Introduction
The purpose of the first year of the Health Care Access Project was to investigate the intersection between health literacy and health plan efficiency and then to work with an advisory group to develop recommendations for interventions to simultaneously address these issues. To accomplish this, Health Research for Action -- a center in the UC Berkeley School of Public Health -- conducted a literature review, analyzed health literacy data from the California Health Information Survey (CHIS), conducted 31 key informant interviews with health plan professionals and advocates, conducted 12 focus groups and 20 usability tests with health plan members, and convened and met with an advisory group.

The literature review was used to explore previous research on both health plan efficiency and health literacy, to solidify lines of inquiry about areas where system efficiency and health literacy intersect, and to inform the research questions for the key informant interviews and focus groups. Analysis of CHIS data was used to learn about the relationship between type of health insurance and health literacy. The key informant interviews were used to solicit professional opinions about the most problematic inefficiencies that health plans face and how the limited health literacy of health plan members may exacerbate these inefficiencies. In the focus groups, health plan members were asked to discuss the areas where key informants had indicated that system efficiencies and health literacy intersect. Focus group participants were also asked to give recommendations about how health plans could make it easier for members to navigate their plan in these areas. For the one-on-one usability tests, we selected written communication materials currently used by health plans and tested those materials with health plan members to determine if they were understandable and useable. The materials that were tested were selected because they represented topic areas that focus group participants said were difficult to understand or navigate. The results of the usability tests informed recommendations about the materials’ effectiveness and possible revisions to make the materials more understandable. Finally, we convened an advisory group, made up of health literacy experts, health plan representatives, and consumer advocates, and asked them to review the research and make recommendations about interventions that the California Office of the Patient Advocate (OPA) could implement to help health plans improve efficiency by addressing the health literacy of members. The advisory group recommended several topics and formats that could be used to create communication interventions to help health plan members navigate their plan more easily and thereby reduce health plan inefficiencies.

Literature Review
Health Research for Action (HRA) conducted a literature review that examined the links between health literacy and system efficiency. Through this literature review we found that health care system efficiency has various definitions. The Institute of Medicine defined it as avoiding waste, including waste of equipment, supplies, ideas, and energy. Health care providers typically define it as limiting waste within individual clinicians and hospitals. Inefficiencies in the health care system can result in increased costs, unnecessary use of human hours and labor, and poor treatments.

Very few studies show a direct statistical link between health literacy and specific system inefficiencies; additionally, very few intervention studies have been conducted to examine how changes might impact quality and efficiency of care. This is a gap that is important to address. The literature review pointed to
six main areas where more investigation about the relationship between health literacy and system inefficiencies is needed, including:

1. Navigating health plans and hospitals;
2. Completing forms to receive medical care;
3. Interpreting and following dosing instructions for medications;
4. Communicating between members and providers (including linguistic accessibility);
5. Understanding appointment slips; and,
6. Using and understanding preventive health services.

**Analysis of CHIS data**

The objective of this sub-study was to explore relationships among health literacy and communication variables, socio-demographic factors, health insurance access, and health plan membership from California health survey data. HRA analyzed data from the 2003, 2005, and 2007 California Health Interview Survey (CHIS) to examine relationships between communication and health literacy variables and insurance and/or HMO status and type (e.g., commercial versus public HMOs).

Data from CHIS demonstrated significant relationships between communication and health literacy variables, even after controlling for self-reported English proficiency, education, and income. In addition, there were significant differences in both communication variables and health literacy variables by type of insurance (HMO, non-HMO, and uninsured) as well as by type of HMO (commercial versus public HMO). While limited English proficiency influences communication and health literacy across all types of insurance, there remains a strong relationship between one's type of insurance and health literacy (uninsured have lower health literacy than all others) and between one's HMO "type" (commercial versus public) and health literacy, with public HMO beneficiaries having lower literacy than commercial, but still better than uninsured individuals. In some cases, the relationships of other system inefficiencies such as delays in seeking care and not having a usual source of care vary by type of HMO (commercial versus public), suggesting that managed care does not fully remove the barriers to access that public HMO beneficiaries face, a finding supported by other studies. We believe the measurement of communication difficulty and health literacy is a useful way of examining differences in access to and efficient use of healthcare.

**Key Informant Interviews**

HRA completed 31 key informant (KI) interviews with professionals. The primary focus of the research was to identify areas where the limited health literacy of health plan members exacerbates inefficiencies in health plans. KIs were asked to identify the main system inefficiencies in health plans, the main problems in accessing care for health plan members with limited health literacy, and areas where inefficiencies and limited health literacy intersect. Key informants were also asked to suggest interventions to reduce inefficiencies in health plans by addressing the limited health literacy of their members.

Key informant interviews revealed many areas where experts believe that addressing health literacy issues could improve health plan efficiency. Interventions that key informants felt had the most potential to reduce health plan inefficiencies include reducing the literacy level of health plan written communication materials, providing in-person and telephone support for members, educating members about using the HMO system more efficiently and effectively, and making care more accessible. KIs also recommended ways to simplify the system, including giving more power to physicians and pharmacists to bypass authorization processes or at least streamlining the process.
Focus Groups with Health Plan Members
HRA conducted 12 focus groups with 114 commercial and Medi-Cal HMO members. The purpose of the focus groups was to elicit HMO members’ feedback regarding experiences navigating their HMO and their recommendations for making their HMO easier to use. HRA also tested participants to determine their literacy, numeracy and health literacy level.

Data from the focus groups revealed areas in which the health literacy of members and the complexity of the system impacted members’ ability to navigate the system. The main areas that focus group participants identified as particularly difficult to navigate and understand included understanding benefits, Evidence of Coverage, customer service telephone line, website/internet, written communication from the health plan, choosing a primary care provider/using the provider directory, authorizations, referrals and denials, and filing a grievance. Participants made suggestions for how health plans could simplify the process to make these areas easier for them to navigate or understand.

Usability Testing with Health Plan Members
HRA completed 20 usability tests with commercial and Medi-Cal HMO members. The primary focus of the usability tests was to gather in-depth information regarding various themes that emerged from the previous focus groups and key informant interviews. To accomplish this, we asked participants to review health plan written communication materials and answer questions that determined their knowledge of appropriate use of emergency room, health plan websites, nurse advice lines and their understanding of medical groups vs. health plans and of member rights and responsibilities.

Usability test interviews revealed that Medi-Cal and commercial participants have a keen interest in learning more about their health plan and how to use it most efficiently. However, there is also a disconnect between what health plans would like members to do in certain situations, what members know their health plans want them to do in these situations, and what actually happens when the situation occurs. Members did reveal that they are receptive to receiving information from their plan about a variety of topics and would like to get this via postal mail.

Advisory Group Meeting
After hearing the summary of the research, the advisory group recommended topics and formats for interventions that would simultaneously address the health literacy of members and improve the efficiency of health plans. The topics that the advisory group members recommended as areas where members with limited health literacy could use help navigating their plans included emergency department use, medication coverage/prescription drug formularies, how to use benefits, authorizations/denials/grievances, and using the provider directory. Based on the research presented at the meeting, they recommended addressing these topics via flowcharts, checklists, television, DVDs, automated voice system, and fact sheets.

HRA Recommended Intervention
As a result of the extensive research and feedback from the expert advisory group, HRA’s top recommendation is to create 4-6 health plan newsletter inserts, each covering one of the topics listed above, using flowcharts and checklists. These easy-to-read and –use inserts could be adapted and personalized by individual health plans; members would receive these inserts with their quarterly newsletters as assistance for navigating their health plan more efficiently.