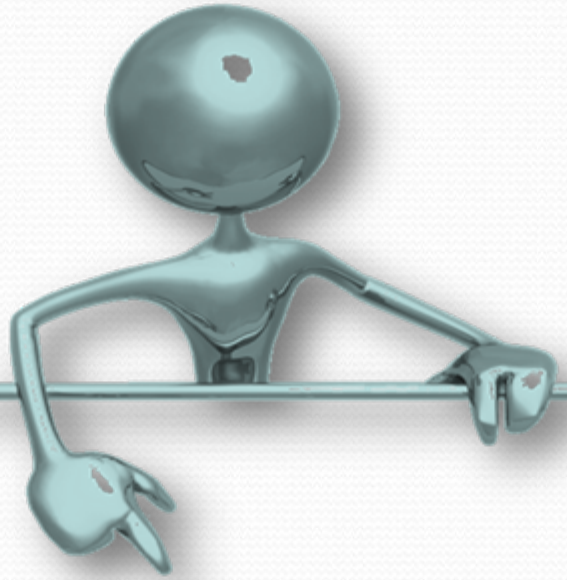
Low Income Energy Efficiency Program Process Evaluation

Jane Peters, Ph.D., Research Into Action
Kara Crohn, Ph.D., Research Into Action

research/into/action inc

Introduction & Overview



- Purpose of Process Evaluation
- Evaluation Approach
- LIEE Program Overview
- Key Findings
- Conclusions & Recommendations

Purpose of Process Evaluation

- Program logic
  - *Understand key mechanisms that make the program work – resources, activities, outputs, outcomes*
- Organizational structure
  - *Understand how roles, relationships, incentive structure influence how work is done*
- Program process
  - *Understand how program operates, critical steps, missing links, barriers*

How Programs Develop

10 years

2 to 5 years

Pilot Year

research/into/action

LIEE Process Evaluation Approach

research/into/action

Evaluation Objectives

- Document program processes and identify opportunities to improve the efficiency of program delivery and implementation
- Assess outreach approaches and recommend strategies for improving enrollment opportunities

Evaluation Methods

Data Source	Method	Number of Contacts	Dates
IOU Program staff	In-depth interview	8	10/08/10 to 11/15/10
PG&E Inspectors	Focus Group	5	11/23/10
Contractors: Managers	Interview	62	11/19/10 to 12/14/10
Contractors: Field & Office	Focus group	7	11/29/10
Contractors: Field & Inspectors	Ride-alongs	14	11/16/10 to 11/23/10
Participants	Survey	268	1/6/11 to 1/10/11
Non-participants	Survey	268	12/28/10 to 1/05/11

Evaluation Methods

Data Source	Method	Number of Contacts	Dates
IOU Program staff	In-depth interview	8	10/08/10 to 11/15/10
PG&E Inspectors	Focus Group	5	11/23/10
Contractors: Managers	Interview	62	11/19/10 to 12/14/10
Contractors: Field & Office	Focus group	7	11/29/10
Contractors: Field & Inspectors	Ride-alongs	14	11/16/10 to 11/23/10
Participants	Survey	268	1/6/11 to 1/10/11
Non-participants	Survey	268	12/28/10 to 1/05/11

Evaluation Methods

Data Source	Method	Number of Contacts	Dates
IOU Program staff	In-depth interview	8	10/08/10 to 11/15/10
PG&E Inspectors	Focus Group	5	11/23/10
Contractors: Managers	Interview	62	11/19/10 to 12/14/10
Contractors: Field & Office	Focus group	7	11/29/10
Contractors: Field & Inspectors	Ride-alongs	14	11/16/10 to 11/23/10
Participants	Survey	268	1/6/11 to 1/10/11
Non-participants	Survey	268	12/28/10 to 1/05/11

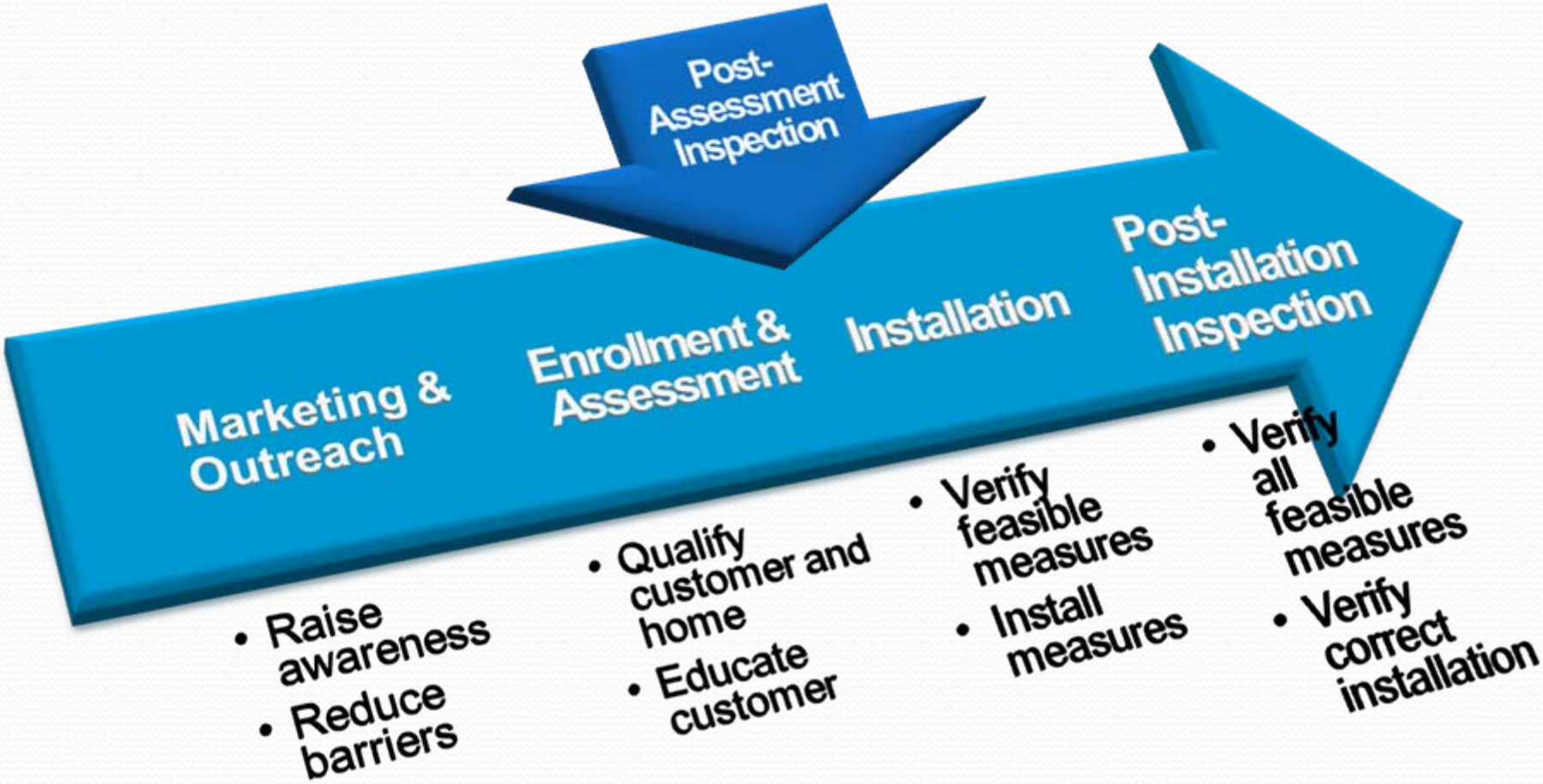
LIEE Program Overview

research/into/action

Program Overview

research/into/action

Program Overview



research/into/action

IOU Staff Roles

- Manage contracts and oversee process
- Address contractor questions, issues
- Track and monitor workflow
- Inspect quality of contractor work
- Develop outreach and marketing lists, campaigns

Number of Contractors by Role & Type

Role	CBO 31	For-Profit 66	All 97
Enrollment & Assessment	7 (multiple roles: 5)	14 (multiple roles: 10)	21 (multiple roles: 15)
Weatherization	27 (multiple roles: 6)	26 (multiple roles: 10)	53 (multiple roles: 16)
HVAC	3 (multiple roles: 2)	36 (multiple roles: 4)	39 (multiple roles: 6)
Appliance	0	6 (multiple roles: 6)	6 (multiple roles: 6)
Inspection	1 (multiple roles: 1)	3 (multiple roles: 3)	4 (multiple roles: 4)

research/into/action

Program Process Overview

MARKETING & OUTREACH

- List development
- Canvassing
- Email, mail
- Advertising

ENROLLMENT & ASSESSMENT

- Income qualify
- Home qualify
- Feasible measures
- Customer education

MEASURE INSTALLATION

- Feasible measures
- Installation & repair

POST-INSTALLATION INSPECTION

- All feasible measures
- Installation quality

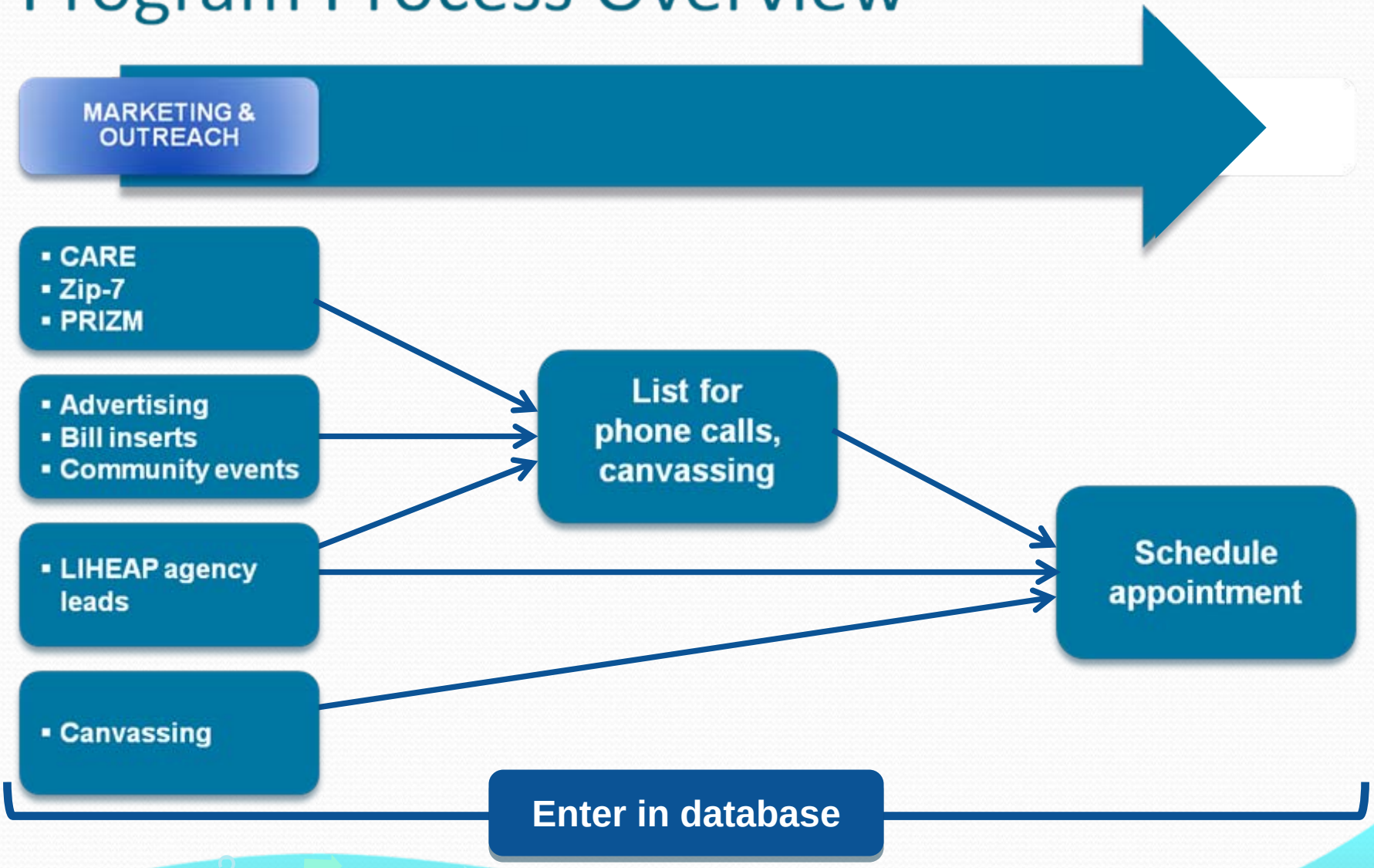
IOU database

IOU database

IOU database

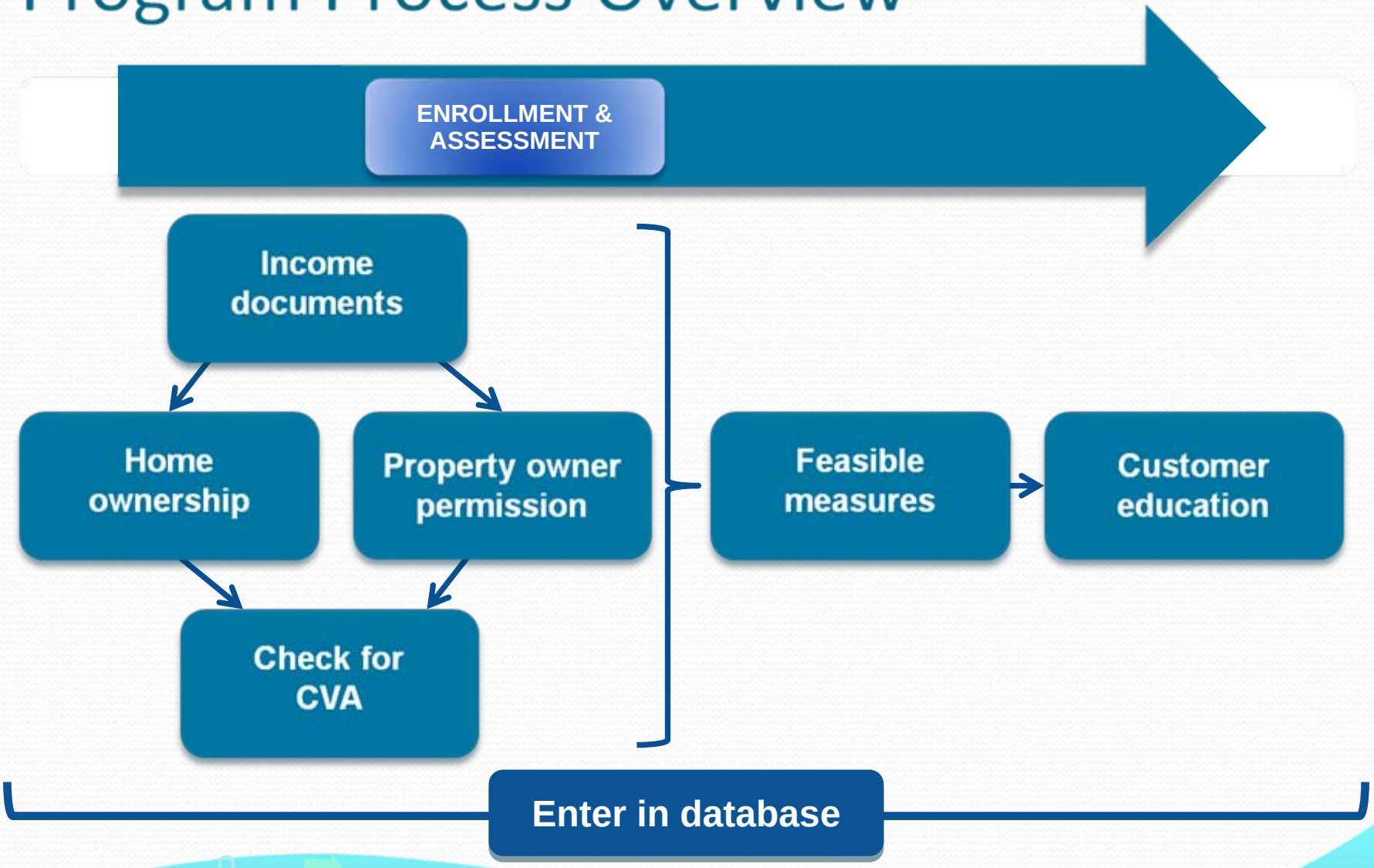
research/into/action

Program Process Overview



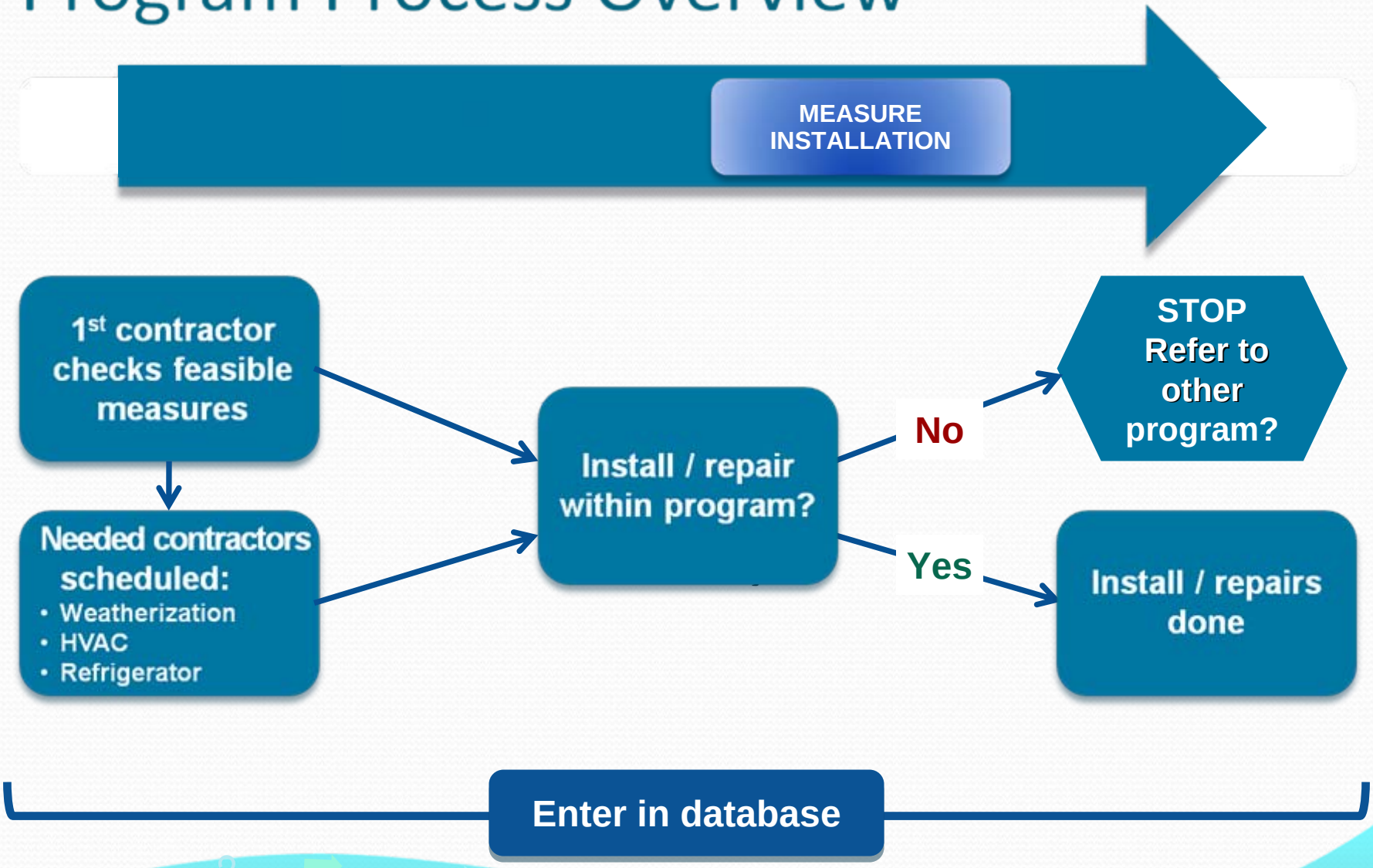
research/into/action

Program Process Overview



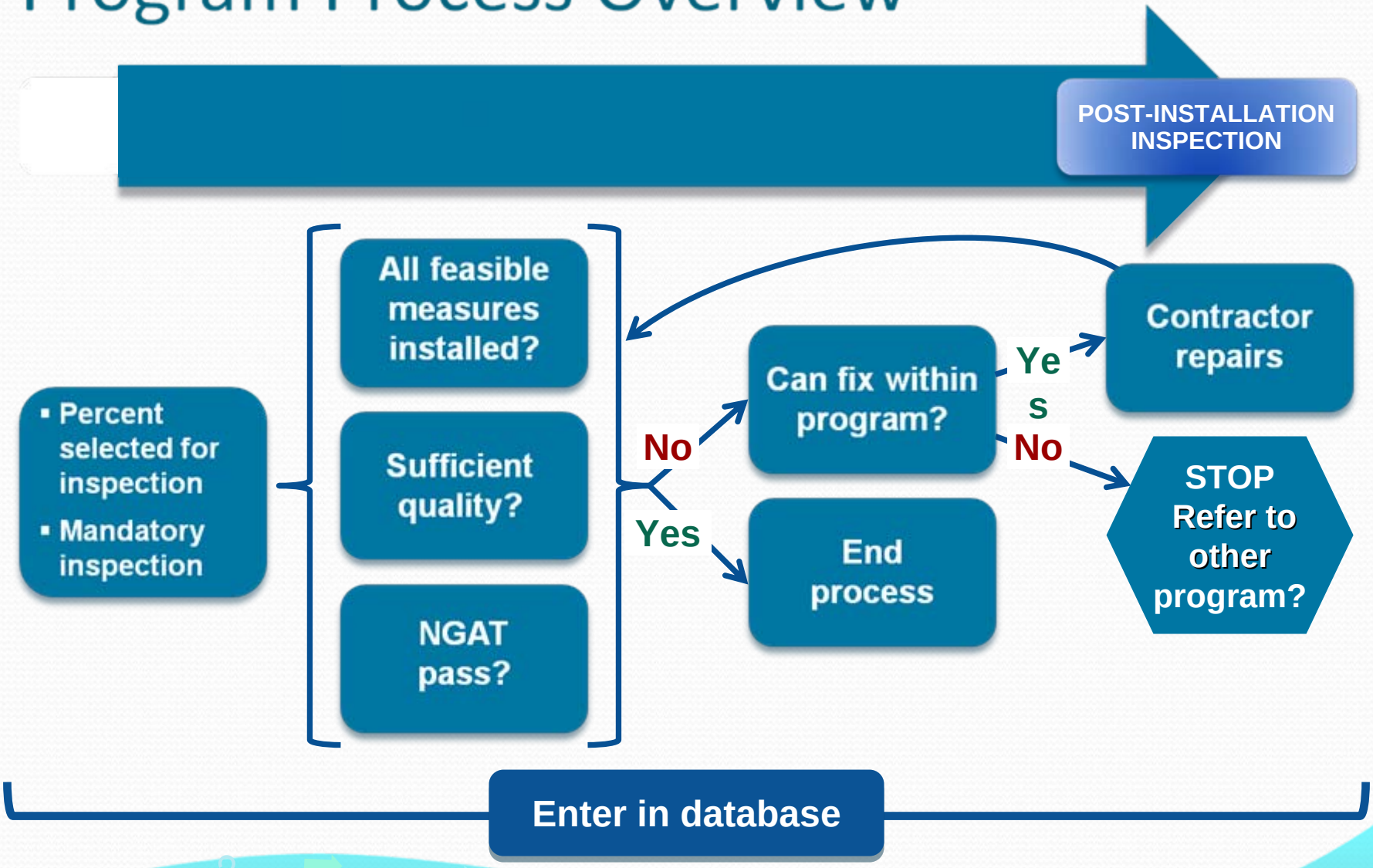
research/into/action

Program Process Overview



research/into/action

Program Process Overview



research/into/action

Key Findings

Findings: Marketing & Outreach

- Successful outreach approaches
  - *Mass marketing raises awareness; eases way for targeted, direct outreach*
  - *Automated outbound calling/messages are most cost-effective*
  - *Whole Neighborhood Approach (WNA) tactics helpful with large multifamily properties*
  - *Customers heard of LIEE by:*
    - Word-of-mouth (31%)
    - Bill insert (27%)
    - Canvassing (12%)
    - Phone call (11%)

Findings: Enrollment & Assessment

- Customer reasons for participation:
  - *Saving energy, reducing bill (69%)*
  - *Service was free (12%)*
  - *Have trouble paying utility bill (11%)*

Findings: Enrollment & Assessment

- IOUs and contractors note barriers:
  - *No autodial marketing to cell phone users*
  - *Property owners block willing renters*
  - *Customers lack income documentation*
    - 25% of ride-along observations
    - Self-certification limited
- Non-participants do not participate because:
  - *Unaware (24%)*
  - *Nothing to do or no need (29%)*
  - *Involves too much time (12%)*
  - *Property owner won't let me (10%)*

Findings: Customer Education

- Customer education may influence customer satisfaction; this deserves further study
  - *Significantly lower satisfaction with "energy-saving information" from SCE/SCG customers than SDG&E /PG&E customers*
  - *PG&E spends twice as much time on education as other IOUs and uses a wider range of approaches to deliver customer education, e.g.:*
    - "Walk the wall"
    - Discuss energy-savings tips
    - Show energy savings materials
    - Demonstrate energy wheel

Findings: Installation & Customer Education

- Customer satisfaction with installation contractor's service is good
  - *Careful when installing new items (95%)*
  - *Installers cleaned up after installation (91%)*

Findings: Installation & Customer Education

- Customer satisfaction with installation contractor's service is good
  - *Careful when installing new items (95%)*
  - *Installers cleaned up after installation (91%)*

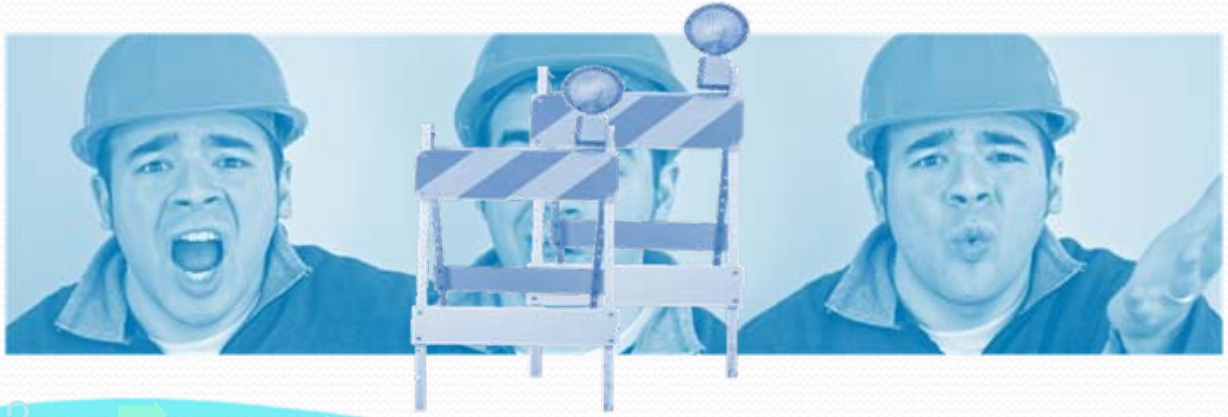
Interestingly…

- Installer's explanation of how to use the installed measures was rated significantly lower than other aspects of installation visit
  - *Explained how to use it/how it saves energy (85%)*

research/into/action

Key Findings: Installation & Inspection

- Contractor barriers to installation
  - *Rarely encounter issues (18%)*
  - *Combustion appliance problems (54%)*
    - Excludes SCE
    - Some gas repairs not funded by program
  - *Some minor repairs not reimbursable, yet needed to install infiltration measures*



Key Findings: Installation & Inspection

- Timing of inspection could ease appointment burden for installation contractor & customer
  - *SCE uses post-assessment checks (PACs) to ensure all feasible measures*
    - Helps E&A contractors identify issues for installers
  - *SDG&E coordinates NGAT inspection with installation to reduce delays in repair, infiltration measure installation*

Conclusions & Recommendations

C&R: Marketing & Outreach

- IOUs are preparing to focus on customers who are tougher to reach or convince
  - *Use customer testimonials*
    - Convince skeptical customers about ease and benefits
  - *Establish cell phone protocols*
    - Ask SDG&E for advice
    - Consider survey protocols
  - *Specific marketing to property owners*
    - Clarify property owner waiver form language
    - Describe benefits to property owner, not just tenant
    - Coordinate WNA-style events with owners of large multifamily buildings (ask SCE)

research/into/action

C&R: Enrollment

- Documentation becomes less cumbersome and more robust when shifting from paper to online, but there's still room for improvement. IOUs should:
  - *Determine cost-effective ways to use tablet PCs for in-home data entry, signatures, and digital photos of customer documents*
  - *Allow a more robust description of a customer's home to provide better insight into what the installation crew should bring*
  - *Create a single intake form and agree on the same proof of income requirements*

C&R: Assessment

- E&A contractors have an opportunity to better prepare installation contractors
  - *E&A contractors could better document special circumstances for the initial installation visit*
  - *IOUs could provide forms that allow for more robust descriptions (check boxes or comments fields) and allow E&A contractors to upload digital photos of the home*

C&R: Customer Education

- More time spent on customer education may positively influence customer satisfaction and energy savings
- Installation contractors and inspectors can reinforce energy-saving tips from the E&A visit
  - *IOUs should collaboratively investigate the effectiveness of various education approaches*
  - *Installation contractors' and inspectors' roles should include reinforcing energy savings practices, safe operation, and warranty process*

research/into/action

C&R: Installation

- Program limitations on installation and repair of gas appliances indicate that customers' health and safety could be compromised if they do not qualify for repair, replacement, or installation of new heating equipment and water heaters
  - *IOUs should investigate establishing discretionary funds or pursuing partnerships with other agencies to provide customers at risk of not having sufficient heat and hot water with stopgap or long-term equipment*
  - *Where contractors find a gas leak and repairs are beyond the LIEE program scope, the IOU should contact the landlord (for renters) or guide the homeowner to the IOU or federal programs aimed at treating these problems*

C&R: Inspection

- IOU staff find inspections helpful in maintaining quality. Possible improvements include use of Post-Assessment Checks (PACs) and coordinated visits to decrease the number of appointments
  - *SCE should share evolving best practices on using PACs to ensure pre-installation identification of all feasible measures & increase chance installation contractors have what they need for the first installation visit*
  - *If feasible, IOUs could consider having inspectors arrive while the installation contractors are at the customer's home or immediately after the install work is completed to reduce the number of visits*

research/into/action

Thank you!!

- APPRISE
  - *Jackie Berger*
- Abt-SRBI
  - *Carla Jackson*
- Research Into Action
  - *April Armstrong*
  - *Ned Harris*
  - *Jun Suzuki*
  - *Joe Van Clock*
  - *Nathaniel Albers*

Contacts

research/into/action inc

Riverside, CA Office:

Kara Crohn
Research Into Action, Inc.
951-255-3624
karac@researchintoaction.com
www.researchintoaction.com

Portland, OR Office:

Jane S. Peters
Research Into Action, Inc.
503-287-9136
janep@researchintoaction.com
www.researchintoaction.com