Sowing Seeds of Evaluation:
Measuring UC Master Gardener Program Public Benefit

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Welcome & Desired Outcomes

Participants will have:

• Understanding of the UC Master Gardener Program’s statewide outcome evaluation design, year one findings, and lessons learned.

• Understanding of feasibility for an ANR program to collect follow-up survey responses (3 months post event; 30%+ response rate)

• Examples of how behavior change outcomes can be communicated in relation to ANR condition changes

• Lessons learned from data collection and analysis that can be considered for other statewide and academic programs
Timing Was Right for UC MG

- Funders are more demanding of rigorous evaluation information
- Charge from senior leadership
- Improved program consistency statewide
- Developed more comprehensive monitoring system
- Developed consistent messaging and marketing
- Feed in and inform development of new national evaluation effort
Developing the MG Evaluation Plan

1. Statewide advisory committee & broader MG community
2. Key evaluation question
3. Logic model
4. Outcomes and indicators
5. Data collection plan, training & pilot
6. Dissemination plan and impact statements
Evaluation Question

• How does the public benefit from the MG volunteers’ work?

• What is Yours?
  type into the chat
Developed Logic Model to Focus Which Outcomes to Measure

Situation Statement: California has major environmental concerns, including water availability and decline in pollinator populations. Additionally, California must improve community wellbeing by addressing issues of food access and our lack of urban greenspaces. Sharing research-based information on home horticulture, UC Master Gardener (MG) volunteers empower the public to be more sustainable in their home landscape, more productive in their food garden, and more engaged in their community well-being.

- **Input**
  - MG Training Program (ongoing education/advanced training, train the trainer programs, mentoring, program meetings, conferences)
  - Public Educations: any project in which a MG is educating the public (usually more than once a year) on home horticulture topics, workshops, classes, seminars, demonstrations
  - MG Volunteer Advice: help desk/hotline, answering "helpline" emails or phone calls, plant and soil clinics, water walks, etc.
  - Booth displays: farmer's markets, county fairs, community events, home/garden show, etc.
  - Mass media: communications for external audience; flyers, newspaper articles, press releases, social media, blog posts, newsletters, direct mail, etc.

- **Activities**
  - # of MG volunteers trained
  - # of Californians reached; # of UCCE resources and materials distributed (e.g., Pest Notes)
  - # of collaborations; # of individual, local, county, state collaborators; # of people reached

- **Participation**
  - Demonstration gardens: MG volunteers building and serving as expert advisors in community gardens, including schools, public landscaping projects, more specifically, plant sales, open garden days, docent-guided tours, developing educational signage
  - Therapeutic horticulture opportunities: MG in jails, hospitals, adult day care, seniors centers, braille institute, etc.

- **Outputs**
  - Short-Term (Learning) Outcomes
    - Knowledge/skills gained in sustainable landscape and gardening
    - Knowledge/skills about green waste reduction
    - Knowledge/skills about right plant right place
    - Knowledge/skills about integrated pest management and invasive plants/pests/diseases
    - Knowledge/skills about water use efficiency
    - Knowledge/attitude on the importance of planting and maintaining diversity of native and nonnative plants that attract pollinators and are wildlife friendly
    - Knowledge/skills on food production (e.g., appropriate plant variety selection, soil health, plant nutrition, water, land management)
    - Knowledge/skills on harvesting and short-term storage of produce grown (e.g., when to pick)
    - Skills/attitudes related to therapeutic horticulture (e.g., communication, teamwork, improved mood)

- **Intended Outcomes - Impacts**
  - Delivery of quality public educational activities
  - Adoption of recommended green waste reduction practices
  - Use right-plant right-place considerations in decision-making
  - Adoption of integrated pest management practices
  - Adoption of integrated pest management practices
  - Adoption of improved landscape water conservation practices
  - Home gardens are pollinator-friendly
  - Home gardens and landscapes are built and maintained
  - Demonstration gardens are built and sustained

- **Budget**
  - MG Volunteers
  - MG Coordinators
  - CE Advisors
  - CE Specialists
  - AES Faculty
  - ANR Research

- **Facilities and equipment**

- **KEY**
  - Sustainable Landscaping
  - Food Gardening
  - Community Wellbeing
  - Overarching
  - MG Volunteer Training Program

- **Impacts**
  - Improved science literacy of MG volunteers and their clientele through quality education and outreach
  - Reduction of green waste
  - Early detection of invasive pests, plants, and diseases in ecosystems to help reduce the spread and distribution
  - Reduction of spread and distribution of endemic pests
  - Improved water quality
  - Improved water conservation
  - Increased acreage of pollinator habitat
  - Improved human nutrition
  - Improved individual emotional and physical health
  - Improved community health and well-being and increased sense of community (e.g., meet new people and understand new cultures)
Overarching Outcomes

- Community and school gardens are built and sustained
- Home gardens and landscapes are built and maintained
School or Community Gardens

where new or improved practices were applied
Sustainable Landscaping Outcomes

- Create and enhance pollinator-friendly gardens
- Use recommended green waste reduction practices
- Adopt pest management practices
- Adopt improved landscape water use efficiency practices
- Use right-plant right-place considerations in decision-making
Pollinator Habitat

where new or improved practices were applied
Pollinator-Friendly Gardens
(n = 424)
Participants reporting behavior change in...

- Creating nesting habitats: 35%
- Providing water sources for pollinators: 51%
- Using plants that attract and support pollinators: 70%
Green Waste

(n = 391)

Participants reporting behavior change in...

- Using finished compost as soil amendment: 46%
- Using city-provided green waste bins: 44%
- Grass cycling: 26%
- Worm composting: 21%
- Bin composting: 42%
Water Conservation

(n = 587)

Participants reporting behavior change in...

- Reducing turf area: 28%
- Sprinkler system: 38%
- Drip irrigation system: 54%
- Selecting low water-use plants: 67%
- Irrigation controller: 37%
- Using reclaimed, gray, or captured rain water: 20%
- Using mulch: 62%
Participants reporting behavior change in...

- Monitoring for any insects, weeds, or diseases: 69%
- Following pesticide label instructions: 51%
- Removing or not introducing invasive plants: 54%
- Reducing pesticide applications: 55%
Right Plant Right Place
(n = 719)
Participants reporting behavior change in...

- Selecting plants for size, sun needs, water needs, maintenance level

68%
Food Gardening Outcome

- Grow food more successfully
Food Gardens

where new or improved practices were applied
Food Gardening  
(n = 841)  
Participants reporting behavior change in...

- Expanding varieties of edible plants: 56%
- Donating produce to community programs: 13%
- Reducing food loss: 45%
- Growing edible plants: 68%
Community Well-Being Outcome

- Improve quality of life
Spending More Time Gardening
(n=1142)
Participants reporting behavior change in...

Spend more time gardening or outdoors

71%
Evaluation Process – Statewide Follow Up Survey
# Roles and Responsibilities

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<thead>
<tr>
<th>Who</th>
<th>What</th>
<th>When</th>
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<tbody>
<tr>
<td>MG Volunteers</td>
<td>Collect names and emails of public education event participants</td>
<td>At each event</td>
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<tr>
<td>MG Volunteers</td>
<td>Complete and submit excel template</td>
<td>After event</td>
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<tr>
<td>Evaluation Coordinator</td>
<td>Distribute Qualtrics surveys to participants 3 months after event</td>
<td>Ongoing</td>
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<tr>
<td>Evaluation Coordinator</td>
<td>Compile, analyze, and distribute county and statewide data</td>
<td>Monthly/Quarterly</td>
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<tr>
<td>Statewide Office</td>
<td>Revise annual impact statements and produce annual report</td>
<td>Annually</td>
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Year 1 Participation

- 60% Counties have begun evaluation process (n=31)
- 1,505 survey participants
- 36% Response rate
Using the Data to Tell Your Local Story

• Share with partners, donors, County Board of Supervisors
• Share with volunteers
• Create and distribute public value statements
• Repurpose public value statements into social media pieces, blogs, newsletter articles, newspaper articles, etc.
Our public demonstration gardens (*Garden of the Sun* and *Three Sisters Garden*) offered 35 on-site workshops to 700 local residents in attendance.

As a result of these workshops:

– 65% of survey respondents started/improved monitoring for insects, weeds, or diseases
– 60% reported selecting lower water-using plants
– 90% reported spending more time gardening or outdoors
Growing Gardens Improves Community Health and Wellness

Issue
As a society, we are more and more disconnected from nature given our increasingly urban-oriented lifestyles. In 2010, 95% of Californians lived in urban areas, according to the Decennial Census. Research has demonstrated that our health and wellness suffers, including high levels of stress and anxiety, when we do not have the opportunity to interact plants and nature.

What the UC Master Gardener Program has Done?
Through public education, the UC Master Garden program shows people where they can find and enjoy gardens in their communities, and how they can bring plants into their own home environment perhaps with houseplants, container herb garden on a patio, or vertical gardening. In over 50 counties, 6,087 UC Master Gardener volunteers have offered over 446,000 volunteer hours to help the public learn the knowledge and skills to sustainably grow home, community, and school gardens.

Outcomes/Impact
Members of the public working with UC Master Gardener volunteers have helped build and sustain a total 2,867,571 sq. feet (65.8 acres) of garden green space statewide, as reported in an online survey conducted in 2018. A 2016 nationwide study found that living near greenery may help you live longer. It is believed that four factors in these greener areas account for the extended lifespan: less air pollution, more physical activity, more social engagement, and most significantly better mental health as measured by a lower prevalence of depression. In addition, 71% of participants (812) reported spending more time gardening or outdoors. Other behavior research showed that flowers have an immediate impact on happiness, a long-term positive effect on mood, and contribute to more intimate connections between individuals. Through ornamental and edible horticulture learning experiences, the UC Master Gardener program connects the public to gardens, reconnecting them to nature, and increases green space -- contributing to improved community health and well-being.
Lessons Learned

• It can be done!
• Group effort with volunteers, coordinators, academics, etc.
• Input during planning phases, pilot with 5 counties all helped improve the process
• FTE at SWP level
• Show value to participants as soon as possible
Evaluating with Help from Your ANR Community

• Consultation and training/resources from Program Planning & Evaluation
• Connect with evaluators in the ANR network, such as CE Evaluation Specialist
• UC MG sounding board
• Integrate with other statewide programs’ evaluation efforts
Questions
Additional Information about MG Outcomes Evaluation

• Link to interactive maps --
  http://ucanr.maps.arcgis.com/apps/webappviewer/index.html?id=31c01857eee349eea29bea9a3d5d3bcd

• Annual report with findings coming soon!