding and outcome payers (public/private donors willing to pay for causally induced years of upper secondary) before eventually mainstreaming REACH as public policy in Stage IV (2017-2019). Parallel to Stage III and Stage IV, Escalera will replicate the scale-up process in new areas. For brevity, we provide highlights of our plan only for Stage III and IV below.

Stage III: Scale and Increase Outcome Payer Base (Oct 2014 - Aug 2017)

Escalera recruits a pool of multi-annual public/private donors and outcome payers to generate the scale and evidence necessary for the program to be adopted as public policy. Escalera finances scale up with donors from its current base and pending grants from organizations like the Kellogg

Foundation, Bancomer Foundation and USAID who are willing to provide working capital as well as outcome payers like the Chiapas State Government who are willing to pay for each causally induced year of upper secondary.

If Escalera secures outcome payers, but does not raise sufficient working capital from donors, Escalera can use low to zero-interest credit lines as offered by organizations like the Benjamin Foundation and Willow Canyon Foundation. With donors who provide working capital and outcome payers who pay for results, Escalera recovers expenses and uses the funds to further invest in program expansion.

Recouping costs for further scale-up with outcome payers is feasible. Escalera [has already secured](#) a \$48,000 USD pay-for-success contract with the Chiapas State Institution for the Development of the Family (DIF Chiapas). Escalera is discussing further outcome payment commitments with several public (e.g. State of Mexico) and private entities (e.g. LGT Venture Philanthropies, US-Mexico Foundation and Operation Kids).

The DIF Chiapas agreement—the first pay-for-success contract for an education intervention in Latin America—will not only help Escalera gain support from other donors and set the pace to fully finance the intervention for at least three academic cycles, but will also pave the way for policy changes on a statewide basis, such as mainstreaming REACH as part of the official curriculum of the State Secretary of Education (SEP Chiapas). By engaging DIF Chiapas, who is headed by the Governor’s mother who is an influential policy maker in Chiapas with five years remaining in her term, the initiative is well-positioned to receive the level of attention necessary for its adoption statewide.

Stage IV: Mainstream and Expand to New Regions (2017-2019)

With proof at scale, Escalera mainstreams REACH as public policy in Chiapas and replicates its scale-up strategy in Oaxaca and the State of Mexico through a combination of results-based financing and a social impact bond (SIB).

Escalera’s field experience suggests that involving public sector decision-makers from the outset dramatically increases the likelihood of future adoption as public policy. For this reason, Escalera has co-developed and co-implemented REACH with SEP Chiapas and co-funded REACH with DIF Chiapas, as detailed above. The role of SEP Chiapas will continue to expand, transitioning from a player that provides advice, authorization and implementation support, to an entity that validates results and incorporates lessons learned into its institutional framework. Having worked in tandem with SEP Chiapas from the outset, Escalera is well-suited to assist SEP in this transition.

As a financial partner in the program’s inaugural year, DIF Chiapas’ role as a program advocate will grow during program expansion and can eventually provide the political will necessary to formally adopt REACH as public policy. With the program proven at scale and a network of high-profile public advocates, Escalera believes it will be feasible to sustain REACH financially as public policy long-term.

Using social impact bonds as an avenue to scale and mainstream programs to public policy is not without international precedent. The Peterborough Social Impact Bond shows that elements of

interventions demonstrated through a SIB's outcome-oriented funding model have later been scaled up into public policy ([UK Ministry of Justice](#)).

Finally, Escalera's Public Relations team has already approached some key states, including Oaxaca and the State of Mexico. In the case of the State of Mexico, representatives from the State Ministry of Education have signaled their interest in carrying out a pay-for-success pilot of REACH in the state as early as the 2015-2016 school cycle, and have indicated that some seed funding (\$166,666 USD, see leverage section) could be available from their budget to co-fund this initiative.

Existing practice addressing under-enrollment faces challenges

Existing common practice addressing under-enrollment include solutions such as means-tested financial aid through public programs (e.g. [Oportunidades](#) SEDESOL) and scholarships through NGOs (e.g. [Bécalos Fundación Televisa](#)). The federally funded multi-billion dollar Oportunidades program offers approximately \$1,000 USD per year per student conditional on enrollment in upper secondary. It is means-tested and scales based on factors such as gender and grade level. Bécalos, a fifteen million dollar privately funded initiative by major banks and a large television network, awards scholarships worth approximately \$850 USD per student at the high school level according to criteria set by academic institution partners ([Bécalos 2013](#) / [DIF Chiapas 2014](#)).

The perennial challenge of financial aid is finding a way to serve lower-income households, since the likelihood of applying for aid declines with income due to factors such as present bias and information constraints. This partially explains why enrollment rates in upper secondary have remained low, especially among low-income households, when compared to basic and lower secondary education over the past decade ([INEE 2012](#)) despite the presence of means-tested publicly-funded financial aid at all education levels and a plethora of scholarships from NGOs.

Our enrollment service overcomes challenges in existing practice

REACH is an enrollment service that, by relaxing information constraints in low-income households, can dramatically increase the social returns to existing government spending on education (e.g. financial aid). As opposed to traditional third sector solutions such as mentorship or scholarships, which only incrementally reduce under-enrollment, REACH offers the public sector a high-return, complementary, scaleable service suitable for adoption as public policy.

Our enrollment service yields greater impact per dollar than alternatives

REACH is more cost-effective than alternatives because it uses simple behavioral nudges, such as information on returns and how to enroll, that are cheap to provide at scale. As opposed to trying to compete with alternatives, REACH offers a high-return solution that complements current public and third sector spending (as detailed in Section III A), and if proven well and presented appropriately, we believe policymakers will adopt it. At scale, Escalera estimates that REACH will cost \$74 USD per causally induced additional year ([REACH Budget](#)), which represents an attractive low-cost complementary service to *Oportunidades* (\$3,333 per causally induced additional year) and NGO scholarships (\$850-\$1,335 per non-causally induced additional year) ([J-PAL](#) / [Bécalos 2013](#) / [Annual Report](#)).

At scale, Escalera expects that REACH will cost \$74 USD per causally induced additional year, which includes all fixed and variable costs associated with delivering the program, including distribution, maintenance and replacement costs ([REACH Budget](#)). Based on current and prospective agreements, Escalera believes REACH can be sold to approximately five to ten public/private outcome payers with a three-year commitment if priced between \$200 - \$500 USD per outcome, which would provide a margin or risk premium of \$126 to \$426 USD per outcome as modeled in the attached REACH budget.

Our implementation plan focuses on targets in five areas

To accomplish project objectives, Escalera's plan to implement REACH during a school year will focus on major milestones in the areas of material preparation, training, operation, monitoring and evaluation. A graphic timeline of these activities is also presented in the attached [operating model](#) of the intervention.

Material preparation

Milestone: Produce/Update student handbook and teacher's manual.

This stage involves four core activities for Escalera: i) Gather information through interviews and surveys and incorporate lessons learned as well as input from teachers, students and parents. ii) Search for inspirational success stories of local student role models iii) Select key motivational exercises and edit potential successful stories to include in the DVD. iv) Edit, print and package materials.

The [student workbook](#) contains five chapters and 28 exercises designed to engage students in reflecting on their personal mission, talents, and life goals throughout the school year; an annex on how to apply for financial aid; and descriptions of local high schools and accommodations. The workbook exercises are designed to complement 18 role model [video interviews](#) with local high school students and graduates who share similar life stories, challenges and dreams. The videos and workbook are designed to provoke and guide in-class and in-home discussions about how and why to go to high school.

The [teacher manual](#) contains suggestions and methodologies for adapting the role model videos and student workbooks to their classroom's context and includes FAQs related to the exercises and videos. The student workbook and teacher manual was created collaboratively with the Telesecundarias Department of the Chiapas State Secretary of Education using extensive feedback from teachers heading the Reforma Integral de la Educación Básica- Chiapas.

Escalera supports teachers participating in REACH throughout the school year. In addition to six monitoring and evaluation visits each school year and two training sessions, Escalera uses [Facebook](#) to engage with and solicit teacher feedback.

Training

Milestone: Train implementing partners (teachers, personnel)

This stage involves three main activities: i) Deliver program materials to teachers; ii) Train teachers on methods and tools to use and adapt materials for their context; iii) Train personnel from the Secretary of Public Education (SEP), including teacher supervisors and Technical Pedagogical Advisors (TPAs) on

processes and standards by which to monitor and support program implementation.

Operation

Milestone: Present program to parents

After training, SEP and Escalera make an initial visit to each school to present the program to parents and invite them to consider high school for their children, centering on the importance of their education and the available options to pursue, as well as showing the “*video de inducción para padres*” (introductory video for parents), to promote reflection about the future of their children through testimonials of other parents who share their experiences to , demonstrate that the parents can be the support and motivation that their child needs to continue studying.

Monitoring

Milestone: Ensure at least 80% of teachers implement the program

Escalera and TPAs will visit each class five times during the school year to monitor and support program implementation. Escalera has an agreement with SEP to require teachers to apply the materials in their classrooms. To assure compliance, Escalera and TPA visits will verify that teachers are implementing the program and that both teachers and students understand the importance of REACH materials. During these visits, Escalera and TPAs will: i) measure how many exercises each teacher has completed; ii) document any comments or concerns the teachers may have for further analysis.

Milestone: Publicly recognize high performing teachers

At the end of the school year, SEP and Escalera will hold a ceremony to award teachers who implemented the program satisfactorily.

Evaluation

Milestone: Present project outcomes and incorporate lessons learned

During this stage, Escalera will collect baseline and endline data to identify drivers of impact and opportunities for improvement as further described in subsequent sections. Escalera will present an impact report to all stakeholders and incorporate lessons learned for future programming.

Previous implementation informs our current approach

Previous implementation experience suggests that increasing teacher uptake and parent participation will increase the program’s effect and has informed a set of program modifications for the 2014-15 school year. Approximately 82% of teachers in REACH treated schools utilized the REACH materials in the 2013-14 school year, as measured by the number of exercises completed in student workbooks at the time of an unannounced monitoring visit.

While teacher uptake is high for a first year intervention, we believe it can be improved and sustained by taking certain measures with SEP Chiapas and publicly recognizing teachers for their participation. We have formalized an agreement with SEP Chiapas which requires all participating teachers to apply REACH materials in their classrooms. We also plan to incentivize teachers by publicly recognizing them at the end of each school year for using program materials. We will also use SEP Chiapas supervisory staff, including Technological Pedagogical Advisors, to support and monitor teacher performance with

REACH and ensure that all teachers in treated schools are taking advantage of REACH. The inclusion of SEP Chiapas in supervision and monitoring at this stage will allow for process improvement and ease SEP Chiapas' administrative burden as the program transitions to larger scale implementation.

Teacher and student feedback obtained through interviews in the 2013-14 school year suggests that providing more targeted information to parents in REACH will improve the likelihood that more students, particularly females, continue to high school, which is consistent with [Attanasio and Kaufman's 2010](#) analysis in Mexico and [Nguyen 2008](#) RCT evidence in Madagascar. For this reason, we will include an informational parent video starting in the 2014-15 school year, which will accompany the parent exercises already included in the student workbook.

Previous experience also suggests that government and NGO willingness to pay likely exceeds Escalera's cost to deliver program outcomes. Government has already formally expressed their willingness to pay vis-a-vis a signed pay-for-success contract with DIF Chiapas to pay \$200 USD (2600 MXN) per causally induced additional year. As mentioned in the cost-effectiveness section of this application, government currently spends \$3,333 USD per causally induced additional year ([J-PAL](#)), which greatly exceeds REACH's expected cost per outcome of \$74 USD at scale ([REACH Model](#)). A similar willingness to pay exists among donors in the third sector, where NGOs, like Bécalos and Escalera, spend or have spent between \$850-\$1,335 USD per non-causally induced additional year ([Bécalos 2013](#) / [Escalera Annual Report 2013](#)).

We continuously evaluate and address operational challenges

Using results-based financing as a primary pathway to scale strongly motivates Escalera to maintain and invest in an M&E infrastructure that allows us test, iterate and scale adjustments to the REACH intervention model. REACH's M&E system, as outlined in the [Evaluation Process](#) and [Performance Monitoring](#) attachments, will allow Escalera to modify implementation monthly, adjust program design bi-annually and measure payment metrics to scale through results-based financing.

An operational challenge we face concerns how government will legally engage in Social Impact Bonds and pay-for-success contracts. One example is the government's fiscal year does not precisely align to identified payment metric cycles. We plan to overcome this and related legal challenges by working with Instiglio, a partner in this project and specialist in structuring SIBs in developing contexts as defined below, and leading Mexican law firms that have experience in administrative law.

Our mission informs our stakeholder engagement strategy

Escalera is a mission-driven social purpose organization that is able and willing to assume the costs and risks associated with developing solutions to end the school shortage. Escalera is registered as a US non-profit corporation 501(c)(3) and a Mexican Asociación Civil. Escalera's mission is to end the world's school shortage, defined as the low demand for education and undersupply of school buildings, in our lifetime. To pursue its mission, Escalera enables systems-change by rigorously proving and aggressively scaling solutions ready for adoption by the public sector.

Escalera's systems-change strategy informs its rationale for scaling REACH by means of a social impact bond. A social impact bond or a performance-based contract will help to accelerate government adoption of this innovative program by demonstrating the model in a way that transfers the risk of program failure away from the government and incentivizes greater cost-effectiveness. This approach is possible due to Escalera's unique ability and willingness to absorb the cost and risks associated with proving REACH at scale.

We have secured partners critical to success and scale-up

Escalera has secured partners who are critical to the success of REACH and its scale up. For brevity, a strategic rationale, along with current roles and future responsibilities for these partnerships is provided below.

Partners Critical to Success

Partners critical to the success of REACH include public education providers, like the Chiapas and Mexico State Secretary of Education (SEP Chiapas/SEP Mexico) to implement and inform program design.

Chiapas State Education Ministry (SEP Chiapas) - government partner

Current Role: A government implementing partner, such as SEP Chiapas and SEP Mexico, is critical to the long-term success of REACH. Escalera's field experience suggests that, despite significant and tangible results, social interventions are rarely adopted as public policies if they have not been proven at a larger scale and do not involve government, in some capacity, from the outset. For this reason, Escalera co-developed and currently implements REACH with SEP Chiapas.

Future Responsibilities: As REACH progresses, SEP Chiapas' role will continue to expand, transitioning from a player that provides advice, authorization and implementation support, to an entity that validates results and incorporates lessons learned into its institutional framework. Having worked in tandem with SEP from the outset, Escalera is well-suited to facilitate this transition.

Partners Critical to Scale-Up

Partners critical to REACH's scale up include public outcome payers such as the Chiapas State Institution for the Development of the Family (DIF Chiapas) and SEP Mexico; private outcome payers, such as LGT Venture Philanthropy and the US-Mexico Foundation, to onboard public outcome payers; grant-makers, such as the BBVA Bancomer and Kellogg Foundation, to provide upfront working capital; high-profile education policy agenda-setters like Mexicanos Primeros to advocate for REACH's adoption as public policy; external evaluators such as Social Impact to measure outcome payment metrics; and specialists such as Instiglio to structure pay-for-performance contracts and social impact bonds.

Chiapas State Institution for the Development of the Family (DIF Chiapas) / Mexico State Secretary of Education - public outcome payer

Current role: DIF Chiapas is an outcome payer for the 2013-14 REACH cohort committing to pay \$2,600 MXN / \$200 USD per causally induced additional year up to 223 years for a total of \$579,800 MXN / 48,317 USD payable April 2015). The details of the agreement are available in this [hyperlink](#).

Future responsibilities: The value of DIF Chiapas ownership of REACH greatly exceeds its current financial commitment. DIF Chiapas' commitment will not only help Escalera gain support from other donors and set the pace to fully finance the intervention for at least three academic cycles, but will also pave the way for policy changes on a statewide basis, such as mainstreaming REACH as part of the official curriculum of SEP Chiapas. By engaging DIF Chiapas, who is headed by the Governor's mother--an influential policy maker in Chiapas--the initiative is well-positioned to garner the political will necessary for it to be adopted by the State.

In the case of the State of Mexico, representatives from the State Ministry of Education have signaled their interest in carrying out a pilot of REACH on the state as early as the 2015-2016 school cycle, and have even stated that some seed funding (\$166,000 USD) could be available from their budget toward a composite outcome payment agreement.

Venture philanthropy, foundations, multilateral donors, development agencies - private outcome payers

Current role: Consider a commitment as a composite private outcome payer in order to onboard public outcome payers and establish results-based financing. While it is premature to suggest dollar amounts, Escalera is optimistic that one or a combination of these organizations will make a commitment before the end of 2014.

Future responsibilities: Strategically use multi-year, composite outcome payment commitments to onboard public outcome payers in the near-term and/or potentially invest in a Social Impact Bond arrangement in the mid-term.

Foundations - grant-makers

Current role: Consider a commitment to provide working capital for the next three years or implementation.

Future responsibility: Continue to provide working capital and/or consider commitment as an outcome payer.

Advocacy groups - high-profile agenda-setter for education policy

Current role: Escalera has engaged this nationally renowned NGO for tactical and strategic scale objectives. Mexicanos Primero has promised to assist in the data analysis required to guide Escalera's decision-making process to strategically identify areas for future REACH expansion.

Future responsibilities: Advocate for and lobby decision-makers at the state and federal level to adopt REACH as public policy.

Social Impact Inc (SI) - external evaluator

Current role: SI will perform an independent RCT-evaluation of program outcomes and drivers of impact for the 2014-15 REACH cohort.

Future Responsibility: Perform an independent audit of Escalera's evaluation of program outcomes for the 2015-16 REACH cohort that satisfies the requirements of outcome payers and grant-makers.

Instiglio - specialist

Current role: Escalera has contracted Instiglio for their advisory services in establishing a results-based financing (RBF) framework to recruit additional outcome payers and donors. Prior to this contractual arrangement, the firm had already provided legal advice, feasibility, design and structuring assessments to Escalera concerning REACH. Instiglio has also supported stakeholder engagement, providing information concerning successful RBF initiatives and accompanying Escalera at appointments with prospective outcome payers.

Future responsibilities: Instiglio will draft a standardized term sheet for outcome payers, identify and engage investors and outcome payers and assist public outcome payers to overcome legal obstacles in order to scale REACH through results-based financing instruments such as social impact bonds or pay-for-success contracts. Further information on partnership agreements available upon request.

We measure program outcomes through randomized control trial

Escalera has partnered with Social Impact, Inc (SI) to conduct an external randomized control trial evaluation measuring REACH's effect on the Outcome Metric of Interest (OMI), defined as follows:

Outcome Metric of Interest (OMI): The number of additional years of upper secondary schooling in public, private or commonly recognized alternatives which are causally induced by the treatment, as measured in February of each school year.

SI will create a valid counterfactual for treatment; measure and analyze the OMI; and identify drivers of impact (DOI) for the new school cohort participating in REACH 2.0 (2014-15 school year). Escalera will continue to perform the evaluation activities mentioned above for the old school cohort participating in REACH 2.0 (2014-15), defined as REACH 2.0 schools that previously participated in the RCT-evaluated REACH 1.0 (2013-14) cohort. Escalera will perform the evaluation for the REACH 3.0 (2015-16) cohort. Escalera will use an external evaluator to audit its OMI evaluation of the aforementioned cohorts as required by outcome payers.

To create a valid counterfactual, SI/Escalera will identify reasonable power calculation assumptions for intra-class correlation (ρ) and minimum detectable effect size benchmarking with previous REACH data and other similar studies; identify a desired sample size within the sampling frame (Los Altos and Las Selvas Regions of Chiapas) using a power calculation; and run randomization, stratifying on variables correlated with the OMI.

To measure and analyze the OMI and identify drivers of impact (DOI), SI/Escalera will identify main regression and sensitivity analysis specifications; design the survey to identify DOI; train the data collection firm to collect DOI; oversee DOI baseline data collection; collect OMI data; analyze the treatment effect on the OMI using regression analysis; and make conclusions regarding the treatment effect size on the OMI and DOI.

Escalera and SI will design evaluation measures that can assess the Outcome Metric of Interest, Preliminary Outcomes and Drivers of Impact in order to understand the magnitude and mechanism of the program’s effect:

Outcome Metric of Interest (OMI): The number of additional years of upper secondary schooling in public, private or commonly recognized alternatives which are causally induced by the treatment, as measured in February of each school year.

Preliminary Outcomes: The total number of students exposed to the treatment who can demonstrate, as compared to the counterfactual, a stronger knowledge of how to enroll; a more realistic expectation of the return to education; heightened aspirations; or an increased desire to further their education.

Drivers of Impact (DOI): Student and school-level characteristics positively correlated to Preliminary Outcomes and the Outcome Metric of Interest.

REACH 1.0 (2013-14) was evaluated in 117 telesecundarias (hereafter schools), randomly divided into four treatment arms: REACH Only (28 schools), Subsidy Only (29), REACH+Subsidy (32), Control (28). The Subsidy treatment offers vouchers to students in order to cover high school inscription fees.

Table I: REACH 1.0 / REACH 2.0 Old School Randomization*

	REACH	No REACH
Subsidies	32	29
No Subsidies	28	28

*Schools which participated in the REACH 1.0 (2013-14) academic cycle.

This design allows Escalera to compare the interacted and isolated effect of REACH and Subsidies in order to improve cost-per-outcome efficiency for future programming.

REACH 2.0 (2014-15) will consist of the 117 schools who participated in REACH 1.0 divided into the same four treatment arms in the table above; and 191 new schools divided into two treatment arms: REACH (124), No REACH (67).

Table II: REACH 2.0 New Schools Randomization

REACH	No REACH
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124	67
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*School totals are tentative.

REACH 3.0 (2015-16) will consist of the 117 schools who participated in REACH 1.0 divided into the same four treatment arms in Table I; the 191 schools who participated in REACH 2.0 divided into two treatment arms in Table II; and 245 new schools divided into two treatments arms: REACH (160), No REACH (85).

Table III: REACH 3.0 New Schools Randomization

REACH	No REACH
160	85

*School totals are tentative.

Evaluation design will change subject to drivers of impact data analysis. Program elements, such as subsidies or parent videos, may be included in 2.0 or 3.0 design subject to further data analysis.

We measure the program’s cost-effectiveness

Escalera will benchmark cost-effectiveness against Mexico’s conditional-cash transfer program *Oportunidades*, Chile’s recent information intervention ([Dinkelman & Martinez, 2011](#)), the Dominican Republic’s information intervention ([Jensen, 2010](#)) and standard enrollment-associated costs drawn from current State and Federal service provision. SI will model a cost per additional year using both current and at-scale cost assumptions, employing J-PAL’s methodology to measure cost-effectiveness. This will allow a direct comparison to other initiatives and their cost-effectiveness. These metrics will also be compared to state and federally funded efforts toward the same outcome.

We monitor performance as part of the evaluation process

Escalera includes performance monitoring as part of the evaluation process through a series of six visits to each school each year: two evaluation visits (baseline/endline); two Escalera and SEP Chiapas monitoring visits; and one SEP Chiapas visit. Evaluation visits will measure drivers of impact and preliminary outcomes, while monitoring visits will evaluate program processes (how teachers implement the program) and uptake (% of teachers implementing the program). For a timeline of performance monitoring and the evaluation process, please refer to the [REACH Operating Model and Budget](#).

We collect lessons learned to inform future scale up

REACH’s evaluation design will allow Escalera to modify implementation monthly, adjust program design bi-annually and measure payment metrics to scale through results-based financing. With the initial RCT cohort divided into four treatment-control groups, Escalera will compare the interacted and isolated effect of REACH and other program elements that could improve cost-per-outcome efficiency.

We have a strong team to deliver the program

Escalera will use its Executive Team and Program Personnel as key staff as well as senior-level staff from project partners to support the proposed objectives of REACH.

KEY STAFF		Responsibilities and level of effort*
<i>Executive Director</i>	Andrew Christensen	Oversee program design, execution and evaluation. Oversee and participate in the program's policy outreach, funding and scale strategy.
<i>Country Director</i>	Hugo Rodríguez	Oversee and participate in the program's policy outreach, funding and scale strategy.
<i>Monitoring and Evaluation Specialist</i>	Zachary Intemann	Oversee program monitoring and evaluation and participate in program design and execution.
<i>Program Director</i>	Citlally López	Oversee and participate in program design, execution and evaluation.
<i>Program Policy Analyst</i>	Mayra Cortés	Participate in the program design, execution and support the program's policy outreach, funding and scale strategy.
PROJECT PARTNERS		
<i>SEP Telesecundaria Department Director</i>	Sergio García León	Coordinate the involvement of SEP Telesecundaria Department Staff and oversee program compliance.
<i>SEP Telesecundaria Department Consultant</i>	Ronay Mendoza	Liaise between Escalera and SEP's Telesecundarias Department. Monitor implementation and iterate design.
<i>SEP Telesecundaria Department Consultant</i>	Jorge Noriega	Liaise between Escalera and SEP's Telesecundarias Department Office of School Supervision. Share knowledge and results from REACH. Iterate program design.
<i>Social Impact</i>	Mike Duthie	Perform external RCT-evaluation of program outcomes and drivers of impact. Part-time
<i>Instiglio</i>	Michael Eddy & Siegrid Holler	Identify and engage outcome payers and investors to scale through pay-for-success financing. Part-time
TECHNICAL STAFF		
<i>Interviewer and Filmmaker</i>	María Arias	Produce REACH role model videos, conducting indigenous language interviews. Part-time.
<i>TPAs</i>	22	Supervise, monitor and support teachers implementing REACH with on-site visits. Part-time.
<i>Teachers</i>	445	Implement REACH. Part-time.
<i>Zone Supervisors/Sector Superintendents</i>	20/6	Supervise, monitor and support teachers implementing REACH. Part-time.
<i>Surveyors</i>	9	Collect and enter survey data. Part-time.

*All levels of effort are full-time unless otherwise noted.

Partner	Location	Time commitment (part-time)
<i>SEP - Telesecundarias Department</i>	Secretaría de Educación Pública, Depto. de Telesecundarias Unidad administrativa, Edif. B, planta baja. Col. Maya. C. P. 29140. Tuxtla Gtz. Chiapas, Mexico	Part-time

<i>Social Impact</i>	2300 Clarendon Boulevard, Suite 300 Arlington, VA 22201 United States	Part-time
<i>Instiglio</i>	Edificio Ruta N, Calle 67 N° 52-20, Piso 2, torre A Oficina 3-013 Medellín, Colombia	Part-time

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