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From: William T Fujioka
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TRANSMISSION OF THE COST AVOIDANCE STUDY OF THE GENERAL RELIEF HOUSING SUBSIDY AND CASE MANAGEMENT PILOT PROJECT

With submission to your Board of the attached report, "The General Relief Housing Subsidy and Case Management Pilot Project: An Evaluation of Participant Outcomes and Cost Savings," our Service Integration Branch (SIB) has now completed its study of results generated through participation in the Department of Public Social Services' (DPSS) housing subsidy pilot program for homeless General Relief (GR) recipients. Completion of the report coincides with DPSS' imminent release to the Board of a series of recommended actions for redesigning GR so as to make the program both more responsive to the needs of the County's indigent population and more cost effective. The report recommends Countywide implementation of the piloted housing subsidy program. Likewise, a Countywide roll out of the housing subsidy program will be one of the actions DPSS recommends as part of its efforts to restructure GR.

Background

DPSS implemented the GR Housing Subsidy and Case Management Pilot Project in September 2006. The pilot project is a voluntary program associated with Los Angeles County's Homelessness Prevention Initiative. The rationale guiding the pilot has been in DPSS words, "to test whether assisting the homeless GR population with a rent subsidy and coordinating access to other necessary supportive services reduces homelessness, increases employment, and/or increases receipt of Supplemental Security Income (SSI) benefits." In addition, the Program tests the extent to which

provision of rental subsidies and case management services to GR recipients helps reduce service utilization, thereby yielding cost savings for the County.

Recipients participating in the pilot must agree to pay $136 from their GR grant to a landlord through a direct rent process, except for shared housing situations where the grant proportion attributable to rent is $115. In return for this commitment on the part of participants, the pilot pays up to $300 per participant monthly in rental subsidies and provides one-time move-in assistance. Pilot participants also receive case management services from DPSS, which help facilitate access to needed services from County Departments of Health Services (DHS), Mental Health (DMH), and Public Health (DPH). The pilot is designed to assist a revolving total of 900 GR recipients at any one time, specifically focusing on three categories of recipients: Employable recipients participating in DPSS' GR Opportunities for WORK (GROW) program; recipients potentially eligible for SSI; and chronically homeless recipients. DPSS selected six County District Offices in which to implement the pilot project: District 7, South Special; District 8, Southwest Special; District 14, Civic Center; District 60, Ranch Park; District 67, Lancaster; and District 70, Metro Special.

Outcomes Evaluation and Cost Savings Analysis

The SIB's Research and Evaluation Services team's examination of the GR Housing Subsidy and Case Management Pilot Project is based on analyses of trends and results in four areas: Employment Outcomes; SSI Eligibility Outcomes; Homelessness Prevention Outcomes; and Cost Avoidance. Most findings presented in the report are based on comparisons between: groups of GR recipients who participated in the pilot between September 2006 and December 2008; and comparable control groups of GR recipients who were on GR prior to the implementation of the pilot, between March 2005 and September 2006, and therefore, could not participate in the pilot.

The Report's Key Findings: Positive Outcomes and Millions in Cost Savings

In all three tested outcome areas – employment, SSI eligibility, and homelessness prevention – GR recipients who participated in the pilot fared better than the control groups with which they were compared. Moreover, SIB deployed the same record matching methodology used in the recently completed Adult Linkages Project in order to link DPSS administrative records for GR recipients with the recipient records of service utilization from DHS, DPH, DMH, and the Sheriff. This was done for the purpose of analyzing the extent to which pilot participation offset participant service utilization and yielded cost savings. The results of this cost avoidance analysis showed that the positive outcomes pilot participation generated in the areas of employment, SSI

eligibility and homelessness prevention were achieved by means that simultaneously yielded millions in annual cost savings.

Some of the key findings presented in the report are as follows:

- Employable GR recipients participating in the pilot were almost twice as likely to find jobs as recipients in a control group of GR recipients who did not participate in the pilot;

- While 75 percent of the employed pilot participants observed for this study found their jobs during the same quarter they entered the pilot, only 50 percent of the employed GR recipients in the control group found jobs during the same quarter in which they entered GR;

- Almost half of the official decisions made on SSI applications coming from the observed group of pilot participants were approved. This approval rate was twice as high as the SSI approval rate observed in a control group of disabled GR recipients. Moreover, the number of SSI approvals in the observed group of pilot participants was five times higher than the number of approvals in the control group;

- After exiting the pilot, the extent of homelessness – measured as the percentage of time GR recipients are homeless over their tenure in the GR program – dropped from an average of 63 percent to an average of 17 percent for observed pilot participants who had prior histories of homelessness. By comparison, the average extent of homelessness for a control group of GR recipients dropped from 62 percent to 53 percent over the course of the group's observation period;

- GR recipients in a control group were 7.4 times more likely to become homeless, while in the GR program relative to observed pilot participants after they exited the pilot program;

- It is estimated that the GR rental subsidy program generates an $11 million net reduction in the utilization of County services over two years for 900 participants; and

- For 900 disabled GR Housing Subsidy participants, the savings for the post-program year are estimated to be almost $12 million, yielding a two-year net savings of over $19 million based on a conservatively estimated 30 percent

SSI approval rate. An additional ten percent increase in the SSI approval rate would yield another $2 million in savings over two years.

The concluding section of the report provides a series of policy recommendations based on these findings.

Next Steps

DPSS has assembled a workgroup for the purpose of restructuring GR so as to make the program more effective and efficient. The workshop consists of policymakers from multiple County departments serving the GR population, as well as the County's Public Social Services Commission, welfare and homeless advocates, policy researchers and analysts, and our Office. Expansion of the GR Housing Subsidy and Case Management Pilot Project is one of the strategies the GR workgroup is currently considering in connection with the restructuring efforts.

The results of this evaluation demonstrate that the positive effects of participation in the GR Housing Subsidy and Case Management Pilot Project touch both GR recipients and DPSS as a department, and additionally extend to the other major County departments serving the GR population. The report underscores the urgency of expanding the pilot project and verifies that Countywide implementation of the pilot should be central to the GR workgroup's efforts to re-make the GR program.

If you have any questions, please contact me or your staff may contact Manuel Moreno, Director of Research for the Research and Evaluation Services unit within SIB at (213) 974-5849, or via e-mail at mmoreneo@ceo.lacounty.gov.

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County of Los Angeles
Chief Executive Office
Service Integration Branch

The General Relief Housing Subsidy and Case Management Pilot Project: An Evaluation of Participant Outcomes and Cost Savings

Research and Evaluation Services

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September 2009

Preface

The Department of Public Social Services (DPSS) has undertaken much of its General Relief (GR) Housing Subsidy and Case Management Pilot Project amidst the tumultuous economic developments of the past two years. The mutually reinforcing combination of recession and financial crisis has created severe circumstances in Los Angeles County's labor markets. According to the Bureau of Labor Statistics, the June 2009 unemployment rate for the Los Angeles-Long Beach-Glendale Metropolitan Area was 11.4 percent, almost two points higher than the rate reported for the nation as a whole. Growing joblessness has exacerbated the already difficult problem of homelessness in the County and expanded the ranks of persons seeking public assistance through programs such as GR. DPSS reported 82,524 persons on GR in June 2009, as compared to 60,447 in June 2007, an increase of 37 percent over two years. At the same time, the fiscal problems facing the State and County mean that DPSS, as well as other Departments serving the County's welfare population, currently find themselves having to provide services for expanding caseloads with contracting pools of resources. Under these types of conditions, programs that can provide sufficient assistance and humane care by the most efficient means are of critical importance. DPSS' GR Housing Subsidy and Case Management Pilot Project is just such a program. While implementation of the project in six pilot districts predated the recession, the pilot has nevertheless sought to test the theory that the provision of both rental subsidies and enhanced case management would not only improve outcomes for recipients in the areas of employment, SSI eligibility and homelessness prevention, but would additionally accomplish these goals in a way that would reduce a substantial portion of participant demand for services, thereby yielding significant cost savings for the County. The present report, which is primarily based on analyses of administrative data covering the period between September 2006 and December 2008, evaluates the effects of participation in the pilot project and draws two general conclusions: Firstly, homeless GR recipients taking part in the pilot fared better in the evaluated areas than similar recipients who were on GR prior to the pilot's implementation. Secondly, pilot participation and its positive outcomes have saved the County millions in service costs. The housing subsidy and case management project is therefore vitally necessary in the current economic climate, and its wider implementation should be a key aspect of the County's current efforts to restructure the GR program.

Manuel H. Moreno, Ph.D
Principal Investigator

Acknowledgements

The work that went into preparing this report would not have been possible without the support and assistance of numerous people. First and foremost, Phil Ansell at DPSS provided invaluable intellectual guidance and vision, and his hands-on knowledge and understanding of GR Program, along with that of Judith Lillard, made Research and Evaluation Services' (RES) work much easier. Dr. Michael Bono also deserves special thanks as a valued colleague, key facilitator, and important source of feedback. LaShonda Diggs offered in-depth knowledge of programmatic and operational issues pertaining to GR and the GR Housing Subsidy and Case Management Pilot Project. Miguel Santana, former Deputy Chief Executive Officer in charge of the County's Children and Families' Well-Being Cluster, recognized the importance of this study from the beginning and gave it his full support. Kathy House and Lesley Blacher at CEO/SIB both provided leadership, guidance and needed resources. Duc Doan at RES, as well as Irene Dyer at Health Services, Mary Marx at Mental Health, Linda Dyer at Public Health, and Karen S. Dalton at the Sheriff's, each played important roles in facilitating and conducting the data matches that served as the basis for this report's cost avoidance analysis. Dr. Dennis Culhane at the University of Pennsylvania's School of Social Policy and Practice, and Dr. Stephen Metraux of the Department of Health Policy and Public Health at the University of the Sciences in Philadelpia, each read earlier drafts of this report and offered their expertise on issues relating to homeless policy, cost avoidance, and the analysis of programmatic cost effectiveness. Nancy Salem at RES proofread the report thoroughly and provided feedback and copyediting. Adrineh Melkonian at Chief Executive Office/Service Integration Branch formatted and assembled the report. To all these people, RES extends heartfelt gratitude.

Key Findings Presented in this Report

- Employable GR recipients participating in the GR Housing Subsidy and Case Management Pilot Project were almost twice as likely to find jobs as recipients in a control group of recipients who did not participate in the pilot.

- While 75 percent of the employed pilot participants observed for this study found their jobs during the same quarter they entered the pilot, only 50 percent of the employed GR recipients in the control group found jobs during the same quarter in which they entered GR.

- Almost half of the official decisions made on Supplemental Security Income (SSI) applications coming from the observed group of pilot participants were approved. This approval rate was twice as high as the SSI approval rate observed in a control group of disabled GR recipients. Moreover, the number of SSI approvals in the observed group of pilot participants was five times higher than the number of approvals in the control group.

- While 85 percent of the observed group of disabled pilot participants made SSI applications, only one-third of a control group of GR recipients submitted SSI applications.

- After exiting the pilot, the extent of homelessness – measured as the percentage of time GR recipients are homeless over their tenure in the GR program – dropped from an average of 63 percent to an average of 17 percent for observed pilot participants who had prior histories of homelessness. By comparison, the average extent of homelessness for a control group of GR recipients dropped from 62 percent to 53 percent over the course of the group's observation period.

- GR recipients in a control group were 7.4 times more likely to become homeless while in the GR program relative to observed pilot participants after they exited the pilot program.

- It is estimated that the GR rental subsidy program generates an $11 million net reduction in the utilization of County services over two years for 900 participants.

- For 900 disabled GR Housing Subsidy participants, the savings for the post-program year are estimated to be almost $12 million, yielding a two-year net savings of over $19 million based on a conservatively estimated 30 percent SSI approval rate. An additional ten percent increase in the SSI approval rate would yield another $2 million in savings over two years.

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I. Introduction

Background

The General Relief (GR) Housing Subsidy and Case Management Pilot Project is a program associated with Los Angeles County's Homeless Prevention Initiative (HPI). In accordance with a State mandate for all counties in California, the Department of Public Social Services (DPSS) administers the GR program, which provides assistance to roughly 80,000 poor indigent adults not otherwise aided by State social services programs. The most recent analyses conducted in connection with Los Angeles County's Adult Linkages Project (ALP) indicate that between 55 and 67 percent of adults in the GR program are homeless.[1] The GR Housing Subsidy and Case Management Pilot Project is designed to provide a portion of these homeless participants with a combination of rent subsidies and case management. The rationale guiding the pilot is, in DPSS words, "to test whether assisting the homeless GR population with a rent subsidy and coordinating access to other necessary supportive services reduces homelessness, increases employment, and/or increases receipt of SSI benefits."

Pilot Program Design

The GR Housing Subsidy and Case Management Pilot Project, which is modeled on San Francisco's Care Not Cash Program for single homeless adults, is a voluntary program designed to assist a revolving total of 900 GR recipients at any one time on a 'first come first serve' basis. The pilot specifically focuses on three categories of GR recipients: (A) Employable recipients participating in DPSS' GR Opportunities for Work (GROW) program; (B) recipients potentially eligible for Supplemental Security Income (SSI); (C) chronically homeless recipients.

Recipients participating in the GR Housing Subsidy and Case Management Pilot Project must agree to pay $136 from their GR grants to a landlord through a direct rent process, except for shared housing situations where the grant portion attributable to rent is $115. The pilot project pays up to $300 per participant per month in rental subsidies and provides one-time move-in assistance. DPSS has selected six County District Offices in which to implement the pilot project: (1) District 14: Civic Center; (2) District 70: Metro Special; (3) District 8: Southwest Special; (4) District 7: South Special; (5) District 60: Rancho Park; (6) District 67: Lancaster.

DPSS' GR Housing Case Managers (GRHCMs) are responsible for providing the case management piece of the pilot project. Each GRHCM assigned to the pilot has a caseload of roughly 75 participants. Contracted Housing Locator consultants maintain a

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[1] Metraux, Stephen and Dennis P. Culhane. *Using ALP Data for Determining Patterns and Costs of Service Use by GR Recipients in Los Angeles County.* A Report Submitted to: County of Los Angeles, Chief Executive Office (CEO), Service Integration Branch (SIB), Research and Evaluation Services (RES). Project Director: Manuel Moreno, Ph.D. July 2009. P. 8.

database of low-income rental units in Los Angeles County and, where necessary, these consultants work with the GRHCMs to locate housing for pilot participants.

After verifying the eligibility of potential pilot participants referred by DPSS' Eligibility-Intake staff, the GRHCM case management duties include assessing participant education levels and employment histories, providing advisory support with respect to issues related to rental agreements, assisting pilot participants with life and money management skills, and monitoring participant medical treatment and service utilization. The GRHCM case management responsibilities additionally include encouraging participants to keep appointments with GROW Case Managers and SSI Advocates, and to cooperate with and fully participate in needed services. The GRHCMs are also responsible for referring disabled participants potentially eligible for SSI to DPSS' SSI - Medi-Cal Advocacy Program, which provides support and information designed to facilitate the application process. Additionally, the GRHCMs connect the chronically homeless pilot participants in their caseloads to substance abuse and mental health programs offered through the Department of Public Health (DPH) and the Department of Mental Health (DMH).

This Evaluation

This report takes its analytical cue from a growing body of literature on the long-term effects of social policies that seek to provide services and create permanent housing solutions for the expanding ranks of homeless persons in American cities. Dennis P. Culhane and Stephen Metraux are worth special mention in this regard because they have written an extensive series of pioneering studies in this area. In their article, "Rearranging the Deck Chairs or Reallocating the Lifeboats: Homelessness Assistance and its Alternatives" (2008), Culhane and Metraux argue that resources currently committed to emergency housing shelters would be more effectively deployed towards the development and implementation of community-based programs helping those with housing emergencies to remain housed and be served by existing social welfare programs. In making this argument, they note that an effective policy intervention in the problem of homelessness must meet two conditions: "It must be efficient and it must also lead to improved client outcomes." The present evaluation examines the GR Housing Subsidy and Case Management Pilot Project using these two general indicators, efficiency and outcomes.

Efficiency: In looking at the efficiency of the pilot project, RES has been guided by the question of whether participation in the pilot eliminates the need for certain services and, in the process, offsets costs that would be incurred if the program were not in place. Put differently, does the pilot program enable the County to provide the same needed care with fewer resources than would be the case in the absence of the program? A number of researchers have already demonstrated the cost offsets and service efficiencies that can be yielded with the proper strategic deployment of programs offering various types of housing assistance, often in combination with intensive case management and integrated services for persons struggling with mental

illness or substance abuse.[2] Findings pointing to significant cost savings associated with participation in the GR Housing Subsidy and Case Management Pilot Project would therefore be consistent with the general state of scholarly knowledge on homelessness policy as a means of cost avoidance.

Outcomes: Along with an analysis of the extent to which the pilot project yields service cost savings, this evaluation examines the effects that participation in the pilot have on outcomes in the areas of employment, retention of housing, and qualification for SSI benefits. Findings pointing to improved outcomes for homeless participants in the GR Housing Subsidy and Case Management Pilot Project would be consistent with a number of key studies evaluating the substantive impact of participation in programs providing homeless populations with various combinations of housing benefits, intensive case management, and targeted service delivery.[3]

Information on the cost savings and outcomes associated with participation in the pilot program is necessary for policymakers to monitor the effectiveness of the project and identify areas where enhancements are needed before the pilot is implemented more generally on a countywide basis.

Research Questions

This evaluation addresses the following questions:

- What are the patterns of participant entry into and exit out of the pilot project? How long do different types of participants stay in the pilot project?
- How does participation in the GR Housing Subsidy and Case Management Pilot Project affect the likelihood that employable GR participants will obtain employment? What relative impact does program participation have on earnings

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[2] Culhane, Dennis P. "The Cost of Homelessness." *European Journal of Homelessness*, 2.1. 2008. 97-114; Culhane, Dennis P. and Stephen Metraux. "Rearranging the Deck Chairs or Reallocating the Lifeboats? Homelessness Assistance and its Alternatives." *Journal of the American Planning Association*.74.1. 2008.111-121; Culhane, Dennis P., Stephen Metraux and Trevor Hadley. "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing." *Housing Policy Debates*. 13.1, 2002. 107-163; Gilmer, Todd P., Wilard G. Manning, Susan L. Ettner. "A Cost Analysis of San Diego County's REACH Program for Homeless Persons." *Psychiatric Services*. 60.4. 2009.445-450; Marinez, Tia E. and Martha Burt. "Impact of Permanent Supportive Housing on the Use of Acute Care Health Services by Homeless Adults." *Psychiatric Services*. 57.7, 2006, 992-999; Sadowski et al. "Effect of a Housing and Case Management Program on Emergency Department Visits and Hospitalizations Among Chronically Ill Homeless Adults: A Randomized Trial." *Journal of the American Medical Association*.301.17, 2009. 1771-1778.

[3] For example, see: Corporation for Supportive Housing. "The Role of Permanent Supportive Housing in Addressing Family Homelessness." A Policy Brief prepared by the CSH and the National Center on Family Homelessness." December 2006; Culhane, Dennis P. and Stephen Metraux. " Rearranging the Deck Chairs or Reallocating the Lifeboats? Homelessness Assistance and its Alternatives." *Journal of the American Planning Association*.74.1. 2008.111-121; Khadduri, Jill. "Housing Vouchers are Critical for Ending Family Homelessness." Homelessness Research Institute. 2008.

and stability of employment? How does pilot participation affect the length of time it takes GR participants to obtain employment?

- How does participation in the pilot project affect the likelihood that potentially eligible participants will actually gain eligibility for SSI benefits? How does participation affect the length of time it takes participants to make an SSI application and gain eligibility?

- How does participation in the pilot project affect the likelihood participants will become homeless again after exit from the pilot? What types of housing situations do pilot participants secure? (e.g. single occupancy or shared housing).

- Do participation outcomes differ by region, participant characteristics, and/or a participant's history of social and human services utilization?

- To what extent does participation in the pilot yield significant service cost offsets?

Sections of this Report.

This evaluation begins by looking at patterns of participant entry into and exit out of the GR Housing Subsidy and Case Management Pilot Project (section II), and then proceeds to evaluate outcomes for pilot participants in the areas of employment (section III), SSI eligibility (section IV), and homelessness prevention (section V). Section VI examines the efficiency of the pilot project by looking at the service cost avoidance yielded through participation in the pilot. Section VII summarizes the report's major findings and uses them as the basis for a series of policy recommendations for program enhancements.

The Pilot Population and the Parameters of the Study Group

A total of 2,588 GR participants in the County of Los Angeles took part in the GR Housing Subsidy and Case Management Pilot Project from September 2006 through December 2008. Two sets of participants within this population were excluded from the study group analyzed for the evaluation provided in this report:

- 280 pilot participants did not match against the district files RES acquired in order to identify their program category (i.e. employable/GROW, potentially SSI-eligible, or chronically homeless). These records were therefore dropped from the analysis.

- 655 persons on GR volunteered for the pilot program but then did not participate due primarily to difficulties in finding suitable housing. Some of them also may not have been eligible for the pilot, while others might have exited GR or disappeared for some other reason. These 655 persons were not included in the evaluation of the pilot program.

This left 1,653 pilot participants with complete records. The pilot project distributed these participants into program categories as follows:

- 592 (36 percent) were placed in the employable/GROW category;
- 533 (32 percent) were placed in the potentially SSI-eligible category;
- 527 (32 percent) were placed in the chronically homeless category.

Different subsets of the overall study population of 1,653 pilot participants are studied at different points in the evaluation. An effort is made throughout this report to specify the population subsets that form the basis for particular findings.

The Pilot Population Compared to other GR Participants during the same Period

Table 1 compares the general characteristics of the 1,653 pilot participants in the overall study group against other persons on GR at the same time - and in the same six pilot districts - who did not participate in the pilot program.

Table 1. Pilot Participants versus Other GR Participants in the Six Pilot Districts, September 2006 to December 2008

Characteristic	Pilot Participants	Other GR Participants
Gender %		
Male	66%	67%
Female	34%	33%
Ethnicity* %		
Black	71%	62%
Hispanic	9%	17%
Other	20%	21%
Birth Place* %		
CA	56%	62%
Other	44%	38%
Disabled* %		
Yes	53%	47%
No	47%	53%
Marital Status %		
Single	84%	84%
Other	16%	16%
Ever Homeless since 2005* % [4]		
Yes	84%	70%
No	16%	30%
Drug Abuse Treatment* %		
Yes	18%	15%
No	82%	85%
Applied to SSI since 2005* %		
Yes	25%	19%
No	75%	81%
Employed since 2005* %		
Yes	32%	22%
No	68%	78%
District* %		
South Special (7)	15%	29%
Southwest Special (8)	20%	18%
Civic Center (14)	26%	14%
Lancaster (67)	15%	6%
Rancho Park (60)	13%	10%
Metro Special (70)	11%	23%
Age mean	43	42
Total time in GR since 2005 mean	24 months	25 months

* Significant at 1 % level

[4] The homelessness of participants in this study was determined by (1) receipt of emergency housing vouchers at the time of the submission of their GR applications, followed by GR approval, or (2) use of DPSS District Offices as their mailing addresses. At the same time, the pilot program, by design, only serves homeless GR recipients, which suggests that all pilot participants would have to be homeless at the time of entering the pilot. But Table 1 indicates that only 84 percent of the pilot participants had a history of homelessness since 2005. However, some participants had either not applied for emergency housing vouchers or did not have a DPSS District Office listed as their mailing address prior to entering the pilot program, which explains why Table 1 does not show 100 percent of the pilot participants having a history of homelessness since 2005.

With the exception of gender, marital status and age, Table 1 shows that pilot participants and others in GR over the pilot observation period were significantly different populations. Over the observation period, there were more African-Americans, less Hispanics, more disabled persons, and more persons who received drug abuse treatment in the pilot population. Moreover, the pilot population included more persons with a record of homelessness since 2005 and more persons who applied for SSI since 2005. Finally, the distribution of persons among districts differed significantly in the two groups. There were comparatively more pilot participants in the Civic Center, Lancaster and Rancho Park districts during the observation period, and comparatively less pilot participants in the South Special and Metro Special districts.

Answering the Research Questions: Evaluation of Outcomes through Before-After Comparative Analysis

To answer the research questions guiding this report, RES has conducted a quasi-experimental analysis based on observation of two groups of GR recipients. The first group, which can also be referred to as the 'experimental group,' consists of the 1,653 recipients (a) who were in the GR Housing Subsidy and Case Management Pilot Project between September 2006 and December 2008, and (b) for whom RES was able to gather complete administrative records. However, in order to have an adequate tracking period of at least six months, this group of 1,653 was narrowed down to the 1,419 pilot participants who entered the pilot program by the end of June 2008. All pilot participants were tracked through December 2008.

The second group of GR recipients was selected from homeless recipients who were on GR prior to the implementation of the pilot, between March 2005 and September 2006.[5] Propensity score matching techniques were applied to this group in order to create three smaller 'control groups', each of which replicated the distribution of demographic and background characteristics in one of the three pilot program sub-groups (employable/GROW, potentially SSI-eligible, and chronically homeless). Additionally, the three control groups replicated the geographic/regional distribution of participants in the pilot sub-groups. None of the participants in the pilot group were included in the control groups, and in order to be included in one of the control groups, participants had to be on GR for at least four months between March 2005 and September 2006.[6] (See this report's technical appendix for further information on how the control groups were comprised).

Evaluation of the pilot project's effects was conducted through a comparison of aggregate outcomes generated by the appropriate pilot and control sub-groups. Put differently, the pilot project's impact on the outcomes of interest – e.g. employment,

[5] The homelessness of participants in this second group of GR participants was determined by (1) receipt of emergency housing vouchers at the time of their GR applications, followed by GR approval, or (2) use of DPSS District Office addresses as their mailing addresses.

[6] In addition, all of the participants chosen from prior to the implementation of the pilot project had exited the GR prior to the pilot's implementation. This was done to ensure that none of these participants were ever in a position to take part in the subsidy program.

earnings, SSI eligibility, housing stability and service costs – was gauged by comparing pilot participant outcomes with outcomes for a similar group of homeless GR participants who were on GR before the implementation of the pilot. This method enabled the evaluation to determine the difference the pilot project made for homeless GR participants and the departments delivering services to them.[7]

II. Patterns of Participant Entry into and Exit out of the Pilot Project

This section looks at patterns of entry into and exit out of the GR Rental Subsidy and Case Management Pilot Project. Figures are reported for the 1,419 GR recipients who (a) had complete administrative records which were available to RES for analysis, and (b) entered the pilot between September 2006 and June 2008.

Initially, the pilot program only accepted new GR applicants. However, by mid 2007 the program was changed and all GR recipients were eligible. The data presented in Table 2 reflects this change, showing a peak in the number of recipients entering the pilot during the third quarter of 2007. The table also shows that, starting in the second quarter of 2007, quarterly entries subsequently were in the range of between 200 and 300 GR recipients. Additionally, the distribution of pilot participants between the three pilot population categories was fairly even, as designed.

Table 2. Pilot Participants, September 2006 to June 2008, By Quarter of Entry and Pilot Population Sub-Group

Quarter of Entry	Chronically Homeless	SSI Eligible	Employables	All Groups
2006-Q4	14	15	36	65
2007-Q1	22	20	41	83
2007-Q2	68	85	76	229
2007-Q3	115	117	82	314
2007-Q4	97	85	89	271
2008-Q1	84	78	67	229
2008-Q2	64	69	95	228
Total	**464**	**469**	**486**	**1419**

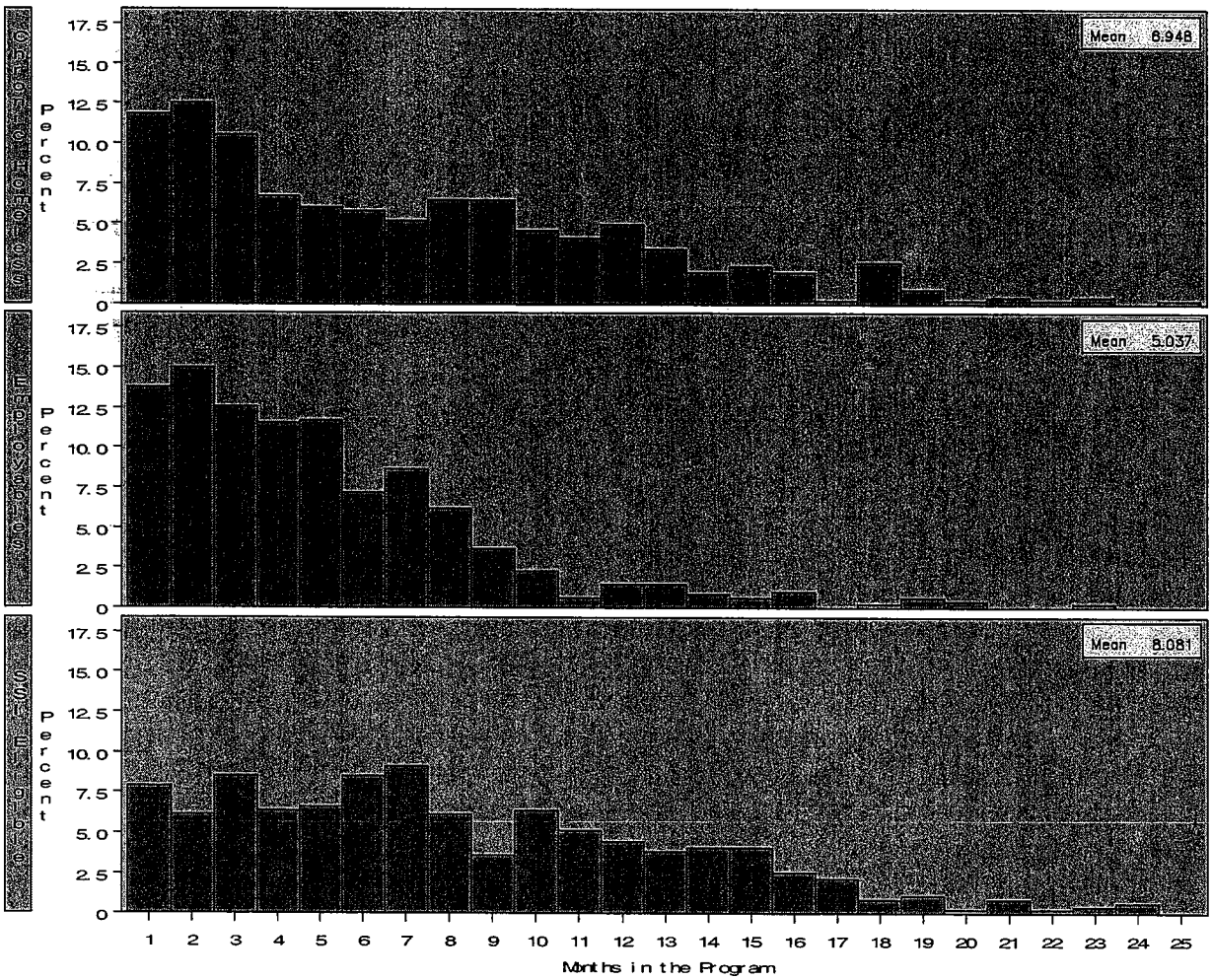
Average Length of Stay in the Pilot

The average length of stay in the pilot program for the 1,419 participants in the study group over the study period was approximately seven months. Roughly one-third of these participants stayed in the program for three months or less, roughly 30 percent stayed for more than one year, and one-quarter were still in the program by December 2008.

[7] In looking at issues related to service costs service utilization outside DPSS, this evaluation employs the technology and procedures used for the ALP. The ALP makes it possible to link DPSS records for GR participants with the records participants have in DMH, DPH, Department of Health Services (DHS) and Sheriff's Department (Sheriff).

Figure 1 shows some important differences between participants in the three pilot population categories. The average stay in the pilot was significantly shorter (five months) for participants in the employable/GROW category than for the group of 1,419 as a whole. This indicates that the employable/GROW participants left the pilot more quickly. More than half of the employable pilot participants left in four months or less, and only five percent stayed longer than one year. Employable participants are limited to nine months on GR during a given year, and this is a significant factor affecting the length of time that they remain in the pilot. However, only one quarter of the pilot's employable participants left the pilot at the end of their nine-month limits. The remaining three quarters left the pilot before nine months but remained on GR after exit from the pilot. On the other hand, participants in the potentially SSI-eligible category stayed in the pilot for an average of eight months. Thirty percent of these potentially SSI-eligible participants stayed longer than one year, and over one-third was still in the program by December 2008.

Figure 1. Number of Months in Pilot Program for each Pilot Population Sub-Group, September 2006 through June 2008.



Short and Long Stays in the Pilot

In terms of length of stay in the pilot, the 1,419 participants in the study group can be broken down into the 469 participants who stayed in the pilot for three months or less (those with 'short stays'), and the 950 participants who stayed in the pilot for more than three months (those with 'long stays'). Although these two groups have similar demographic characteristics, there are some differences between them that may help explain why some pilot participants leave the program more quickly. One factor is that, regardless of the pilot category into which they were placed, participants with any employment history since 2005 tended to stay in the program longer. Disabled participants, as well as those with current SSI applications and those with longer GR tenures all also tended to have longer stays in the pilot. However, participants with prior histories of homelessness were equally represented in both the group with long stays and the group with short stays. Therefore, employment experience, disability, pending SSI applications, and relatively long GR tenures were all factors associated with longer stays in the pilot program.

How Many Participants Leave the Pilot, How Many Re-enter, and Why?

Out of the 1,419 participants in the study group, only 104 re-entered the pilot after dropping out for more than one month. The rate of re-entry is therefore seven percent. This suggests that pilot participants have generally tended to stay in the pilot without interruptions.

However, many participants exit the pilot and do not return later. Table 3 shows the distribution of program exit patterns for all pilot participants in the study group by the length of their program tenure and pilot category (stays of less than four months are considered 'short' stays while stays of more than three months are considered 'long' stays). The data shows that by the end of December 2008 only 20 percent of the employable participants in the study group with short stays left the pilot and GR at the same time. Among those with short stays in the pilot, almost half of the employable participants and 31 percent of others exited the pilot and GR at the same time but re-entered GR later. Another 33 percent of those who were employable, and 55 percent of others, exited the pilot but stayed on GR. At the same time, 23 percent of employable pilot participants and 45 percent of other pilot participants who stayed in rental subsidy housing for longer than three months also stayed in the pilot program and GR continuously and were still in both by the end of December 2008; 29 percent of employable pilot participants and 31 percent of other pilot participants exited the pilot but stayed on GR; and another 33 percent of employable pilot participants and 17 percent of other pilot participants left GR but re-entered later. The data shows that there is no significant difference between pilot participants with 'long' and 'short' stays in the program in terms of the number of terminations. In general, terminations from GR do not appear to be a factor explaining pilot exits. However, GR terminations may be a factor explaining exits if the analysis is limited to pilot participants in the employable sub-group. These employable participants have more terminations on average when compared to the other two sub-groups. The higher termination rate for employable pilot

participants – for reasons such as failure to comply with GROW requirements or finding a job – likely contribute to the shorter stays in the pilot for the sub-group of employable participants. In addition, since employable participants are limited to nine months on GR within any year they remain in the pilot program shorter than other groups.

Table 3. Pilot Participants, by GR Status, Pilot Category and Length of Tenure, September 2006 through June 2008

GR Status	Short Tenure % (N=469)		Long Tenure % (N=950)	
	Employables	Others	Employables	Others
Stayed both in the Pilot and GR	0%	0%	23%	45%
Exited the Pilot but stayed in GR	33%	55%	29%	31%
Exited the Pilot and GR but re-entered GR later	47%	31%	33%	17%
Exited the Pilot and GR at the same time	20%	14%	15%	7%

Overall, three quarters of non-employable participants with both short and long tenures in the pilot tended to stay in GR even after exiting the pilot. However, two-thirds of employable participants exited the pilot and GR at the same time while half returned later. Since the administrative data does not show the reasons why participants leave the program, further research is necessary to explore why one-third of the pilot population and almost half of the employable pilot participants left the program after staying three months or less.

In Section V of this report, which examines homelessness prevention outcomes, post-exit housing patterns for pilot participants will be examined. In particular, the section will look at whether participants became homeless again after exiting the pilot program.

A Closer Look at Participants who Stayed in the Pilot for More than Three Months

Important parts of Sections III through VI of this report further sharpen the analytical focus of the evaluation by looking at the 950 GR participants who (a) entered the pilot program at some point between September 2006 and June 2008, and (b) remained in the program for more than three months. It is therefore helpful to briefly examine this sub-population's stays in the pilot program more carefully before proceeding to the analysis of program outcomes.

The average length of stay in the pilot for this sub-population of 950 participants was nine months. The average stay was longer (ten months) for the chronically homeless and potentially SSI-eligible participants within the sub-population, and it was shorter for the employable/GROW participants (eight months). Additionally, almost 30 percent of the chronically homeless and potentially SSI-eligible participants in the sub-population of 950 stayed in the program for a period of between four and six months, and almost one-quarter stayed longer than one year. However, half of all the employable participants stayed in the pilot for between four and six months, and only ten percent stayed longer than one year.

District Comparisons among Participants in the Pilot for more than Three Months

Table 4 shows the average length of stay in the pilot program for this sub-population of 950 pilot participants. The table breaks these participants down by pilot category and district. There are no significant differences between districts when participants from all three pilot categories are grouped together. However, there are some important district differences *within* the pilot categories. For example, among chronically homeless pilot participants, there is an average difference of almost three months in the length of stay between the South Special District (8.1 months) and the Metro Special District (10.9 months). On the other hand, among the employable pilot participants, the Metro Special District had the shortest average stay (6.6 months) and the South Special District had the longest (8.4 months).

Table 4. Average Length of Stay for Participants in the Pilot for at Least Three Months, by District and Pilot Sub-Group, September 2006 through June 2009

District	Average Length of Stay in the Program (Months)			
	Chronically Homeless (N=302)	SSI Eligible (N=343)	Employable (N=305)	All Groups (N=950)
South Special, District 7	8.1	9.3	8.4	8.6
Southwest Special , District 8	10.3	9.6	6.8	8.9
Civic Center, District 14	9.3	9.7	7.9	8.9
Lancaster, District 34	10.1	10.3	7	9.3
Rancho Park , District 60	9.8	9.1	8.1	9
Metro Special, District 70	10.9	10.6	6.6	9.3
All Districts	9.6	9.8	7.5	9

It is important to note that, since participants entering the program in 2008 would have a maximum measurable stay of six to 12 months, their numbers bring down the average length of stay. If the analysis is limited to participants who (a) entered the pilot prior to 2008, and (b) remained in the pilot for more than three months, the number of participants drops from 950 to 644, and the average stay in the pilot is longer for participants in the chronically homeless and potentially SSI eligible sub-groups (almost 11 months). However, the difference in the length of stay is negligible for the GROW/employable pilot participants when we limit the population in this fashion.

III. Employment Outcomes

This section analyzes employment data in order to compare employment outcomes for two groups of GR recipients:

1. *The employable/GROW pilot group:* An experimental group of pilot participants who (a) had complete administrative records, (b) entered the pilot sometime between September 2006 and June 2008, (c) were categorized in the employable/GROW pilot sub-group, and (d) stayed in the pilot for more than three months.

2. *The employable/GROW control group:* GR recipients who (a) entered GR by March 2005, prior to the implementation of the pilot, (b) had demographic and background characteristics mirroring those of the employable/GROW pilot group, (c) were employable and therefore registered in the GROW program, and (d) stayed in GR for more than three months.

The comparative analysis of these two groups, each of which consists of 305 employable GR recipients, begins by looking at employment outcomes descriptively and then builds on the results using more robust regression methods.[8]

Descriptive Analysis Points to Positive Employment Results Associated with Participation in the Pilot Project

Descriptive analysis of employment outcomes suggests that pilot participants benefit from engagement in the pilot program. While 92 of the 305 participants in the pilot group (30 percent) had a job while participating in the pilot, 69 of the 305 control group participants (23 percent) had a job while simply participating on GR. Moreover, the number of pilot group participants who found a job while participating in the pilot was one-third higher relative to control group recipients who found employment while participating on GR. Additionally, while 75 percent of the employed participants in the pilot group found their jobs during the same quarter they entered the pilot program, only 50 percent of the employed participants in the control group found jobs during the same quarter in which they entered GR.

A significant majority (80 percent) of the participants in the pilot group who found jobs after entering the subsidy program had some prior history of employment after 2004. Only 30 of the 213 participants (15 percent) who did not find jobs after entering the pilot had a history of employment after 2004. By comparison, only 60 percent of the GR recipients in the control group who found jobs had a prior history of employment after 2002. Among the 236 recipients in the control group who did not find a job after entering GR, only five percent had any history of employment after 2002.

It is important to emphasize here that the pilot's employment results vary considerably depending on the timing of participant entry into the pilot. RES did not have recent enough data from Employment Development Department (EDD) to adequately track employment outcomes for participants who entered the subsidy program during the second quarter of 2008 (the third quarter of 2008 is the most recent data RES was able to obtain from EDD). This created complications in terms of tracking, particularly since it takes some time to find a job after moving in to a new rental property. An examination by year of entry shows that 76 of the 204 pilot participants (almost 40 percent) who entered the pilot prior to 2008 had a job while participating in the program. This is ten percentage points higher than the pilot's employment outcomes when 2008 entrants

[8] California EDD data was used to evaluate employment outcomes. It is important to note that EDD data only records formal employment. The rates of employment are therefore understated by an unknown amount since they do note include informal employment due to a lack of data.

are included in the denominator.[9] There are therefore solid empirical grounds for placing added analytical emphasis on pilot participants who entered the program prior to 2008. For some findings presented in the remainder of this section, the results are reported for participants who entered the pilot prior to 2008.

Earnings

The pilot program did not have any notable impact on participant earnings for those with employment. The mean quarterly earnings for participants in the pilot group were $2,100 and the median was $1,200. For the control group, the mean quarterly earnings were $2,300 and the median was $1,400. Earnings increases over time were also similar for both groups. The mean quarterly earnings for the pilot group increased from $1,900 to $2,399 between 2007 and 2008, while these earnings increased for the control group from $2,000 to $2,400 between 2005 and 2006.

The Industries Providing Employment

Table 5 shows the top five industries providing employment during the respective study periods for the pilot and control groups. As expected, workers in both groups were heavily concentrated in the services sector of the labor market. Almost one-third of the workers in both groups were concentrated in professional and administrative services.

Table 5. Top Five Industries Providing Employment: Pilot Group versus Control Group

Industry	Pilot Group	Control Group
Professional and Administrative Services	31%	32%
Accommodation and Food Services	12%	17%
Motion Pictures and Video Industries	11%	12%
Retail	10%	10%
Other Services	9%	10%

Differences among Pilot Districts

It is also useful to conduct an internal comparison of employment outcomes *within* the pilot group in order to see whether there are significant differences *by pilot district.* Table 6 looks at each of the six districts where the pilot was implemented. It is important to note here that the relatively low number of observations at the district level limits the value of district comparisons. Moreover, the data does not show drastic differences in terms of the proportions of employed participants (i.e. those who found or had a job during their time in the pilot) from one district to the next. While the highest employment rate belonged to the Southwest Special district (44 percent for all pre-2008 entrants), the lowest belonged to the South Special district (32 percent for all pre-2008 entrants).

[9] Among the 101 participants who entered the pilot during the first half of 2008, on the other hand, only 16 percent found a job.

Table 6. Employment Results for Pilot Participants, By District

District	% Employed Overall	% Employed Pre-2008 Entrants	Average Quarterly Earnings	Pre-2008 Entrants Still Employed by Third Quarter 2008
South Special, District 7	26%	32%	$2,200	33%
Southwest Special, District 8	37%	44%	$1,600	42%
Civic Center, District 14	28%	34%	$1,500	70%
Lancaster, District 67	33%	32%	$2,500	40%
Rancho Park, District 60	28%	41%	$3,400	46%
Metro Special, District 70	26%	40%	$900	30%
All Districts	30%	37%	$1,900	47%

Some significant district differences are observed in comparing average quarterly earnings by district. For example, while the average quarterly earnings for pilot participants in Rancho Park (District 60) were $3,400, pilot participants in Metro Special (District 70) had average quarterly earnings of only $900. Additionally, some noteworthy district-level differences are seen in looking at participants who entered the pilot project prior to 2008 and were still employed by the third quarter of 2008. While 70 percent of these employed pilot participants in Civic Center (District 14) were still employed by the third quarter of 2008, only 30 percent and 33 percent were still employed by this time in Metro Special and South Special (District 7) respectively.

Regression Models Bolster the Descriptive Analysis and Show Definite Employment Benefits for Participants Engaged in the Pilot Program

Regression analysis provides a more rigorous means by which to evaluate the impact of pilot participation in the area of employment. Regression methods are especially useful because they enable factors outside of pilot participation to be held constant so that the independent effect of this participation can be gauged. Analysis of the pilot group only included participants who entered the pilot prior to 2008 so as to give them a tracking period of at least one year. Analysis of the control group was limited to participants who entered GR in 2006, and they were tracked through the end of 2007. Limiting the pilot and control groups in this way created the following distribution in connection with the question of whether or not participants found employment.

Table 7. Finding Employment: Pilot Sub-Group versus Control Sub-Group

Found Employment	Employable Sub-Groups	
	Pilot Sub-Group	Control Sub-Group
Yes	76	53
No	128	236
Total	204	289

Finding Jobs[10]

Regression analysis indicates that participation in the pilot project was highly significant in comparative terms, increasing the odds that employable participants would find jobs

[10] A table showing the regression results for all statistically significant variables in connection with finding employment is provided in this report's technical appendix (See Table A-3).

after entering the pilot program by 1.86 times (almost twice). While this finding by itself shows that the pilot program substantially increases the likelihood employable GR recipients will find jobs, further analysis actually suggests that the pilot's positive employment outcomes may be diluted by what appears to be a fairly sizable proportion of pilot participants categorized as employable in some months and unemployable in others. Among participants in the pilot group who did not obtain employment, 53 percent were categorized as employable during some parts of their time in the pilot and unemployable at others. This suggests that there may be some question as to the employability of the participants categorized as employable, or that some participants may be wrongly categorized as employable. This is important to consider in looking at the pilot's outcomes because the regression analysis shows that each time the ratio of unemployable months to employable months increases by one unit – i.e. if a pilot participant's number of unemployable months increases by two times relative to the number of employable months – the participant's likelihood of gaining employment decreases by ten percent. It should be acknowledged that the life circumstances of GR participants can change and that these changes may affect their employability. However, insofar as the pilot project commingles substantial numbers of questionably employable participants with those who are more unambiguously employable, it stands to reason that administrative data will understate the real effectiveness of the pilot project in helping genuinely employable participants find jobs.

Participation in the Pilot Project can Compensate for a Lack of Work Experience

The most powerful factor in increasing the likelihood a pilot participant will find employment is prior work experience. Every month of additional past work experience increases the probability a pilot participant will find a job by more than 50 percent. The regression model used to compare the employable pilot and control groups shows that, in the absence of work experience, it was almost impossible for GR recipients in the control group – i.e. those who did not participate in the pilot – to obtain employment. At the same time, participation in the pilot program appears to compensate for a lack of work experience in terms of increasing the likelihood that a GR recipient will find a job. Translated into statistical terms, the model shows that a mere five percent of employable control group recipients without previous work experience found jobs, as compared with the 20 percent of employable pilot participants who had no previous work experience but still found jobs.

IV. SSI Outcomes

When disabled GR recipients are approved for SSI benefits, the $221 monthly GR grant they receive is replaced by an SSI monthly grant which is generally $850. SSI further represents an important means of cost avoidance for the County insofar as SSI recipients are additionally entitled to Medi-Cal benefits, which provide comprehensive medical care. One of the overriding goals of the GR Housing Subsidy and Case Management Pilot Project is to provide support to help physically and mentally disabled GR recipients in applying and obtaining approval for SSI benefits.

This section gauges the relative extent to which the pilot achieved this goal by comparing outcomes for the following two groups of disabled GR recipients, each of which consists of 317 persons:

1. *The potentially SSI-eligible pilot group:* An experimental group of pilot participants who (a) had complete administrative records, (b) entered the pilot between September 2006 and June 2008, (c) were categorized in the potentially SSI-eligible pilot sub-group, and (d) stayed in the pilot for more than three months.[11]

2. *The potentially SSI-eligible control group*: GR recipients who (a) entered GR by March 2005, prior to the implementation of the pilot, (b) had demographic and background characteristics mirroring those of the potentially SSI-eligible pilot group, (c) were categorized as disabled in DPSS records, and (d) remained in GR for more than twelve months.[12]

SSI Applications

Table 8 shows that 51 of the participants in the pilot group (29 percent) had not applied for SSI by the end of the observation period (April 2009). Of the remaining 266 participants who made SSI applications, 91 (almost 30 percent) had already made applications prior to entering the pilot, and these applications were pending at the time of entry. While 32 of these 91 applications were still pending by April 2009, 59 (two-thirds) were decided. The remaining 175 participants in the pilot group applied for SSI after entry into the pilot, and 59 of these applications (one-third) were still pending by April 2009. The results show that the rate of applications for this population almost doubled after they entered the pilot program.

Table 8. Pilot Participants' SSI Applications

SSI Application	Number of Participants	%
Application before/Decision after entry into the Pilot	91	29%
Application after entry into the Pilot	175	55%
No Application	51	16%
Total	317	100%

[11] As is the case in the section of this report looking at employment outcomes, the analysis in this section excludes participants who stayed for less than four months, as well as those who entered the pilot after June 2008, because they could not be tracked for an adequate period of time.

[12] The requirement to have been on GR for at least 12 months inherently excludes recipients who qualify for SSI within 12 months of GR approval. In this way, the control group is potentially skewed toward recipients who cannot get SSI by excluding participants who get SSI relatively quickly. However, less than 20 percent of the control group population was on GR for less than 12 months, and only ten percent of them submitted an SSI application. The exclusion of this population therefore does not introduce a significant bias into the analysis. The disabled population with longer GR tenure represents the SSI-eligible population more accurately.

Half of the Decisions on Applications coming from the Pilot Group were Approved

Table 9 shows that one-third of the 266 SSI applications submitted either before or after entry into the pilot program were still pending by April 2009, 32 percent were approved, and 34 percent were denied. Put another way, if pending cases are excluded from the calculations, then almost half (49 percent) of the official decisions made on SSI applications coming from the pilot group were approved. Table 9 also shows that the ratio of approval to denial was higher for applications made before entry than it was for those made after entry into the pilot program. The approval rate for applications made before entry into the pilot was 61 percent, as compared with a 42 percent rate for those made after entry.

Table 9. Approval and Denial of Pilot Participants' SSI Applications

Timing of SSI Application/Decision	Approved		Denied		Pending		Total
	#	%	#	%	#	%	Freq
Application before/Decision after entry into the program	36	40%	23	25%	32	35%	91
Application after entry into the Program	49	28%	67	38%	59	34%	175
Total Applications	85	32%	90	34%	91	34%	266

Table 10 compares the 266 participants in the pilot group who made SSI applications either before or after entry into the pilot with the 100 control group participants who made SSI applications while they were on GR. The control group is limited to 100 participants here because 217 of the 317 participants in the control group did not make SSI applications during the study period.[13] The implications of this will be discussed below.

Table 10. SSI Application Statuses at the end of the Observation Period: Pilot Sub-Group versus Control Sub-Group

SSI Application Decisions	Approved		Denied		Pending		Total
	Number of Applications	%	Number of Applications	%	Number of Applications	%	#
Pilot Sub-Group	85	32%	90	34%	91	34%	266
Control Sub-Group	18	18%	53	53%	29	29%	100

Roughly one-third of the applications from both the pilot and control groups were still pending at the end of their observation periods. However, while the approval rate was almost 50 percent for applications from the pilot group, the approval rate was only 25 percent for the control group. The SSI approval rate is therefore doubled for pilot participants. Moreover, if the 317 participants in the pilot group are compared with the full control group of 317, which would include those participants who did not make SSI applications, then the approvals for the pilot group are five times higher, assuming that pending cases would be resolved at the same respective rates for both groups.

[13] Please note 50 of the 217 control group participants not included here in the analysis had applications that were denied before 2005.

Analysis of the data does not suggest that any observable characteristics such as demographic factors, income, housing stability, district, or length of stay on GR explain the higher rates of SSI approval among pilot group participants. It is therefore reasonable to conclude that participation in the pilot program is itself the primary factor explaining the higher approval rates (as well as higher SSI application rates) for pilot participants.

Length of Time to Application and Decision

Data on the 175 pilot group participants who made SSI applications after entering the pilot shows that the median time between pilot entry and submitting the application was 224 days (more than seven months). While one-quarter of these participants made their SSI applications within three months, it took over one year for another quarter of the participants to submit their applications. The average length of time to submit an application is inflated due to those applications with a pending status, which took an average of almost one year to be submitted. The time involved in submitting an application was much shorter for approved applications, half of which took an average of 158 days to be submitted. These applications were approved in an average of 188 days (six months) after their submission. On the other hand, denied applications took an average of 158 days (five months) after entry into the pilot to be submitted.

There are no significant distinctions between the pilot and control groups in terms of the amount of time it took their applications to be decided once they were submitted. It took a month less for the control group to be approved. The data therefore shows that it tended to take a significant but not unusually long amount of time to make an SSI application after entering the pilot program when applications that were still pending are ignored. On average, pilot participants took more than 13 months to submit and be approved or denied for SSI applications after they entered the pilot.

Pilot Participants and the SSI Application Process

By the end of the pilot group's observation period (February 2009), 70 percent of the group's 266 SSI applications made before or after entry into the pilot were either approved or denied or pending without any request for reconsideration. By comparison, almost 80 percent of control group applications were decided or pending without moving to an appeal process by the end of the observation period. Of those pilot group applications at the Application Stage, 40 percent were pending, one-third was approved, and a quarter was denied. Out of the 27 percent of pilot group applications that moved to the Reconsideration Stage of the process (as compared with 20 percent of the control group applications), denials were twice as high as the approvals. There were negligible numbers of applications in both groups that moved from the Reconsideration Stage to the Hearing Stage of the SSI process (three percent in the pilot group as compared with one percent in the control group). Almost all pilot group applications moved to the Hearing Stage were approved. These findings indicate that while more than half of the decided pilot group applications were approved in the Application Stage, the approval

rate dropped significantly for those pilot group applications that moved into the Reconsideration Stage.[14]

SSI Applications by Pilot District[15]

Table 11 shows the pilot group broken down *by district* and percentages for three SSI application categories: (i) *No Application (percent of cases with no SSI application after entering the pilot program)*; (ii) *Pending Application (percent of pending applications out of all applications)*; and (iii) *Approval Rate (approved applications divided by approved and denied applications total).* The total numbers of applications for each district are also shown in order to underscore that these findings need to be interpreted with caution given small sample sizes. Some significant differences between districts are observed. In the Civic Center and Rancho Park districts, for example, the proportion of pilot group participants who had not made an SSI application by the end of the tracking period was around one quarter of all cases, which is significantly higher than the other four districts, especially Lancaster, where only seven percent of the pilot group participants did not make a new application.

Table 11. SSI Pilot Group by District and SSI Applications, as of April 2009

District	% Cases with No Application	% Pending Applications	Application Approval Rate	Total # of Applications
South Special, District 7	18%	30%	60%	43
Southwest Special, District 8	12%	27%	43%	51
Civic Center, District 14	24%	37%	48%	52
Rancho Park, District 60	25%	47%	38%	30
Lancaster, District 67	7%	37%	53%	57
Metro Special, District 70	13%	30%	43%	33

As of April 2009, almost 50 percent of the Rancho Park District's SSI applications were pending, while this number was close to the average of 34 percent in the other five districts. The South Special District had the highest approval rate at 60 percent, while the approval rate was below 40 percent for the Rancho Park district. [16]

[14] The SSI application process is comprised of three stages: (1) *The Application Stage*: The prospective SSI recipient's initial application is considered for approval or denial during this stage and a decision is eventually made. During the time between the applicant's submission and the decision, the application is 'pending.' (2) *The Reconsideration Stage*: If an SSI application is denied in the Application Stage, the prospective recipient can resubmit the application with additional documentation for reconsideration. During the time between the resubmission and the reconsidered decision, the application is 'pending.' (3) *The Hearing Stage:* If the application is rejected again during the Reconsideration Stage, applicants can argue their case in an SSI hearing. During the time leading up to the scheduled hearing, the application is 'pending.'

[15] The number of observations at the district level are too small to make meaningful comparisons between the pilot and control groups.

[16] There are not enough observations to compare length of time to application and decision by district.

The Pilot Program is Effective in Moving Disabled GR Recipients onto SSI

The pilot project is comparatively effective in moving disabled GR participants onto SSI. This is a crucial finding, especially in light of a recent report by Stephen Metraux and Dennis P. Culhane, which shows that over one-third of the County's GR recipients are disabled and that the rate climbs to 40 percent for those they categorize as 'long-term recipients.'[17]

As noted earlier, control group participants were selected from a pool of disabled participants. However, while 85 percent of the GR recipients in the potentially SSI-eligible pilot group submitted SSI applications during the observation period, only one-third (100 out of 317) of the control group participants were able to submit SSI applications.[18] Since the matching techniques used to construct the control group help ensure that all the GR recipients in the control group are disabled persons with similar characteristics to those in the pilot group, a similar application rate between the pilot and control groups would be expected if all other potentially determinate factors were equal. But since the main difference between the two groups is the pilot group's pilot participation, it follows that the help and support the pilot program provides for disabled GR recipients in submitting applications accounts for the significantly higher application rate for the pilot group.[19]

The pilot project not only helps potentially SSI-eligible GR recipients make applications, but also contributes to higher rates of approval. As discussed above, the approval rate for pilot group participants was three times higher than the approval rate for control group participants. Additionally, regression analysis shows that pilot group participants

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[17] In the report prepared by Metraux and Culhane on Los Angeles County's GR population, 'long-term recipients' refer to those who received GR and/or County services prior to 2005, but then received no GR or County services during 2005 before resuming GR during the first quarter of 2006. (Metraux, Stephen and Dennis P. Culhane. *Using Adult Linkages Project Data for Determining Patterns and Costs of Service Use by GR Recipients in Los Angeles County.* A Report Submitted to: County of Los Angeles, CEO, SIB, RES. Project Director: Manuel Moreno, Ph.D. July 2009.).

[18] However, the difference between the two groups at this level can potentially be misleading since the real magnitude of SSI eligibility for the control group is unknown.

[19] Regression analysis was conducted in an effort to strengthen findings on factors that increase and decrease the likelihood disabled GR recipients would make new SSI applications. This analysis found that pilot participants in the potentially SSI-eligible pilot group were ten times more likely to make an SSI application relative to control group participants when all other observable factors are held constant. In addition, potentially SSI-eligible GR recipients with histories of drug abuse treatment are two times less likely to submit SSI applications than those with no such history. Recipient exposure to homelessness also decreases the likelihood of submitting an application as the amount of time a recipient is homeless decreases the likelihood they will make an SSI application at a one-to-one ratio. Each address change decreases the likelihood that a disabled participant would make an SSI application by 17 percent, which suggests that housing instability is another barrier. Finally, pilot group participants from the Southwest Special District are three times more likely to submit new SSI applications, and pilot group participants from the Lancaster District are four times more likely to submit new SSI applications, than participants in the other four districts.

were 2.5 times more likely than control group participants to be approved for SSI after making their applications.

V. Homelessness Prevention Outcomes

Homelessness prevention is the pilot project's core goal. In order to evaluate the extent to which the pilot project met this goal during the examination period, RES compared homelessness prevention outcomes for the following two groups of GR recipients:

1. *The homeless pilot group*: An experimental group consisting of all pilot participants, regardless of the participant category into which they were placed, who (a) had complete administrative records, (b) entered the pilot between September 2006 and June 2008, and (c) had any record of homelessness between January 2005 and the time they entered the pilot.[20]

2. *The homeless control group*: GR recipients who (a) entered GR by March 2005, before the implementation of the pilot, (b) exited GR by August 2006, before the implementation of the pilot, (c) had any record of homelessness between January 2003 and the start of the control group observation period (March 2005), and (d) remained in GR for more than three months during the observation period.

The pilot group was tracked through December 2008; the control group was tracked through August 2006. Both the pilot and control groups consist of 1,279 GR recipients.[21]

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[20] In order to be eligible for the pilot program, GR participants are required to have a past history of homelessness. Pilot participants are placed in the chronically homeless category if they have been homeless for 12 consecutive months prior to entry in the pilot of if they've had four separate episodes of homelessness in the past three years. Administrative data does not provide reliable information on a GR participant's homeless status in a given month. However, past research and data analysis has confirmed that when a GR participant has either a DPSS district address or homeless shelter listed as their home address in their monthly records, they are very likely to have been homeless in that month. At the same time, it should be noted that an estimated 20 percent of homeless GR participants have residential addresses listed in their records for the month in question. Likewise, an estimated 20 percent of participants who are not homeless have DPSS district offices or shelter addresses listed in their records for the month in question. Nevertheless, RES used district or shelter addresses in administrative records as a reliable indicator of homelessness. The group of 1,279 pilot participants evaluated in this section was derived by taking all 1,419 participants who took part in the pilot from September 2006 through June 2008 and subtracting the 140 participants for whom the evidence of homelessness was unclear since there was no address change listed in their administrative records after they entered the pilot.

[21] The analysis of homelessness prevention outcomes was constrained by the lack of data on recipients during the time they were not on GR. Therefore, the examination periods for both the pilot and control groups consist of an observation period and a pre-observation period. The pre-observation period for the participants in the pilot group spans from January 2005 to the entry of participants into the pilot. The pilot group observation period starts with entry of participants into the pilot – anytime between September 2006 and June 2008 – and ends at the end of December 2008. Pilot participants could only

Homelessness among Participants Prior to Entry into the Pilot Program

On average, the participants in the pilot group were homeless 63 percent of the time before they entered the pilot but while they were initially on GR.[22] The rate was somewhat higher for pilot participants in the chronically homeless category taken alone (68 percent), and slightly lower for participants in the potentially SSI-eligible category taken alone (62 percent). The average length of homelessness for participants in the pilot group as a whole prior to their entry into the pilot but while they were on GR was close to 12 months. Upon entry into the pilot, only 12 percent of the pilot group moved from a residential address to rental subsidy housing, while the remaining 88 percent moved from a homeless address (e.g. a DPSS district office or a homeless shelter) to rental subsidy housing.

A large majority (80 percent) of participants in the pilot group had only one episode of homelessness while on GR between 2005 and their entry into the pilot. This suggests that they had been homeless continuously while they were in GR over the period leading up to their entry into the pilot. The remaining 20 percent had more than one homeless episode, meaning they either left GR temporarily or became homeless again for at least a second time after having moved to a residential address.

After Exit from the Pilot: Positive Housing Results for Pilot Participants

After exiting the pilot, the extent of homelessness – measured as the percentage of time a GR recipient is homeless over their tenure in the GR program – dropped dramatically for the pilot group participants who had prior histories of homelessness dating back to 2005.[23] More than one-third of all pilot group participants who either remained on GR or exited GR and came back later had at least one month of homelessness through the end of the observation period (at the end of December 2008). Housing problems therefore persist to a certain degree for participants after exit from the pilot. However, as long as former pilot participants remained on GR, they were only homeless, on average, 17 percent of the time through the end of the observation period, as compared with the 63 percent of the time they were homeless between 2005 and their entry into the pilot.[24] Moreover, the extent of homelessness drops to ten percent if the pilot group

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be included in the observed pilot group if they were on GR and had a history of homelessness in the pre-observation period. The pre-observation period for the control group spans from January 2003 to March 2005, and the observation period spans from March 2005 to August 2006. GR recipients could only be included in the control group if they were on GR and had any history of homelessness in the pre observation period and then were on GR for at least three months during the observation period.

[22] Since these participants were not always in the GR program continuously since 2005, the proportion of time they were homeless refers only to the time while they were on GR.

[23] The analysis of the extent of homelessness for pilot participants after exit from the pilot refers to the period during which they have exited the pilot *but are still in the GR program.*

[24] Since these participants were not always in the GR program continuously after entering the pilot program, the proportion of the time they were homeless refers only to the time while they were on GR.

is limited to those who stayed more than three months in the pilot program. However, for those participants who stayed in the pilot for three months or less, the extent of homelessness only dropped to 30 percent.

The pilot group's homelessness prevention outcomes compare favorably to those of the control group. Prior to the start of their observation period, participants in the control group remained homeless, on average, 62 percent of the time. This proportion dropped to 53 percent over the course of their observation period, between 2005 and 2007, and their average length of homelessness over this period was eight months. While the extent of homelessness over their observation period was lower for the control group than the pre-pilot extent of homelessness for the pilot group, the crucial point to underscore is that the extent of homelessness for pilot participants dropped from a pre-pilot average of 63 percent to an average of 17 percent after they exited the pilot program. The findings therefore suggest that, while the GR program by itself appears to create a small decline in the extent of homelessness, the coupling of GR with the rental subsidy program dramatically enhances the positive and lasting effects of GR. In the absence of the pilot program, a larger proportion of homeless GR participants would have remained homeless for significantly longer periods of time.

By Pilot District

In all pilot districts, the extent of homelessness after entry into the pilot dropped evenly, from an average range prior to entry of between 60 and 67 percent, to an average range after exit of between 16 and 22 percent. The one exception was the Civic Center District, where the extent of homelessness dropped from 48 percent prior to entry to two percent after exit, meaning that almost none of the program participants in the district became homeless again after exiting the pilot. For the control group, the extent of homelessness decreased in the same districts from an average range prior to the observation period of between 55 and 62 percent to an average range over the observation period of between 42 and 53 percent. The exception was the Rancho Park district, where there was no decline over the observation period, and Southwest Special, where the decline was from an average of 69 percent prior to the observation period to 65 percent over the course of the observation period.

The Pilot Promotes Housing Stability

More than two-thirds of the pilot group participants stayed at the same address while they were in the pilot; one-quarter changed their addresses once, and the remainder changed their address more than once. Outcomes for pilot group participants in the employable/GROW category taken alone were even better as 75 percent stayed at the same address throughout the period of their time in the pilot. However, significant differences are observed between districts, as shown in Table 12. One-quarter of the pilot group participants in the Lancaster District, for example, changed their addresses more than once during their time in the pilot, while 80 percent of those in the Southwest Special and Rancho Park districts did not move at all.

Table 12. Number of Times Participants Moved after Entering the Pilot Project, by District

District	Stayed in the Same Address (%)	Moved Once (%)	Moved More than Once (%)
South Special, District 7	72	21	7
Southwest Special, District 8	80	17	3
Civic Center, District 14	66	25	9
Lancaster, District 67	45	30	25
Rancho Park, District 60	83	15	2
Metro Special, District 70	70	27	3
All Districts	69	22	9

Regression Analysis Confirms Positive Housing Outcomes for Pilot Participants

Comparing the pilot and control groups in terms of homelessness prevention outcomes suggests that engagement in the pilot program has a positive and lasting effect for pilot participants. However, this effect may be due to other variables such as demographic factors, the degree of homelessness prior to pilot participation, or the districts in which participants live and receive services. For this reason, a logistic regression model was employed to examine the impact pilot participation had on the likelihood participants would become homeless after exiting the pilot. The model has the capacity to control for other variables so that the independent impact of pilot participation can be isolated and measured.[25]

The regression model measures the extent of homelessness with a variable that indicates whether a participant became homeless after exiting the pilot for the pilot group or during the observation period for the control group. Participants in the pilot group were observed through December 2008; participants simply in GR were measured from March 2005 through August 2006.

Homelessness Prevention

Table 13 compares the distribution of pilot and control group participants in terms of whether they became homeless after either exit from the pilot program (for the pilot group) or the start of the observation period (for the control group). While 37 percent of the pilot group became homeless after exiting the pilot, 68 percent of the control group became homeless during the control group observation period.

[25] It should be noted, however, that there may be relevant variables excluded from the model due to a lack of data.

Table 13. Pilot Group Participants Becoming Homeless after Exit from the Pilot versus Control Group Recipients Becoming Homeless over their Observation Period

Becoming Homeless	Group	
	Pilot Group	Control Group
Yes	476 (37%)	875 (68%)
No	802 (63%)	403 (32%)
Total	1278	1278

The logistic regression model used to compare pilot and control groups in terms of homelessness prevention outcomes underscores the positive impact of pilot participation.[26] Control group participants were 7.4 more likely to become homeless over their observation period relative to pilot participants after they exited the pilot program. Moreover, every additional month staying in the pilot program made pilot participants nine percent less likely to become homeless after exit.

Differences between Districts

The regression model was also deployed to make comparisons *within the pilot group and between pilot districts.* The results show some differences between districts after controlling for all other factors. The comparisons were made relative to the South Special District (an arbitrary selection). Comparisons between the South Special District and both the Civic Center and Metro Special districts did not yield significant differences. On the other hand, pilot participants in the Southwest Special District were 1.51 times more likely to become homeless after exiting the pilot than participants in the South Special District. Pilot participants in the Rancho Park District were 1.77 times more likely to become homeless; Pilot participants in Lancaster were 0.28 times more likely to become homeless.

What Types of Housing Situations do Pilot Participants Secure?

Recipients participating in the GR Housing Subsidy and Case Management Pilot Project must agree to pay $136 from their GR grants to a landlord through a direct rent process; Pilot participants therefore have $436 to spend on rent every month. However, according to the Federal Department of Housing and Urban Development (HUD), fair market rents for Los Angeles County in 2008 were $863 for a studio apartment and $1,041 for a one-bedroom apartment.[27] Analysis of market rents also confirms that it is exceedingly difficult to find rental housing for $436 per month. In the zip code areas where most pilot participants tend to live, the average monthly rent for a one-bedroom

[26] The table showing the coefficients generated from the logistic regression model used in this analysis is included in this report's technical appendix (see Table A-4).

[27] Fair market rents are used to determine initial contract rents in new commitments for Section 8 project-based assistance. Generally, the fair market rent for an area is the amount that would be needed to pay the gross rent (shelter rent plus utilities) of privately owned, decent, safe and sanitary rental housing. See: Final FY 2008 Fair Market Rent Documentation System, Summary for Los Angeles County California: http://www.huduser.org/datasets/fmr/fmrs/2008summary.odn

apartment is $1,000. Even the average amongst the cheapest ten percent of studio rental units, at $700 per month, is well above the monthly rental subsidy amount.[28]

Given the gap between what participants can pay and actual rental costs, the success the pilot program has in housing GR recipients depends in part on the willingness of a considerable portion of the recipients to share rental units, and therefore rent costs, with other persons. An important issue to address in this context is the extent to which the pilot population lives in either shared or single occupancy housing. DPSS contracts for listings of available housing at or below $436 and most of the listings are for shared housing arrangements.

Administrative data indicates that 1,279 pilot participants stayed in almost 900 housing units during the period between September 2006 and December 2008, and the total number of months in housing for the participants over this period was 9,400. Pilot participants shared 20 percent of the 900 housing units with other pilot participants. Most of these housing units (three-quarters) were not in apartment buildings but houses. Overall, one-third of the pilot's 9,400 months in the rental-subsidy program were months in which housing was shared among pilot participants.

Close to half (591) of the 1,279 pilot participants observed shared their rental subsidy housing with other pilot participants.[29] By extension, roughly half of the pilot participants in each pilot district shared housing with other pilot participants, with the exception of the South Special District, where the extent of sharing was only 30 percent.

In looking at pilot participants who lived together in shared housing during the observation period, there was an average of 3.5 participants living in the shared units together. Since significant numbers of them shared in houses as opposed to apartment buildings, these participants tended to live in larger groups. Only 40 percent of the shared units were occupied by two program participants (mostly in apartment buildings). One-third of the shared units were occupied by three or four participants, and a quarter of these units were occupied by more than four pilot participants. In the Rancho Park District, the average number of pilot participants living per shared unit was higher (five persons) and it was lower in the Lancaster District (2.5 persons).

Among participants who resided in shared housing for at least part of their time in the pilot, the average length of stay in subsidized housing, eight months, was one month longer than the average for all pilot participants, and the average length of their stay in *shared* housing was five months. These participants therefore resided in shared housing for almost three-quarters of their total months in subsidized housing.

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[28] For average market rents by postal code areas see http:/www.rentometer.com

[29] However, in many cases these pilot participants may also have been sharing their housing with recipients from other welfare programs. These types of housing situations are explored in more detail later in this section.

Half of the pilot participants who did not reside in shared housing lived in apartment units dispersed over 64 apartment complexes where other pilot participants also resided. In other words, they were neighbors in the same housing structures, many pilot participants therefore lived in a limited number of housing structures either sharing their housing units with other participants or living alone but as neighbors to other participants

Do Pilot Participants Share Housing with Recipients from other Welfare Programs?

While almost half of the pilot participants observed during the study period shared housing with other pilot participants, this proportion only accounted for one-third of the total rental-subsidy months. The reason for this is that pilot participants only shared housing with other pilot participants in some months, while in other months they did not. However, the extent of shared housing within the pilot's population grows significantly if recipients from other welfare programs are brought into the calculations, i.e. CalWORKs participants, recipients of Food Stamps, and persons receiving Medi-Cal, as well as GR recipients not participating in the pilot project.

When recipients from other welfare programs are considered, an additional 1,600 months out of the 9,400 observed months of rental subsidy housing for pilot participants were shared. This brings the proportion of shared months up to 50 percent. Put more directly, pilot participants shared housing with recipients of one welfare program or another for half of the pilot's total months of subsidized housing during the observation period. The number of shared housing units also increases from 20 percent to 50 percent.

A significant number of pilot participants shared housing with both other pilot participants and one or more recipients from other welfare programs. Only 11 percent of these pilot participants shared housing exclusively with other pilot participants, while 20 percent shared with recipients from other welfare programs. However, one-third shared with recipients from other programs and pilot participants at the same time. Overall, only slightly more than one-third of the observed pilot participants lived alone during their whole time in the program, while two-thirds shared their housing for at least one month. The proportion of pilot participants sharing for at least one month climbs to 75 percent if the observation is limited to those who remained in the pilot program for more than three months. The South Special District had the lowest proportion of pilot participants sharing housing (54 percent), while Lancaster had the highest (72 percent).

When recipients from other welfare programs are included in the calculations, the average number of occupants in shared housing increases to almost five. Pilot participants shared with 1,100 other recipients of either GR or another program. Out this group of 1,100 persons, 500 (45 percent) were other GR recipients and a quarter of them were CalWORKs participants (who would frequently include more than one person). The remaining 30 percent were recipients from other programs.

Finally among those 456 participants who lived alone while in the pilot, 160 lived in apartment buildings where other pilot participants resided, and another 122 lived in complexes where recipients from other programs resided. This leaves only 174 pilot participants who lived on their own and apart from others in the County's welfare population.

Shared housing is therefore widespread among pilot participants, suggesting that participants generally find it difficult to afford living alone even though one-third has managed to do so. At the same time, fifty percent of the pilot's total housing months recorded during the observation period were not shared, which indicates that, while shared housing is extensive among pilot participants, a significant portion of them will opt to live alone for as long as they can afford to do so.

Most pilot participants likely enter the pilot sharing with strangers. Given the incidence of mental health problems, frequent jail visits, the frequency of strained inter-personal relationships, and prior histories of being homeless for extended periods of time, further research is required to assess the extent to which shared housing has been an impediment to housing stability. Given the effectiveness and cost-savings potential of the pilot demonstrated in this report, policymakers may wish to consider increasing the rental subsidy amount in order to decrease shared housing and overcrowding in rental subsidy housing arrangements.

VI. Cost Avoidance

Homeless adults are heavy users of costly hospital and emergency services, and they frequently cycle through the County's jail system, often receiving medical services while incarcerated. The County of Los Angeles incurs substantial costs when homeless persons cycle repeatedly through hospitals, jails and treatment programs for mental health and substance abuse issues. This section of the evaluation examines the extent to which the GR Housing Subsidy and Case Management Pilot Project reduces the need for these services, thereby yielding cost savings for the County.

The analysis draws on service utilization and cost data for two groups of pilot participants. The first group consists of 482 pilot participants who entered the pilot sometime between September 2006 and June 2008, but who were on GR for over six months prior to their entry into the pilot. This group was used to construct a counterfactual scenario in order to address the question of what would have happened to participant service costs in the absence of the pilot program. This group's pre-pilot service costs were annualized in order to have an estimate of what its service costs would be for the first year in the absence of the pilot. Since a second year in the absence of the pilot was not available in the data, propensity score matching was used to select a group of GR recipients who entered the program in 2006 but did not participate in the pilot. To replicate the cost curves accurately, the analysis used this group's service cost changes between their first and second years on GR as a stand-in

for what service costs would be for GR recipients during their second year on GR in the absence of the pilot program.[30]

The second group analyzed in this section consists of 425 GR recipients who entered the pilot sometime between September 2006 and June 2008 and were on GR for two months or less prior to their entry into the pilot. This group is tracked through the end of 2008 and compared with the first group in order to gauge the extent to which participation in the pilot program yields cost savings.

In analyzing these two groups of pilot participants, the data is annualized and adjusted to 900 persons because the pilot serves a revolving total of 900 participants at an annual budget of $4.2 million. Using records for the period from September 2006 to June 2008, the annualization of data assumes for the purposes of comparability that participants are on GR for one year prior to the pilot and that they remain in the pilot for one year. The analysis then projects service utilization and service costs for one year after the pilot.[31] In order to capture the costs involved in providing these pilot participants with services, their DPSS records were matched against the services databases of the DHS, DMH, DPH, and Sheriff.

Annual Service Costs

Table 14 shows annualized service costs for the group of GR recipients that was constructed in order to look at costs over a period of two years in the absence of the pilot program. The data represented in the table is adjusted for 900 persons. Health costs are tabulated separately for inpatient, outpatient and emergency services. The total health costs are equal to the sum of these three types of health services. Since the majority of mental health services are outpatient and the majority of public health services are residential, the details of different service types are not shown

[30] The reason the second-year service costs in the absence of the pilot program were derived in this way was so as to account for the typical cost curve trend for GR recipients. While indigent persons tend to have encounters with the County's service-providing departments prior to entering GR, the intensity of their service utilization typically increases sharply after entry into GR. The reasons for this are, firstly, that several medical programs become available to GR recipients upon entry into the program, and their Eligibility Workers provide them with information on how to access these programs. Secondly, many of the same circumstances that compel participants to get on GR – i.e. physical and mental health problems, substance abuse issues, homelessness – make it urgent for them to avail themselves of services. In addition, some participants may not be in Los Angeles County for an extended period of time before applying for GR. The increase in service utilization upon entry into GR explains the sharp spike in utilization that is observed during the first year of GR for the majority of the program's participants. The data on GR recipients during the two-year period from the start of 2005 to the end of 2006 shows that service utilization costs increased by 80 percent during their first year in the program. During the second year, costs drop substantially because considerable numbers of recipients leave GR (the average stay in the program is 18 months), and the recipients who stay become stabilized due to their participation in the GR program. This cost curve – the initial spike followed by a significant drop after the first year on GR – is the reason it is important that the counterfactual scenario replicate second-year costs on the basis of real second-year costs.

[31] See this report's technical appendix for further discussion on the analytical benefits of annualization and for details on how costs were calculated and adjusted for this evaluation.

for these two departments. Jail costs include booking and daily maintenance and medical service costs. The table also presents the estimated percentage change between the first and second years on GR, showing significant drops for all health program costs but an increase for jail costs.

Table 14. Annual Service Costs in the Absence of the Pilot for 900 GR Participants

Services	First Year Costs	Second Year Costs	% Change between First & Second Years
Health-emergency	$990,000	$519,000	
Health-inpatient	$3,348,000	$1,757,000	
Health-outpatient	$1,408,000	$739,000	
Health total	$5,745,000	$3,015,000	-47.5%
Mental health total	$1,877,000	$1,457,000	-22.4%
Public health total	$1,264,000	$545,000	-57%
Sheriff total	$5,568,000	$6,003,000	7.8%
Total	**$14,454,000**	**$11,020,000**	

Table 15 shows annualized service costs for the group of 425 GR recipients who entered the pilot within two months of entering GR. The data is again adjusted to 900 participants. Annualizing the data makes it possible to generate estimates of participant service costs for two years. The first year corresponds to the pilot program year and the second year is the year after exiting the pilot. A comparison of tables 14 and 15 reveals the difference the pilot program makes in terms of the costs involved in providing services to GR recipients over two years.

Table 15. Annual Service Costs for 900 GR Recipients Who Were in GR for Less Than Two Months before Entering the Pilot

Services	First Year (Pilot)Costs	Second Year (after Pilot) Costs
Health-emergency	$326,000	$171,000
Health-inpatient	$758,000	$392,000
Health-outpatient	$800,000	$453,000
Health total	$1,884,000	$1,016,000
Mental health total	$985,000	$752,000
Public health total	$326,000	$557,000
Sheriff total	$2,027,000	$2,565,000
Total	**$5,222,000**	**$4,890,000**

The Pilot Project Yields Substantial Cost Savings

Table 16 illustrates the estimated savings over two years. A comparison of the first-year figures given in Table 14 and Table 15 indicates that service utilization costs are three times lower for pilot participants. As expected, the largest percent differences are in inpatient health service costs and public health costs, which are mostly residential drug abuse treatment charges. While mental health and outpatient costs for pilot participants are half of what they are for GR recipients not participating in the pilot, jail costs for pilot participants are two-thirds lower. On the other hand, the highest absolute savings are observed in the hospital services and incarceration costs incurred by DHS, almost $3 million, and the Sheriff, over $2.5 million.

Table 16. Annual Service Costs and Savings for 900 GR Recipients over Two Years

Services	Service Costs and Savings
Total First Year Services for Non-Pilot GR Recipients (Control Group)	$14,454,000
Total First Year Services for Pilot Participants (Program Group)	$5,222,000
Total First Year Program Cost	$4,200,000
Total First Year Savings	**$5,034,000**
Total Second Year Services for Non-Pilot GR Recipients (Control Group)	$11,020,000
Total Second Year Services for Pilot Participants (Program Group)	$4,890,000
Total Second Year Program Cost	$0
Total Second Year Savings	**$6,130,000**
Total Two Year Savings	**$11,020,000**

As shown in Table 16, the total service utilization cost for the 900 pilot participants after their year in the pilot was $5.2 million, as compared with the $14.5 million it cost to provide services over the same period of time to the 900 GR recipients who did not participate in the pilot. After deducting the annual pilot project budget of $4.2 million from the gross savings of $9.3 million yielded through participation in the pilot, the net savings are over $5 million for the 900 participants at the end of their year in the pilot.

The dimensions of the cost avoidance associated with pilot participation can also be illustrated in displaying cost savings per placement. The pilot cost per placement – which is equal to the first year annual program cost divided by 900 – is $4,700. However, the gross cost savings per placement is $17,000 over two years. This yields a net savings of almost $12,500 per placement. Overall, for every $1 spent on the pilot, a savings of $3.67 is generated through reduced use of County services.

Savings for the Year after Exit from the Pilot

There are no pilot program costs in the second year since the participants are assumed to only stay in the pilot for one year.[32] For this reason, the second-year savings for the pilot participants (over $6 million) are simply derived by subtracting their second-year service costs ($4.9 million) from the second year service costs incurred by the 900 GR recipients who did not participate in the pilot ($11 million). The total annualized cost savings over two years for the 900 pilot participants is therefore $11 million as shown in Table 16.

RES projects the total annualized service costs for the 900 pilot participants to be $4.9 million for the year after they exit the pilot. This figure is significant because it indicates that the service costs for these participants drop even further after they exit from the pilot. The biggest post-pilot decrease is observed in health costs, while incarceration costs and public health costs increase. Incarceration and public health costs increased for participants who exited the pilot after staying less than four months in the program, which indicates that some of the participants end up in residential drug treatment programs and jail when they move out of the rental-subsidy housing quickly.

[32] Program data shows that the average stay in the pilot was seven months.

This suggests that participants with prior drug abuse and incarceration histories should be targeted with assistance to enable them to extend their rental subsidy stays.

The Timing of Entry into the Pilot is Critical

Significant differences are observed in comparing cost savings for GR recipients who enter the pilot after staying in GR for over six months with recipients who entered the pilot relatively quickly after entering GR. The service costs for recipients who entered the pilot after more than six months in GR are shown in Table 17. The first-year costs column in this table shows the annualized costs incurred while in the pilot, and the second-year costs column shows the annualized costs incurred for the year after exit from the pilot. The table also shows the annualized pre-program costs for this group in the year prior to entry into the pilot. The cost numbers are adjusted to 900 participants.

Table 17. Annual Service Costs and Savings for 900 GR Recipients Who Were in GR for More Than Six Months before Entering the Pilot

Services	Pre-Pilot Year Costs	First Year (Pilot) Costs	Second Year (after Pilot) Costs	Annual Program Costs-First Year	First Year Savings	Second Year Savings
Health-emergency	$990,000	$450,000	$375,000			
Health-inpatient	$3,348,000	$1,059,000	$1,761,000			
Health-outpatient	$1,408,000	$1,167,000	$1,029,000			
Health total	$5,745,000	$2,676,000	$3,165,000			
Mental health total	$1,877,000	$1,260,000	$1,154,000			
Public health total	$1,264,000	$631,000	$680,000			
Sheriff total	$5,568,000	$2,511,000	$3,267,000			
Total	**$14,454,000**	**$7,079,000**	**$8,267,000**	**$4,200,000**	**$3,176,000**	**$2,751,000**

Table 17 can be compared with Table 15 in order to gauge the cost differences between GR recipients who enter the pilot relatively quickly (Table 15) and recipients who entered the pilot after more than six months (Table 17). The data tabulated in Table 17 shows that, for GR recipients with longer exposure to GR before entering the pilot, service costs decline by half during their year in the pilot when compared to their (annualized) service costs for the year prior to their entry into the pilot. Inpatient health costs during the year in the pilot are especially noteworthy, decreasing by roughly two-thirds. Additionally, emergency, public health and incarceration costs each decline by roughly half during the year in the pilot.

However, a comparison between Table 15 and Table 17 reveals that total pilot-year costs are 35 percent higher for the group with the longer prior exposure to GR. Participants who entered the pilot program within two months of going on GR cost the County almost $2 million less. Furthermore, while the service utilization costs for this group decreased by six percent over the year after exit the pilot, the same costs increased by 17 percent for participants with longer prior GR exposure (though their post-pilot costs are still 43 percent below the costs they incurred during their year prior to entry in the pilot).

The critical point to emphasize is that, while pilot participation yields cost savings for those with longer prior exposure to GR, these savings are considerably lower than the savings yielded when recipients enter the pilot relatively quickly after going on GR. The estimated net savings for participants with longer previous exposure to GR are over $3 million in their pilot year and $2.7 million in their year after the pilot. This two-year total net savings of almost $6 million is slightly more than half the savings yielded for GR recipients who enter the pilot within two months of going on GR. If the pilot were able to get all its participants to enter the pilot during GR intake, net cost savings would be $5 million higher relative to what is projected to occur if these participants enter the pilot after more than six months on GR. These findings show that the pilot yields net savings over two years (one pilot year and one post-pilot year) in the range of between $6 million and $11 million, depending on the proportion of pilot participants who enter the pilot within two months of going on GR.

Homelessness Prevention and Cost Savings

The effect of pilot participation on service costs is consistent with the generally positive impact this participation has on homelessness prevention outcomes. Most pilot participants, as discussed in the previous section of this report, do not become homeless again after leaving the pilot, and it is for this reason that post-pilot service costs are substantially lower than pre-pilot service costs. Moreover, important results are observed when long-term pilot participants (those who stayed in the pilot for more than three months) are analytically separated from short-term pilot participants (those who stayed in the pilot for less than four months). After their exit from the pilot, the service costs for long-term participants (who comprise two-thirds of the 900 participants) decreased by four percent from their in-pilot levels, as compared with costs for short-term participants, which increased over 40 percent from their in-pilot levels. Most notably, inpatient health costs for the short-term pilot participants more than doubled, residential public health services increased by 60 percent, and their jail costs increased by 30 percent. Overall service utilization costs for short-term participants are higher in the year after they exit the pilot relative to their pre-pilot year costs. On the other hand, overall post-pilot costs for long-term participants are half their pre-pilot costs. Two conclusions can therefore be drawn: Firstly, longer stays stabilize participants more effectively and their service cost levels remain more or less flat after exit from the pilot. Secondly, the pilot program at once prevents homelessness and yields significant cost savings.

Cost Savings for the SSI-Eligible Population

The County of Los Angeles recently commissioned a study by Dennis P. Culhane and Stephen Metraux, "Using the Adult Linkages Project for Determining Patterns and Costs of Services Use by General Relief Recipients," which shows patterns of heavy service utilization among several significant and overlapping sub-populations within the County's GR population. The report shows that disabled GR recipients utilize County

services at a rate double the average for the overall GR population.[33] This underscores the importance of examining the pilot's SSI-eligible sub-group more closely in the context of a discussion of the pilot's cost avoidance outcomes.

The pilot data confirms that the majority (over three-quarters) of the potentially SSI-eligible pilot sub-group had already been on GR over six months prior to joining the pilot program. The average length of their pre-pilot GR time was over 12 months. The analysis earlier in this section covered all pilot participants and merely calculated the net County savings based on decreased utilization of other County services. However, once GR participants are approved for SSI, they are also qualified for Medi-Cal benefits retroactively to the date of their SSI application. Since the estimated average length of SSI approval for GR participants is 12 months, the following analysis assumes that all medical costs incurred during the pilot year are reimbursable. Additionally, based on program data and DPSS projections, the calculations assume, conservatively, an annual 30 percent SSI approval rate for pilot participants.[34] The analysis also assumes that rental subsidy payments prior to SSI approval would be reimbursed under the Interim Assistance Reimbursement (IAR). Medical costs include service costs incurred in health, mental health and public health, as well as medical costs incurred in the County jail system.

Additionally, it is assumed that, if potentially SSI-eligible GR recipients did not enter the pilot program, their service costs would remain the same during their post-pilot year due to the high service utilization rates observed for this sub-population of disabled recipients. The data shows that the medical costs for a similar group with potential SSI eligibility increased by eight percent between 2006 and 2007, and by another ten percent between 2007 and 2008. On the other hand, some of these non-pilot participants would be approved for SSI during these two years, and it is therefore safe to assume that savings from the reduction of service utilization for those GR recipients approved for SSI would offset the cost increases and leave the overall costs flat for the sub-population. It is also difficult to estimate an SSI approval rate for recipients not participating in the pilot since the number of potentially SSI-eligible persons among such recipients is unknown.

For simplicity, only 230 potentially SSI-eligible GR recipients with more than six months in GR prior to their entry into the pilot are included in the analysis, and their figures are adjusted for 900 participants. All figures are annualized and assume that recipients are in GR for a year prior to entering the pilot, and also assume that they stay in the pilot for a year when 30 percent of them were approved for SSI. For the post-pilot year, the analysis assumes that another 30 percent are approved for SSI, leaving 40 percent not approved (360 of the 900 pilot participants) by the end of the post-pilot year.

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[33] Metraux, Stephen and Dennis P. Culhane. *Using Adult Linkages Project Data for Determining Patterns and Costs of Service Use by General Relief Recipients in Los Angeles County.* A Report Submitted to: County of Los Angeles, CEO, SIB, RES. Project Director: Manuel Moreno, Ph.D July 2009.

[34] This study shows that the SSI approval rate for participants in the potentially SSI-eligible pilot group was almost 50 percent.

Table 18. Annual Service Costs and Savings for 900 SSI-eligible Program Participants in the Pilot Program

If 30 % SSI approval rates in the pilot and post-pilot years for 900 participants	Costs and Savings
First year medical costs (if no pilot participation)	$15,257,000
Pilot year medical costs	$6,363,000
First year savings in reduced usage of other County services	$8,894,000
100% reimbursement from the pilot year of 30% approved during the pilot year	$1,909,000
Pilot program admin costs	-$1,000,000
Rental subsidy for 70% not approved (30% IAR excluded)	-$2,250,000
First year net savings	**$7,553,000**
Second year medical costs (if no pilot participation)	$15,257,000
Post-pilot year medical costs for the remaining 70%	$4,977,000
Second year savings in reduced usage of other County services	$10,280,000
100% reimbursement from the post-pilot year of 30% approved during the post-pilot year	$1,493,000
Second year net savings	**$11,773,000**
Two-year total savings	**$19,326,000**

Table 18 presents the results of the cost avoidance analysis for the potentially SSI-eligible pilot sub-population. The table shows that when 900 disabled GR recipients do not participate in the pilot program, their annual medical costs are over $15 million. On the other hand, the medical costs for potentially SSI-eligible pilot participants are just over $6 million, yielding a cost reduction of roughly $9 million. Another $2 million is expected to be reimbursed for the 30 percent assumed to be approved for SSI during their pilot year. After deducting over $3 million in program costs, the estimated savings for the pilot year are almost $7.5 million. The savings for the post-pilot year are estimated to be almost $12 million since there would be no pilot program costs while an additional 30 percent of the pilot participants are assumed to be approved for SSI. If the pilot is extended to 900 potentially SSI-eligible participants, or if only potentially SSI-eligible participants are targeted, then based on an expected 30 percent annual approval rate for SSI, the two-year total net savings would be over $19 million. Moreover, an additional ten percent increase in the SSI approval rate would yield another $2 million savings over two years.

VII. Conclusions and Policy Recommendations

Homeless GR Participants Fare Better when they Participate in the Pilot

Participation in the GR Housing Subsidy and Case Management Pilot Project makes an important difference in the lives of homeless GR recipients. DPSS' rationale for the pilot, as noted in this report's introductory remarks, has been "to test whether assisting the homeless GR population with a rent subsidy and coordinating access to other necessary services reduces homelessness, increases employment and/or increases receipt of SSI benefits." In all three of these tested areas – employment, SSI eligibility, and homelessness prevention – GR recipients who participated in the pilot fared better than comparable control groups of recipients who were on GR prior to the implementation of the pilot. Employable pilot participants, for example, were almost

twice as likely as the control group to gain employment while they were in the pilot. Potentially SSI-eligible participants not only submitted applications at a considerably higher rate than GR recipients in the control group, but also had their applications approved at a rate double that of the control group. Finally, the pilot's homelessness prevention outcomes underscore the way in which the pilot's positive impact endures beyond the period during which GR recipients receive the rental subsidies and enhanced case management made available to them. The extent of homelessness – measured as the percentage of time recipients are homeless over their tenure in the GR program – dropped by 46 percentage points among participants after they left the pilot, as compared with a nine percentage point drop among GR recipients in the control group over the course of their observation period. The difference between the two groups at this level is even starker if the denominator for the pilot group is limited to participants who stayed in the pilot for more than three months, and deeper statistical analysis bears this difference out, showing that control group recipients were 7.4 times more likely to become homeless while on GR relative to pilot participants after they left the pilot.

Participation in the Pilot Yields Significant Cost Savings

These positive outcomes for pilot participants are achieved by means that simultaneously yield millions in annual cost savings. Assuming pilot participants stay in the pilot for one year and remain on GR for one year after they exit the pilot, a comparison of pilot and control groups, adjusted for 900 participants in each group, revealed that annualized service costs were over $11 million lower for pilot participants over two years. Moreover, these savings have the potential to increase significantly to the extent that DPSS is able to recruit larger numbers of participants into the pilot within two months of their entry on GR.

The analysis of potentially SSI-eligible GR recipients is especially significant in looking at the pilot's potential for cost avoidance. If a 30 percent approval rate for pilot participants is assumed (which is a conservative assumption since this report's outcomes analysis for the potentially SSI-eligible pilot group revealed a 50 percent approval rate), and SSI and Medi-Cal reimbursements are factored into calculations for those pilot participants gaining SSI approval, then the annualized net savings over two years for a group of 900 disabled pilot participants would be over $19 million. Savings of this magnitude are critical within the present economic and budgetary context where shrinking pools of resources must meet a growing demand for assistance and services.

Policy Recommendations

The findings offered in this report point towards the conclusion that the GR Housing Subsidy and Case Management Pilot Project should be implemented on a countywide basis and should be an important component in the County's current efforts to restructure the GR program. The following list of policy recommendations, each of which is accompanied by relevant findings, are intended to help guide DPSS in the

efforts to ensure that a more widely implemented housing subsidy and case management program will continue to produce positive results and build on the success of the pilot project.

Recommendation: Expand the GR Housing Subsidy and Case Management Pilot Project to all districts so that the program will be available to all GR recipients countywide. The expansion of the program will promote self-sufficiency by moving increased numbers of recipients from welfare to work. Additionally, countywide implementation of the rental subsidy and case management program will increase the number of GR recipients qualifying for SSI and reduce the extent of homelessness significantly.

Relevant Findings:

- Participation in the pilot project increased the likelihood employable participants would find jobs by almost two times relative to comparable GR recipients who only participated in GROW. Moreover, pilot participants found employment more quickly than recipients in the control group.

- Almost half of the official decisions made on SSI applications coming from the pilot group were approved. This approval rate is twice as high as the SSI approval rate observed in the control group of disabled GR recipients. Moreover, the number of SSI approvals was five times higher than the number of approvals in the control group. Finally, while 85 percent of pilot participants made an SSI application, only one-third of the control group submitted an SSI application.

- After exiting the pilot, the average extent of homelessness – measured as the percentage of time GR recipients are homeless over their tenure in the GR program – dropped from 63 to 17 percent for pilot group participants who had prior histories of homelessness. By comparison, the average extent of homelessness for the control group of GR recipients dropped from 62 percent to 53 percent over the course of the group's observation period. Additionally, control group recipients were 7.4 more likely to become homeless while in the GR program relative to pilot participants after they exited the pilot program.

- It is estimated that the rental-subsidy program generates an $11 million reduction in the utilization of other County services over two years for 900 participants.

Recommendation: *Make additional efforts to recruit participants for the rental subsidy and enhanced case management program at the GR intake interview.*

Relevant Findings:

- While pilot participation yielded cost savings for participants with extended prior exposure to GR (i.e. more than six months on GR prior to entry into the pilot), the

two-year annualized savings for such participants were shown to be $2 million lower than savings for participants who entered the pilot relatively quickly (i.e. within two months of their entry into GR). Furthermore, while the annualized service costs for the group quickly entering the pilot decreased by six percent over the year after they exited the pilot, the same costs increased by 17 percent for participants with longer prior GR exposure (though their post-pilot costs were still 43 percent below the costs they incurred during their year prior to entry in the pilot).

- If DPSS had gotten all pilot participants during the observation period to enter the pilot at their GR intake, annualized net cost savings would have been $5 million higher relative to the savings projected if these participants had all entered the pilot after more than six months on GR.

The cost savings analysis in this study demonstrates that the timing of participant entry into the pilot is critical. Cost savings are significantly higher if GR recipients enter the housing subsidy and enhanced case management program at or around the time of their entry into GR. The participant dynamics underneath this finding are clear: Earlier entry into the pilot stabilizes the life of a homeless GR recipient more quickly, thereby reducing the need for services more quickly. On the other hand, homeless GR recipients entering the pilot after an extended period of homelessness have longer periods of instability and therefore higher costs for a longer period of time.

Recommendation: *Target employable GR recipients with recent work history for recruitment into the housing subsidy and case management program, especially those who have recently lost jobs during the current economic crisis.*

Relevant Findings:

- A significant majority (80 percent) of the participants in the employable pilot group who found jobs after entering the pilot had some prior history of employment. Moreover, every additional month of past work experience increased the likelihood a pilot participant would find a new employment by more than 50 percent.

- A mere five percent of employable control group recipients without previous work experience found jobs, as compared with the 20 percent of employable pilot participants who had no previous work experience but still found jobs.

Although the pilot program was shown to help participants with no recent work experience in finding jobs, past work experience was the most significant factor affecting the likelihood that a pilot participant would obtain a new job. Targeting recipients with previous work experience for recruitment into the housing subsidy and case management program would be an effective way to build on the success the pilot has had with employable GR recipients, both in terms of employment outcomes and cost avoidance.

Recommendation: *Review the procedures and instruments involved in assessing the employability of pilot participants and improve the employability screening process.*

Relevant Findings:

- Almost half of the participants in the employable/GROW pilot group who did not obtain employment over the observation period were categorized as employable during some parts of their time in the pilot and unemployable during others.

- Each time the ratio of unemployable to employable months increases by one unit, a pilot participant's likelihood of gaining employment decreases by ten percent.

The analysis of employment outcomes indicates that the pilot project commingles substantial numbers of questionably employable participants with those who are more unambiguously employable. Many employable participants are later found to be unemployable and vice versa. This diminishes the pilot's effectiveness in helping genuinely employable participants find jobs. While changes in participant circumstances may contribute to changes in their employability status over time, there is adequate evidence suggesting a need to improve the screening process. It is therefore recommended that DPSS revisit the process and procedures involved in assessing participant employability.

Recommendation: *Undertake far-reaching efforts to target all SSI-eligible GR recipients for recruitment into the housing subsidy and case management program. In connection with these efforts, DPSS should work collaboratively with DHS to ensure that cost savings are maximized through retroactive Medi-Cal and IAR payments for program participants approved for SSI.*

Relevant Findings:

- The cost avoidance analysis offered in this report calculated that, while annualized first-year medical costs for 900 disabled GR recipients who did not participate in the pilot were $15 million, the same annualized first-year costs for 900 disabled pilot participants would be just over $6 million.

- Reimbursement of an additional $2 million could be expected for the 30 percent of disabled pilot participants assumed to be approved for SSI during their year in the housing subsidy and case management program. After deducting $3 million in program costs, the estimated savings for the pilot year would be almost $7.5 million.

- For 900 disabled pilot participants, the savings for the post-pilot year are estimated to be almost $12 million, yielding a two-year net savings of over $19 million based on a conservatively estimated 30 percent SSI approval rate.

An additional ten percent increase in the SSI approval rate would yield another $2 million in savings over two years.

While the patterns and frequency of service utilization observed among disabled GR recipients are expensive for the County, they also present an important opportunity for cost avoidance. The monthly grant available to recipients approved for SSI, as well as the comprehensive medical care SSI recipients receive through Medi-Cal, and the reimbursements the County receives for those approved for SSI, make it imperative that DPSS target all potentially SSI-eligible GR recipients for participation in the housing subsidy and case management program. Additionally, DPSS should coordinate its efforts with DHS to ensure that Medi-Cal and IAR payments are fully retrieved for GR recipients approved for SSI.

Recommendation: *Bolster the SSI advocacy services DPSS provides together with the pilot – e.g. the SSIAP program and DHS/DMH/LASD Document Retrieval Services – in order to enable quicker SSI disability claims.*

Relevant Findings:

- The median time for disabled participants between entry into the pilot and submission of an SSI application was seven months.

- Decisions on SSI applications from pilot participants were made in an average of six months. On average, then, more than 13 months were required for pilot participants to submit SSI applications and receive decisions from the State.

An average of more than one year was required for pilot participants to submit SSI applications and receive decisions. Additionally, one quarter of the potentially SSI-eligible pilot group required almost two years to apply for SSI and receive decisions. DPSS cannot control the speed with which decisions are rendered at the State level, and no significant differences were observed between the pilot and control groups in terms of the amount of time it took SSI applications to be decided once they were submitted. However, the front end of the process – i.e. the seven months it took, on average, for disabled pilot group participants to make SSI applications – can potentially be shortened with an enhancement of the Department's SSI advocacy services. Shortening the time necessary to make applications would enable both participants and DPSS to more quickly reap the benefits of SSI.

Recommendation: *Make additional efforts at intake and throughout the course of case management process to encourage participants to remain in the housing subsidy and case management program.*

Relevant Findings:

- After exit from the pilot, the extent of homelessness among pilot participants who stayed in the pilot more than three months dropped to ten percent, as

compared to the 63 percent of the time participants were homeless between 2005 and their entry into the pilot. However, for pilot group participants who stayed in the pilot for three months or less, the extent of homelessness after leaving the pilot only dropped to 30 percent.

- More than one-third of all participants who left the pilot but either (a) remained in GR, or (b) exited GR and came back later, had at least one month of homelessness through the end of December 2008. However, the proportion that became homeless again was 50 percent amongst the subset of participants who stayed in the pilot for three months or less before leaving.

- Every additional month participants remained in the pilot made them nine percent less likely to become homeless again after exit from the pilot.

- When participants who stayed in the pilot for more than three months exited the pilot, their service costs decreased by four percent from their in-pilot levels, as compared with the 40 percent increase in service costs for participants who only stayed in the pilot for less than four months. Most notably, inpatient health costs for participants staying in the pilot for less than four months more than doubled after exit from the pilot, residential public health services increased by 60 percent, and jail costs increased by 30 percent.

- Overall service utilization costs for participants who stay in the pilot less than four months are higher in the year after they exit the pilot relative to their pre-service costs in the year prior to entry. On the other hand, for participants staying in the pilot more than three months, overall service costs in the year after exit from the pilot are half of the overall service costs they incur in the year prior to entry.

In the absence of the pilot, a larger proportion of homeless GR recipients would have remained homeless for significantly longer periods of time. This is critical because between 55 and 67 percent of the GR population is estimated to be homeless.[35] However, after exiting the pilot, homelessness issues persisted to a certain degree, especially for those participants who did not stay in the pilot for more than three months. The analysis of homelessness prevention outcomes shows that longer stays in the program decrease the chances that participants will become homeless again after exiting the program. In addition, the cost savings analysis shows that longer stays in the pilot program are much more effective in offsetting the need for services after exit from the pilot, thereby yielding greater cost savings. It is therefore recommended that additional efforts be made at intake and in case management sessions to encourage participants to remain in the housing subsidy and enhanced case management program.

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[35] Metraux, Stephen and Dennis P. Culhane. *Using Adult Linkages Project Data for Determining Patterns and Costs of Service Use by General Relief Recipients in Los Angeles County.* A Report Submitted to: County of Los Angeles, CEO, SIB, RES. Project Director: Manuel Moreno, Ph.D July 2009. P.8.

Recommendation: *Re-work the pilot's 'chronically homeless' participant category.*

Relevant Findings:

- The pilot participants placed in the 'chronically homeless' category were not found to have prior experiences of homelessness that differed significantly from participants placed in either the employable/GROW or potentially SSI-eligible pilot categories.

- Other than a reduction in the extent of homeless, the analysis of homelessness prevention outcomes did not reveal any findings specific to pilot participants who had been placed in the 'chronically homeless' category.

The chronic homelessness of pilot participants is difficult to verify because it is based on self-declaration, which may not be accurate in reflecting their real experiences with homelessness. Additionally, the data shows that all the pilot sub-groups (employable/GROW, potentially SSI-eligible and chronically homeless) had similar histories of homelessness prior to entry into the pilot. For these reasons, it is recommended that DPSS replace the chronically homeless pilot participant category with a different category that would facilitate targeting a meaningful group of GR recipients for the housing subsidy and case management program. For example, there may be sub-populations identified in the ALP report that could be targeted for participation in the program, such as heavy users of County services, participants with prior drug abuse or mental health problems, or GR participants with multiple stays in jail. However, identifying an appropriate and distinct group of participants for the pilot may require additional research.

Recommendation: *County departments providing services to GR recipients should re-invest at least part of the cost savings yielded through the housing subsidy and case management program back into this program.*

Relevant Findings:

- The total annualized service utilization cost for the 900 participants in the pilot group after their year in the pilot was $5.2 million, as compared with the $14.5 million it cost to provide services over the same period of time to 900 control group participants.

- Participation in the pilot yielded over $5 million net savings at the end of the pilot year, after deducting the annual pilot project budget of $4.2 million.

- Annualized costs for GR housing subsidy and case management program participants continue to drop even further after they exit the program.

The total estimated net savings for DHS, DMH, DPH and Sheriff were over $11 million in two years. The cost differences in inpatient, emergency, and residential alcohol and

drug services, as well as in services associated with incarceration, are particularly large. The departments benefiting from the cost savings yielded through participation in the housing subsidy and case management program should reinvest at least part of these savings back into the program. These monies would provide funds to help with the expansion of the program countywide.

Recommendation: *As a strategy for preventing overcrowding in subsidized housing, consider increasing the rental subsidy amount from $300 to $500, at least for the potentially SSI-eligible program participants for whom a relatively high return on investment is possible.*

Relevant Findings:

- Roughly one-third of the pilot participants lived alone while they were in the pilot, while two-thirds shared their housing for at least one month. The proportion of participants living in shared housing is even higher (75 percent) among participants who remained in the pilot for more than three months.

- An average of 3.5 pilot participants lived together in shared housing units during the observation period for this study. However, when recipients from other welfare programs are included in the calculations, pilot participants lived in rental units where the average number of occupants was five.

Shared housing is very common among pilot participants since it is almost impossible to live alone in Los Angeles County for $436 per month.[36] The data used in conducting the evaluation of homelessness prevention outcomes indicates that the average number of occupants living in shared housing where pilot participants reside is five (if recipients from other welfare programs are included in the calculations), which suggests that high rental costs in Los Angeles County compel substantial numbers of pilot participants to live in overcrowded conditions. The department may wish to consider increasing the rental subsidy amount to $500 per month, at least for the potentially SSI-eligible participants for whom a comparatively large return on investment in subsidized housing is possible. An increase in the subsidy amount would help diminish the problem of overcrowding, thereby increasing the likelihood participants will stay in the pilot program for a longer period of time.[37]

Next Steps

DPSS has assembled a workgroup for the purpose of restructuring GR so as to make the program more effective and efficient. The workshop consists of policymakers from multiple County departments serving the GR population, as well as welfare and

[36] The amount pilot participants can spend on rent if they live alone is derived by adding the $136 they devote to rent from their monthly GR grants to the $300 rental subsidy.

[37] Based on the average rents in the zip code areas where pilot participants are concentrated, it is feasible to rent a one-bedroom apartment at $1,000 by two persons.

homeless advocates, policy researchers and analysts, and the CEO. Expansion of the GR Housing Subsidy and Case Management Pilot Project is one of the strategies the GR workgroup is currently considering in connection with the restructuring efforts.

The results of this evaluation demonstrate that the positive effects of participation in the GR Housing Subsidy and Case Management Pilot Project touch both GR recipients and DPSS as a department, and additionally extend to the other major County departments serving the GR population. The report underscores the urgency of expanding the pilot project and verifies that countywide implementation of the pilot should be central to the GR workgroup's efforts to re-make the GR program.

TECHNICAL APPENDIX

Introduction

This Technical Appendix describes the methodologies used in evaluating the GR Housing Subsidy and Case Management Pilot Project's participant outcomes and cost savings. The appendix additionally provides elaboration on the data used, study design, and sample selection.

Data

The data used in this study come from administrative databases maintained by six separate County agencies. These databases are collected in computerized management information systems and track service utilization over time. As such, they provide comprehensive and systematic information on the characteristics and service utilization histories of program participants. Administrative databases are recognized as the only practical means of obtaining information on a large numbers of homeless persons over an extended period of time.[38]

Databases used for this study come from the following sources:

1. DPSS' Los Angeles Eligibility, Automated Determination, Evaluation and Reporting (LEADER) system was the primary data source. LEADER monthly direct rent detail reports were used to identify pilot participants and capture details on their program participation. Moreover, DPSS District Offices provided lists of participants that were used to determine the categories into which pilot participants were placed, i.e. employable/GROW, potentially SSI-eligible, or chronically homeless. Information provided by the District Offices was additionally used to obtain up-to-date SSI application statuses.

   The LEADER system was also used to collect data on several other data elements such as demographic information, GR tenures and terminations, drug abuse history, SSI applications and decisions, physical disabilities and participant address information.

2. Employment data for pilot and control group participants was provided by the California Department of Social Services using the Unemployment Insurance Program database of the State EDD. Employment data fields.

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[38] See Culhane, Dennis P., and Stephen Metraux. "Where to from Here: A Policy Research Agenda Based on the Analysis of Administrative Data". In *Understanding Homelessness: New Policy and Research Perspectives,* ed. Dennis P. Culhane and Steven P. Hornburg, 1997, 341–360. Washington, DC: Fannie Mae Foundation.

3. DHS client database provided records of inpatient, outpatient and emergency stays in County hospitals and health facilities between 2005 and 2008 for all GR participants.

4. DPH Alcohol and Drug Program Administration client data base provided records of outpatient counseling, day care, detoxification and residential services in contracted facilities between 2005 and 2008.

5. DMH client database provided records of inpatient and outpatient stays in mental health centers between 2005 and 2008.

6. Sheriff database provided records of jail stays and medical services provided for recipients in custody between 2005 and 2008.

Several LEADER tables were linked using common identifiers available in the LEADER system, such as case numbers and the Client Identification Number field. However, linking across systems required fuzzy matching techniques using different combinations of first and last names, sex, dates of birth, Social Security number, and address. Social Security numbers were used to link participants to the employment database.

Design

Randomized experiments are the standard means by which conclusions are drawn in evaluation research. Randomization ensures that program participants (those in the experimental groups receiving the intervention) and non-participants (those in the control groups who do not receive the intervention) are equally matched on all relevant and knowable factors, whether or not these factors have been identified and measured. In other words, since subjects get randomized to different treatments, there are, on average, no systematic differences or biases in observed and unobserved covariates or factors between subjects assigned to different treatments.

However, for various practical reasons, the GR Housing Subsidy and Case Management Pilot Project was not designed as a randomized experiment. Participation in the pilot project was voluntary. For this reason, RES did not have any control in the assignment of participants. Alternative quasi-experimental methods were therefore used to address the differences program participation made in the lives of GR recipients and the cost savings this participation yielded.

Finding an appropriate and convincing control group is often the most difficult task involved in adopting a quasi-experimental approach. If experiment and control groups are not adequately comparable – i.e. if the selection of a control group fails to neutralize as much variance as possible between the experimental and control groups – the differences between the groups can lead to bias in the analysis of treatment effects, in this case the effects of pilot participation.

Propensity Score Matching

Propensity score matching was used in structuring comparisons in this report and is one particularly effective and widely recognized strategy for the neutralization of selection biases.[39] The method assumes that all relevant differences between experimental and control groups can be captured in the observable characteristics provided in administrative data. In using propensity score matching, it is therefore crucial to have high quality and extensive pre-treatment observables. The matching process involves selecting a control group of non-participants for which the distribution of observed variables is as similar as possible to the experimental group. The selection is initiated by generating a propensity score for each observation in the data set using a logistic regression model that includes all relevant covariates contributing to a participant's engagement in the program in question. The model estimates the probability of a person being in the treatment group for all individuals in the treatment and non-treatment groups. The propensity score would then be the predicted probability of participating in the program.

This single score (between zero and one) represents the relationship between multiple characteristics and the dependent variable (program participation) as a single characteristic. A low propensity score identifies a participant who is unlikely to participate in the program and a high propensity score identifies a person who is likely to participate. After generating propensity scores, a control group is constructed by matching participants to non-participants based on the absolute difference in the propensity score of the participants and the controls. A 'nearest neighbor' matching algorithm is used so that each person in the treatment group generates control individuals the closest propensity scores to them. The cases are ordered and sequentially matched to the nearest unmatched control. If more than one unmatched control matches to a case, the control is selected at random.

After the selection of control groups using propensity score matching, the experimental and control groups are compared to test if all covariates are balanced. The validity of a propensity score model depends on how well it balances the measured variables between experimental and control subjects. If matching has worked well, then the covariates should not differ significantly between the two groups. This is tested by applying chi-square tests for categorical and t-tests for continuous variables. Moreover

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[39] Croxford, Ruth. "Adjusting for selection Bias in the Analysis of Observational Data: The Propensity Score." *Institute of Clinical Evaluative Sciences*, 2006; Culhane, Dennis P., Stephen Metraux and Trevor Hadley. "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing." *School of Social Policy and Practice Departmental Papers.* University of Pennsylvania. 2002; Gilmer, Todd P., Wilard G. Manning, Susan L. Ettner. "A Cost Analysis of San Diego County's REACH Program for Homeless Persons." *Psychiatric Services.* 60.4. 2009.445-450; Guo, Shenyang and Claire Gibbons. "Introduction to Propensity Score Matching: A New Device for Program Evaluation." *Conference for Social Work Research*, 2004; Parsons Lori S. "Reducing Bias in a Propensity Score Matched-Pair Sample Using Greedy Matching Techniques", SUGI Paper 214-26, 2002; Metraux, Stephen, Steven C. Marcus, and Dennis P. Culhane. "The New York-New York Housing Initiative and Use of Public Shelters by Persons With Severe Mental Illness." *Psychiatric Services.* 2003. 54:67-71.

another logistic regression test verifies that the propensity score match has worked – none of the covariates should be significant in determining whether a subject is in the treatment group.

For this study, RES ensured that the statistical tests yielded balanced experimental and control groups. The results of these tests are shown and elaborated below in Tables A-1 and A-2.

The research literature on propensity score matching is largely in agreement that, in the absence of hidden biases in the control groups selected using propensity score matching, treatment assignment can be considered random. When we find two subjects with the same propensity score, one treated, one a control, we can think of these two subjects as "randomly assigned" to each group, since they have the same probability of being in either group, given their covariates. However, the results will be biased if there are unobservable or hidden factors contributing to the experimental group's treatment effect.

In this study, several measures were taken to avoid selection bias and to produce results that could be generalized to the population of pilot participants. First, since the participants were volunteers, control groups were not selected from GR recipients who were in GR during the pilot program so that the effect of many unobservable factors-such as knowledge about the program, would be avoided. All control group participants were selected from a pool of GR recipients who had exited GR before the implementation of the pilot program so that they would never have had a chance to participate in the pilot. However, they were very similar to program participants in terms of several demographic variables and homelessness exposures. Moreover, they were drawn from the same districts. It is therefore reasonable to assume that they would be in a position to volunteer to participate in the rental-subsidy program, if they were in GR at the time the program was implemented.

Second, because of the difficulty in consistently pairing case and control observations with similar characteristics across three outcomes of interest, different control groups were used to analyze outcomes in the major areas evaluated - employment, SSI-eligibility, and homelessness prevention. However, the extent to which unmeasured differences between the study groups may persist cannot be fully determined, nor can the possibility of a selection bias in the study sample be completely eliminated.

Samples

A total of 2,588 GR participants in the County of Los Angeles took part in the GR Housing Subsidy and Case Management Pilot Project from September 2006 through December 2008. However, 280 pilot participants did not match against the district files RES acquired in order to identify their program category so that these records were dropped from the analysis. Moreover, 655 persons in GR volunteered for

the pilot program but then did not participate for some unknown reason. These 655 persons were not included in the main evaluation of the pilot program as well.

This left 1,653 pilot participants with complete records. However, in order to have an adequate tracking period of at least six months, this group of 1,653 was narrowed down to the 1,419 pilot participants who entered the pilot program after June 2008. All pilot participants were tracked through December 2008. Different subsets of this group of 1,419 pilot participants, which can also be referred to as the 'experimental group, are studied in the evaluation of different outcomes.

As elaborated above, the propensity score matching is used for constructing control groups for each outcome of interest. These control groups were selected from the six pilot districts as follows:

To evaluate the impact of the pilot program on the likelihood of finding employment, an experimental group was formed by including 305 employable pilot participants who entered the pilot sometime between September 2006 and June 2008 and stayed in the pilot for more than three months. Then a control group with 305 GR participants was formed by matching 305 pilot participants against those employable GR recipients who entered GR prior to the implementation of the pilot, sometime between March 2005 and September 2006 and stayed in GR for more than three months.

To evaluate the impact of the program on the likelihood that potentially SSI-eligible pilot participants would actually gain eligibility for SSI, an experimental group was formed by including 317 potentially SSI-eligible pilot participants who entered the pilot sometime between September 2006 and June 2008 and stayed in the pilot for more than three months. Then a control group with 317 GR participants was formed by matching 317 pilot participants against those disabled GR recipients who entered GR by March 2005, prior to the implementation of the pilot and stayed in GR for more than 12 months.

Finally, to evaluate the impact of the program on homelessness prevention, an experimental group was formed by including the 1,279 pilot participants who entered the pilot sometime between September 2006 and June 2008 and had any record of homelessness between January 2005 and the time they entered the pilot. Then a control group with 1,279 GR participants was formed by matching 1,279 pilot participants against those GR recipients who entered GR by March 2005 (prior to the implementation of the pilot), had any record of homelessness between January 2003 and the start of the control group observation period (March 2005), and remained in GR for more than three months during the observation period.

Descriptive Tables of Pilot Participants versus Control Groups

Tables A-1 and A-2 show the comparison of pilot groups with control groups for two regression models used in this study. Comparisons are shown for both before and after applying the propensity score matching to display covariance balance as

elaborated earlier.[40] Tables show five columns for each variable representing the characteristics of GR recipients. The first column shows the proportion (for categorical variables) or the mean (for continuous variables) for pilot participants. If a variable is categorical the value is shown with a "%" while for continuous variables only the numerical value is displayed. The second column shows the proportion and means for the control group participants before the adjustment was made, i.e. before applying propensity score matching. The third column illustrates the p-value (or Pr > |t| for continuous variables) that are acquired by chi-square (for categorical variables) or t-tests (for continuous variables). If the p-value is more than five percent then there is no significant association between the two groups regarding the characteristic in question, meaning that they are adequately similar for a reliable comparison. This comparison is basically against the complete pool of control group candidates. The fourth column reveals the values of control group participants after the adjustment was made. The sizes of matched control groups are equal to the experimental group. The last column shows the p-value for the comparison after matching. For a well-balanced design, it is desired to have insignificant p-values - i.e. greater than five percent in the last column confirming that the matched control groups are adequately similar to the experimental group.

Table A-1 displays the covariate balance for the control group formed from employable GR recipients. The table shows that baseline characteristics are quite dissimilar before matching - 13 of 17 covariates have $p < .05$. However, after the matching process, baseline characteristics were similar in matched experimental and control group participants: 16 of 17 covariates show non-significant differences between matched treatment and control group participants. The results confirm that propensity score matching attained an adequately similar control group with covariate balance for employable participants.

[40] See for displaying covariate balances, Love, Thomas. E. " Displaying Covariate Balance after Adjustment for Selection Bias." *Joint Statistical Meetings.* Case Western Reserve University, Center for Health Care Research and Policy. 2002; Love, Thomas, E. " Propensity Scores: What Do They Do, How Should I Use Them, and Why Should I Care?" *ASA Cleveland Chapter.* Case Western Reserve University, Center for Health Care Research and Policy. 2003.

Table A-1. Baseline Characteristics for Employable GR Recipients before and after Matching

Variable	Pilot Group (N=305)	Control Group Before Matching (N=11,673)	p-value	Control Group After Matching (N=305)	p-value
Males	66.2%	63.9%	.40	67%	.84
African Americans	74.4%	62.4%	<.001	71.2%	.58
Hispanics	8.5%	17%	<.001	8.5%	.58
Born in CA	54.4%	63.8%	<.001	58.3%	.33
Disabled	31.1%	11%	<.001	30.2%	.79
Single	82.9%	83.4%	.83	81%	.53
Homeless	81.3%	65.5%	<.001	77.7%	.27
Drug Abuse	15.7%	12.6%	.09	14.8	.74
SSI Applied	10.4%	6.1%	.002	10.2%	.89
Prior Employment	37.7%	20.1%	<.001	19.3%	<.001
Older than 30	80%	66.4%	<.001	76.8%	.33
Age	40.5	37.2	<.001	40.4	.9
Total Months in GR	18.1	14.4	<.001	18.1	.99
Months Homeless	4.6	5.7	<.001	4.8	.45
Address Changes	2.3	.5	<.001	1.9	.25
Homelessness Episodes	1.2	.7	<.001	1.2	.15
GR Terminations	3.7	2.6	<.001	3.9	.65
Average Income $	6,200	4,800	.27	5,200	.43

Table A-2 displays the covariate balance for the control group formed from GR recipients with prior homelessness while they were in GR. The table shows that baseline characteristics are quite dissimilar before matching: 14 of 16 covariates have $p < .05$. However, after the matching process baseline characteristics were similar in matched experimental and control group participants as 12 of 16 covariates show non-significant differences between matched treatment and control group participants. The remaining three of the four significant covariates also became more adequately balanced. The results confirm that propensity score matching attained a highly similar control group with covariate balance for homeless pilot participants.

Table A-2. Baseline Characteristics for Homeless GR Recipients before and after Matching

Variable	Pilot Group (N=1,279)	Control Group Before Matching (N=20,817)	p-value	Control Group After Matching (N=1,279)	p-value
Males	65.6%	62.5%	.03	65.3%	.88
African Americans	72.5%	59.1%	<.001	69.6%	.06
Hispanics	8.4%	18.1%	<.001	11.1%	.06
Born in CA	56.9%	57.9%	.48	57.6%	.72
Disabled	54.5%	32.1%	<.001	44.7%	<.001
Single	83.8%	81.1.%	.02	85.2%	.35
Drug Abuse	18.4%	12.5%	<.001	16.5	.19
SSI Applied	31.8%	15.1%	<.001	23.2%	<.001
Age	43.2	40.7	<.001	41.9	<.001
Total Months in GR	25	17.7	<.001	23.3	.03
Address Changes	2.6	.5	<.001	1.9	.25
Homelessness Episodes	1.3	.7	<.001	1.2	.24
GR Terminations	3.2	2.4	<.001	3.3	.90
Average Income $	5,000	4,500	.59	5,300	.68
Prior Homelessness In Months	11.9	7.2	<.001	11.6	.46
Prior Homelessness % of the Time	63%	54%	<.001	62%	.61

Multivariate Models and Outcomes

In general, differences in outcomes – as embodied, for example, in the question of whether or not a GR recipient finds employment over a given period of time – are likely to reflect the simultaneous effect of multiple factors. For this reason, the differences may change when we control for other factors that influence outcomes. The precision of estimation increases when other factors that help explain variations in outcome measures can be held constant. This requires using more complex multivariate methods. The regression models used in this study specify that the outcome variables are (linear) functions of a set of explanatory variables. The coefficient of each explanatory variable represents the effect of a change in the explanatory variable on the outcome, holding all other factors constant.

The study developed two primary multivariate regression models. The first model estimated the effect of the pilot program participation on the likelihood of finding employment for employable GR recipients by controlling for several covariates. The second model assesses the effect of program participation on homelessness prevention by estimating the likelihood that a recipient will become homeless while controlling for several covariates. The regression results are tabulated in the next section in Tables A-3 and A-4.

Since outcome variables estimated in this study are categorical, logistic regression models are used.[41] In the logistic regression models used in the study, the effects of explanatory variables are measured using odds-ratios. An odds ratio is a way of comparing whether the probability of a certain event is the same for two groups. An odds ratio of one implies that the event is equally likely in both groups; an odds ratio greater than one implies that the event is more likely in the first group; an odds ratio less than one implies that the event is less likely in the first group. Throughout the study, the odds-ratios are interpreted as the relative likelihood of an outcome for simplicity.

The significance of explanatory variables are determined by looking at the "$Pr > X^2$ " columns in the regression tables. These columns show the p-values that are compared to the selected significance levels to determine whether a factor is statistically significant. This comparison verifies that a specific factor may be accepted as a good predictor in explaining the outcome variables in question. In statistical terms, a p-value is the probability of obtaining a finding at least as "impressive" as that obtained with the assumption that the null hypothesis is true, so that the finding was the result of chance alone.

Employment Model

Table A-3 shows the results of the logistic regression model used to evaluate employment outcomes. The table includes only those explanatory variables that are statistically significant. The dependent variable is finding employment. The overall model evaluation shows that the model fits the data quite well with the significant likelihood ratio confirming that the model improves over an intercept-only model significantly. In addition, the Hosmer–Lemeshow goodness-of-fit test is insignificant at the five percent level further suggesting that the model fits the data well. The resultant predicted probabilities of the model can be revalidated with the actual outcome to determine if high probabilities are indeed associated with events and low probabilities with nonevents. This test also revealed that the model correctly assigned a higher probability to those who found a job with a "*c* statistic" value of 0.845.

[41] See for Logistic Regression Models, Allison, Paul D. 1999. Logistic Regression Using the SAS System: Theory and Application. Cary, North Carolina. SAS Institute.

Table A-3. Regression Results for Probability of Finding Employment

Explanatory Variables	Odds Ratio	$P > X^2$	More Likely to Find an Employment
Group—Program vs. Control	1.86	04**	1.86 times more
Past employment (months)	1.56	<.0001*	56% more
Gender—Females vs. Males	2.44	001*	2.44 times more
Age Group—LT 30 vs. 30+	2.52	0009*	2.62 times more
Ethnicity—Blacks vs. Other	1.55	04**	1.55 times more
Ethnicity—Hispanics vs. Other	.59	16	59 times of
Unemployable/Employable Months Ratio	.90	03**	10% less
Model Fit Statistics		$P > X^2$	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		6189	
C statistic	.845	.	

* Significant at 1 % level

** Significant at 5 % level

*** Significant at 10 % level

The regression model results represented in Table A-3 indicate that participation in the pilot project was highly significant in comparative terms, increasing the odds that employable participants would find jobs after entering the pilot program by 1.86 times (almost twice). In addition, the most powerful factor in increasing the likelihood a pilot participant will find employment is prior work experience. Every month of additional past work experience increases the probability a pilot participant will find a job by 56 percent.

The model includes a variable that is the ratio of total unemployable months to employable months in GR. This factor is used because there are many GR persons shown in employable & unemployable statuses in different months. The data shows that, if we increase this ratio by one unit - meaning that if the number of unemployable months increases by twice the number of employable months, the likelihood of finding a job decreases by ten percent. This finding shows that those participants who entered the program with large number of unemployable months have a lower probability of finding new jobs.

The table also shows the effects of three demographic variables on the likelihood of finding a job - gender, age & ethnicity. The data shows that, females (representing a third of the population) are almost 2.5 times more likely to find a job relative to males in the GR program (holding all other variables constant). The data also shows that younger GR recipients have an easier time finding jobs. The data does not show significant difference among recipients older than 30 years of age. However, GR recipients younger than 30 are 2.5 times more likely to find a job than those over the age of 30. Differences by ethnicity are generally not significant. The only significant effect is seen in comparing African Americans (70% of the population) with whites and Asians: African-Americans are 1.5 times more likely to find an employment.

Numerous other variables were also tested to see if they affect the probability of finding employment while in the GR program. None of the homelessness indicators, such as

the length of homelessness (measured as the number of months) or the number of homelessness episodes, made any difference in relation to employment outcomes. The reason for this is that the employable population has a shorter exposure to homelessness (four months on average and one episode of homelessness over two years) and there is no difference in the homeless characteristics of those who found a job and who did not. Housing stability (measured as the number of address changes a given period of time), as well as length of GR tenure and the number of terminations, were all also insignificant.

There are two additional variables that were important in evaluating employment outcomes. First, RES tested to see if there were any differences by district - i.e. if the likelihood of finding a new job differed among the six pilot districts. This effect is not significant verifying that there are no significant differences among districts. The second factor was the time spent in the pilot program, and this factor also did not make any difference for employment outcomes, as shown in the descriptive analysis earlier.

Homelessness Prevention Model

Table A-4 shows the results of the logistic regression including only those explanatory variables that are statistically significant. The dependent variable is becoming homeless. The overall model evaluation shows that the model fits the data quite well with significant likelihood ratio confirming that the model improves over an intercept-only model significantly. In addition, the Hosmer–Lemeshow goodness-of-fit test is insignificant at the five percent level, suggesting that the model fits to the data well. The resultant predicted probabilities of the model can be revalidated with the actual outcome to determine if high probabilities are indeed associated with events and low probabilities with nonevents. This test also revealed that the model correctly assigned a higher probability to those who found a job with a "*c* statistic" value of 0.805.

Table A-4. Regression Results for Probability of Becoming Homeless

Explanatory Variables	Odds Ratio	P > ChiSq	More Likely toBecome Homeless
Group—Control versus Pilot	7.4	<.0001*	7.4 times more
Gender—Males vs. Females	1.27	.02**	1.27 times more
Ethnicity—Blacks vs. Other	1.16	.03**	1.16 times more
Ethnicity—Hispanics vs. Other	.83	.11	1.2 times more
Birth Place—CA vs. Other	1.37	.001*	1.37 times more
Current SSI Application—No vs. Yes	1.29	.04**	1.29 times more
Time in the Program (months)	.91	<.0001*	1 month → 9% less
% Time Homeless Prior to the Program Entry	1.02	<.0001*	1% → 2% more
Number of Address Changes Prior to the Program Entry	1.54	<.0001*	1 move → 54% more
Number of Terminations in GR	1.12	<.0001*	1 termination→12% more
District—Southwest Special vs. South Special	1.51	<.0001*	1.51 times more
District—Civic Center vs. South Special	.8	.32	0.8 times more
District—Rancho Park vs. South Special	1.77	<.0001*	1.77 times more
District—Lancaster vs. South Special	.28	<.0001*	.28 times more
District—Metro Special vs. South Special	.81	.38	.81 times more
Model Fit Statistics		**P > X^2**	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		.586	
C statistic	.805	.	

The logistic regression model results represented in Table A-4 were used to compare pilot and control groups in terms of homelessness prevention outcomes. Analysis based on this model underscore the positive impact of pilot participation. Control group participants were 7.4 more likely to become homeless over their observation period relative to pilot participants after they exited the pilot program. Moreover, every additional month staying in the pilot program made pilot participants nine percent less likely to become homeless after exit.

The results show some differences between districts after controlling for all other factors. The comparisons were made relative to the South Special District (an arbitrary selection). Comparisons between the South Special District and both the Civic Center and Metro Special districts did not yield significant differences. On the other hand, pilot participants in the Southwest Special District were 1.51 times more likely to become homeless after exiting the pilot than participants in the South Special District. Pilot participants in the Rancho Park District were 1.77 times more likely to become homeless; Pilot participants in Lancaster were 0.28 times more likely to become homeless.

The analysis of homelessness prevention outcomes in this study shows that each percentage point increase in the extent of homelessness at a given time increases the likelihood that a recipient will become homeless again by two percent. Similarly higher degrees of prior housing instability contribute to the likelihood of subsequent homelessness. Each additional prior move raises the likelihood of becoming homeless by 54 percent. Current SSI-applicants have 1.29 less odds to become homeless again.

Each GR termination makes participants more likely to become homeless by 12 percent.

Some of the demographic factors also contribute to the extent of homelessness. Ethnic differences are not large. While Hispanics are not significantly different than the pilot population as a whole, African Americans are .1.16 times more likely relative to Whites and Asians to become homeless again after exiting the pilot. Males are 1.27 times more likely relative to females to become homeless later. Finally, persons born in places in California have 1.37 more odds to become homeless relative to those born in places other than California.

Calculating Cost Savings

Three sets of calculations were made in order to derive the cost savings created through participation in the pilot project: (1) *Pre-pilot service costs:* All service costs were computed for pilot participants during one year prior to their entry into the pilot, while they were in the GR program. Pre-pilot service costs for each participant were annualized by the amount of time they were in GR before entering the pilot. (2) *Service costs during the pilot*: All service costs were calculated for pilot participants while they were in the pilot project. The costs each participant incurred during the pilot were annualized by the amount of time they were in the pilot. (3) *Post-pilot service costs:* Service costs were aggregated for pilot participants after they left the pilot. Costs after exit from the pilot for each participant were annualized by the amount of time between their exit from the pilot and the end of 2008. Comparison of pre- and post-pilot costs makes annualizing in this fashion necessary because different pilot participants stay in the pilot for different amounts of time, and they have different tenures on GR. Their tracking period after exiting the pilot program also varies from person to person. Without annualizing costs, it would not be possible to compare pre-pilot, pilot and post-pilot period costs incurred by different county agencies.

Additionally, the annualized numbers are adjusted to 900 persons so that cost savings are calculated for 900 pilot participants who would be on GR for a year prior to entering the pilot and then would be in the pilot for a year. The adjustment for 900 persons was done because the pilot serves a revolving total of 900 participants at an annual budget of $4.2 million.