

From Analysis to Action: Advancing Maternal Health In California

Presenters:

Shabbir Ahmad, DVM, MS, PhD

Karen Ramstrom, DO, MSPH

Connie Mitchell, MD, MPH



MCAH Maternal Health Team

Shabbir Ahmad, DVM, MS, PhD

Michael Curtis, PhD

Chris Krawczyk, PhD

Elizabeth Lawton, MHS

Kiko Malin, MPH

Connie Mitchell, MD, MPH

Karen Ramstrom, DO, MSPH

Leona Shields, RN

Zhiwei Yu, MPH



Outline of Presentation

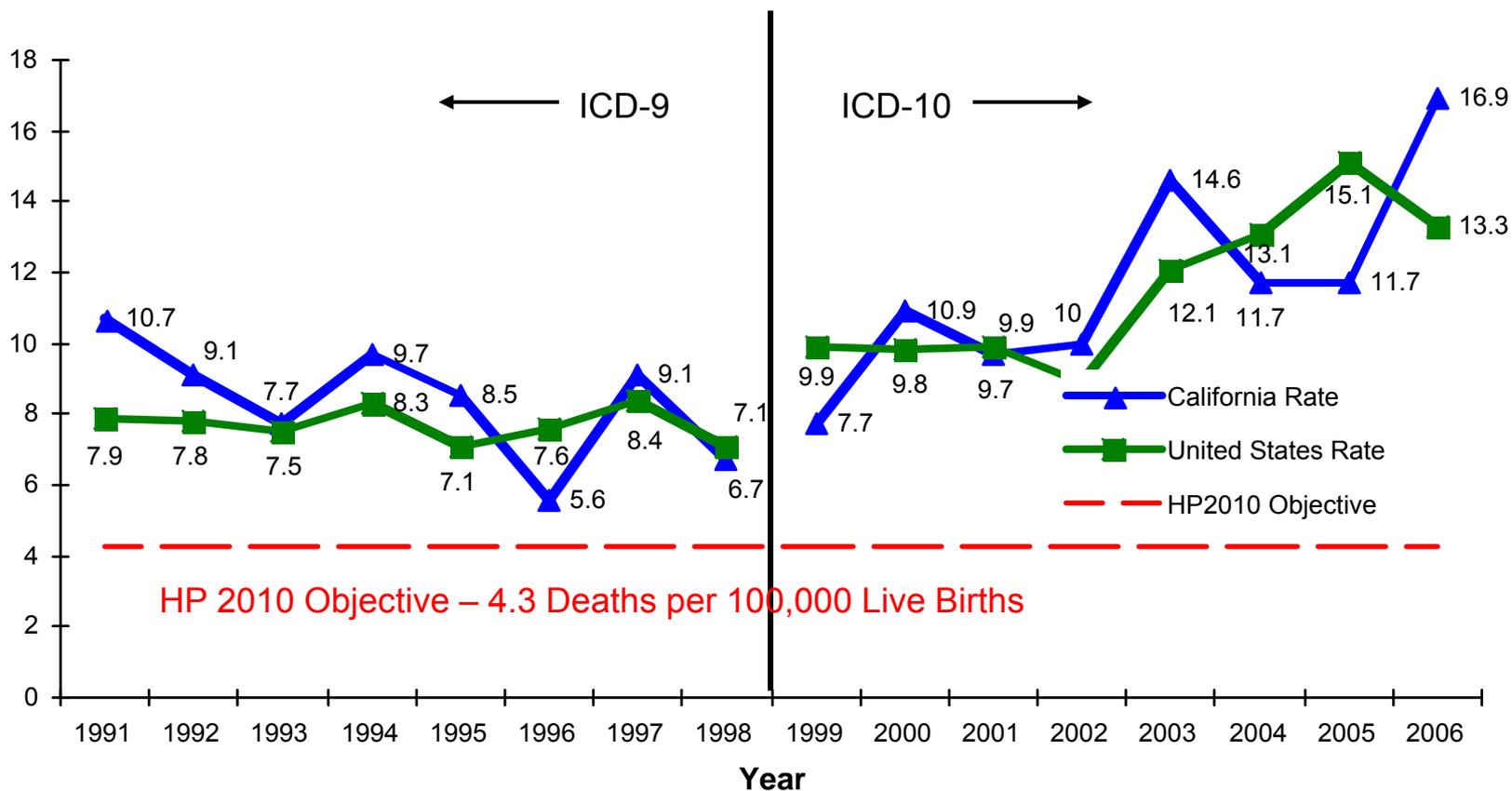
This is a story about
why California needed a framework;
how the framework was conceptualized and
how it evolved to become a very functional tool.

Why did MCAH need a framework for improving maternal health?

Shabbir Ahmad, DVM, MS, PhD



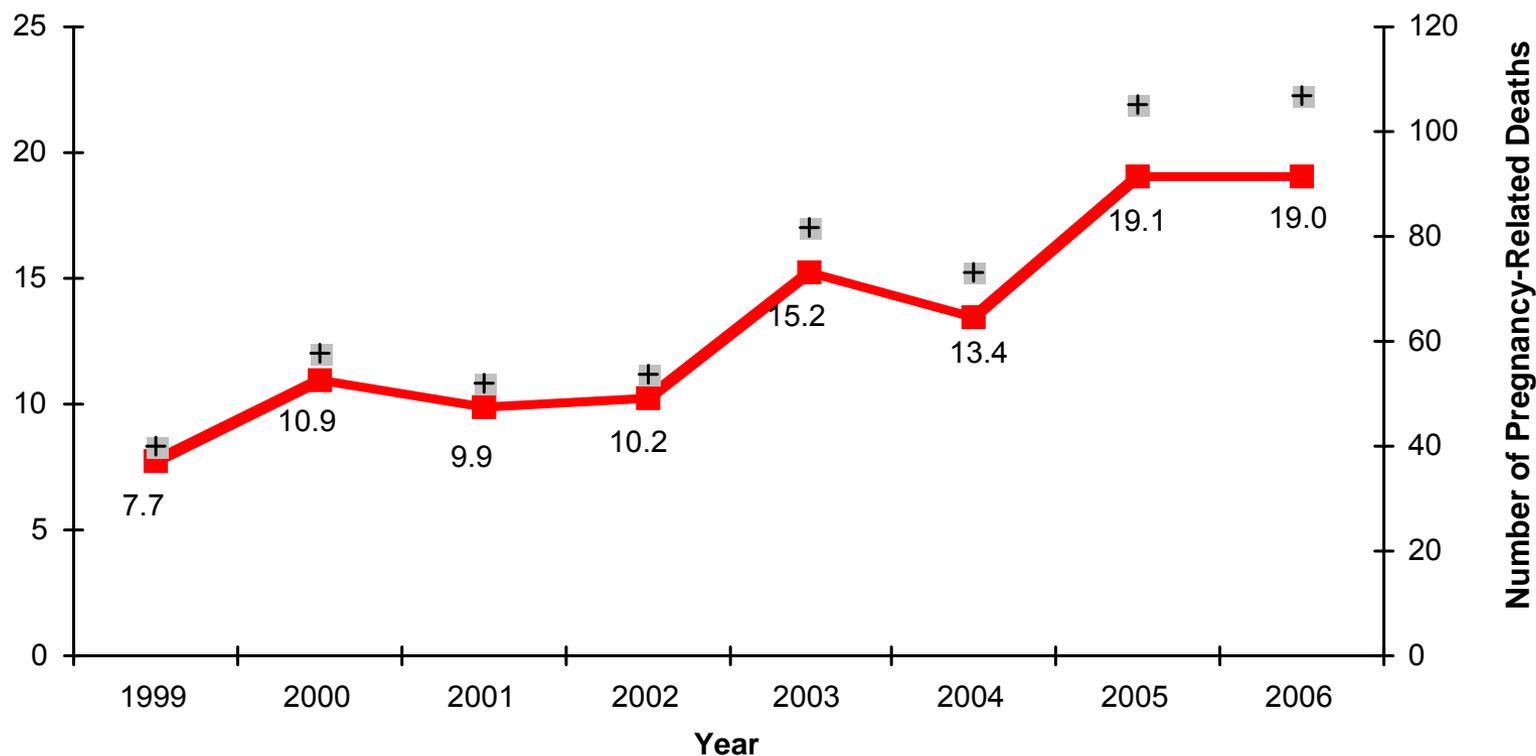
Maternal Mortality Rate, California and United States; 1991-2006



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1991-2006. Maternal mortality for California (deaths \leq 42 days postpartum) calculated using ICD-9 cause of death classification (codes 630-638, 640-648, 650-676) for 1991-1998 and ICD-10 cause of death classification (codes A34, O00-O95, O98-O99) for 1999-2006. United States data and HP2010 Objective were calculated using the same methods. The break in the trend line represents the change from ICD-9 to ICD-10. Produced by California Department of Public Health, Maternal, Child and Adolescent Health Program, July 2009.



Pregnancy-Related Mortality Rate, California Residents; 1999-2006

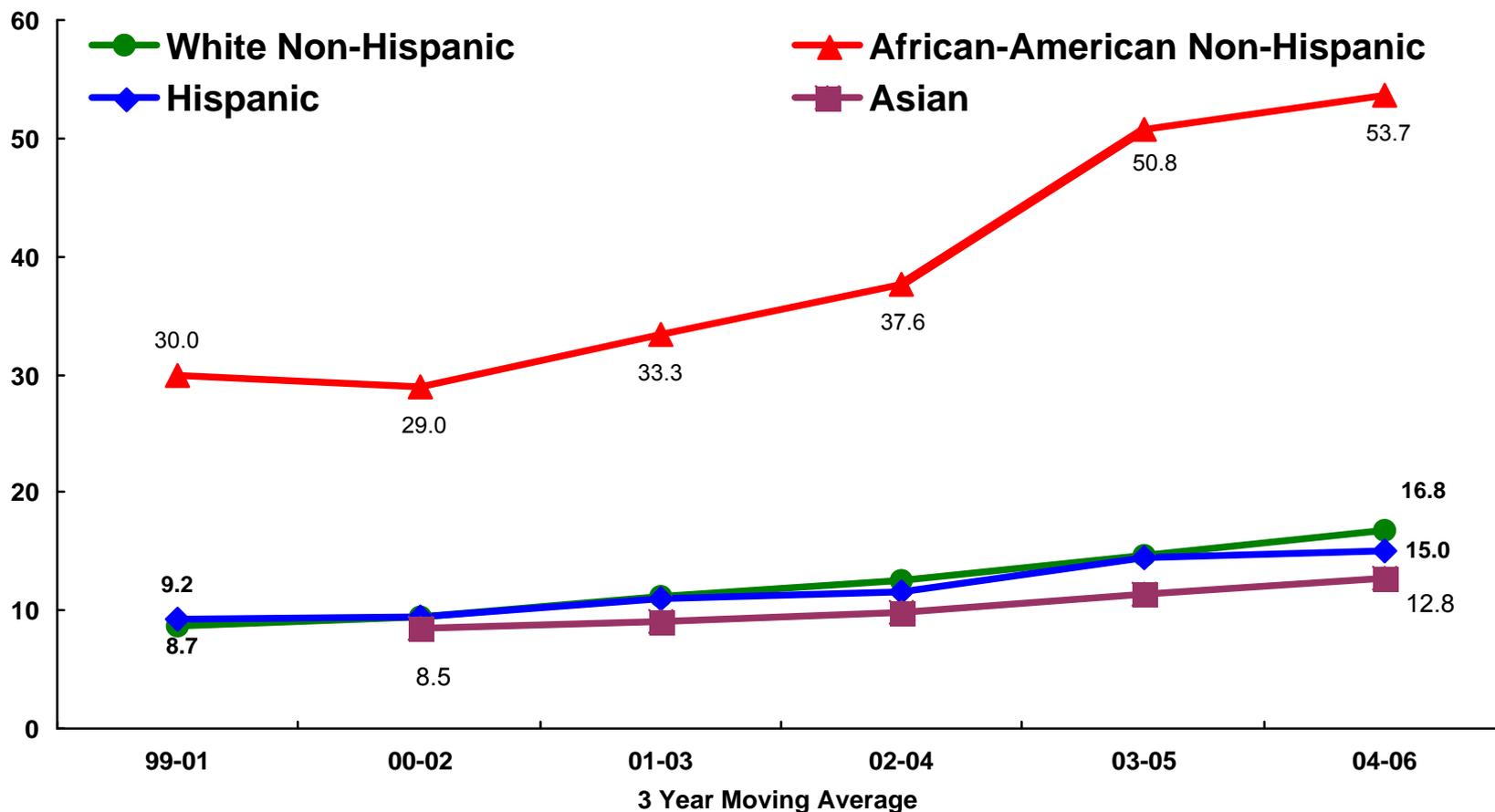


SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2006. Pregnancy-related mortality for California (deaths from obstetric causes one year postpartum) calculated for 1999-2006 using the ICD-10 cause of death classification (codes A34, O00-O96, O98-O99).

Produced by California Department of Public Health, Maternal, Child and Adolescent Health Program, July 2009.



Pregnancy-Related Mortality Rates by Race/Ethnicity, California Residents; 1999-2006



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2006. Pregnancy-related mortality for California calculated beginning 1999 using ICD-10 cause of death codes A34, O00-O96, O98-O99. Maternal single race code used 1990-1999; multirace code used beginning 2000. Rates were not calculated if there were less than ten deaths for the specified period. Produced by California Department of Public Health, Maternal, Child and Adolescent Health Program, July 2009.

What initial steps have already been taken in California?



New Program Development to Address Rising Rates of Maternal Mortality

- California Pregnancy-Associated Mortality Review
 - Enhanced surveillance and fatality case review
- California Maternal Quality Care Collaborative
 - Obstetrical Hemorrhage Toolkit
 - Toolkit to End Elective Deliveries prior to 39 Weeks
- Maternal Quality Indicator work group
 - Maternal morbidity data analysis
- Local Assistance for Maternal Health
- Preconception Care
- Revitalized Black Infant Health Program

What more could we do to improve
maternal health?

Karen Ramstrom, DO, MSPH



First, there were things we didn't know that informed our process...

- What gaps did we have in current program efforts?
- How effective were current programs?
- Was there an existing conceptual framework to guide us to think more comprehensively about maternal health?

So we resolved to create
a conceptual framework to guide us.



Step 1: Identify guiding theoretical constructs for framework

A Maternal Health Discussion Group was convened and identified 3 guiding constructs:

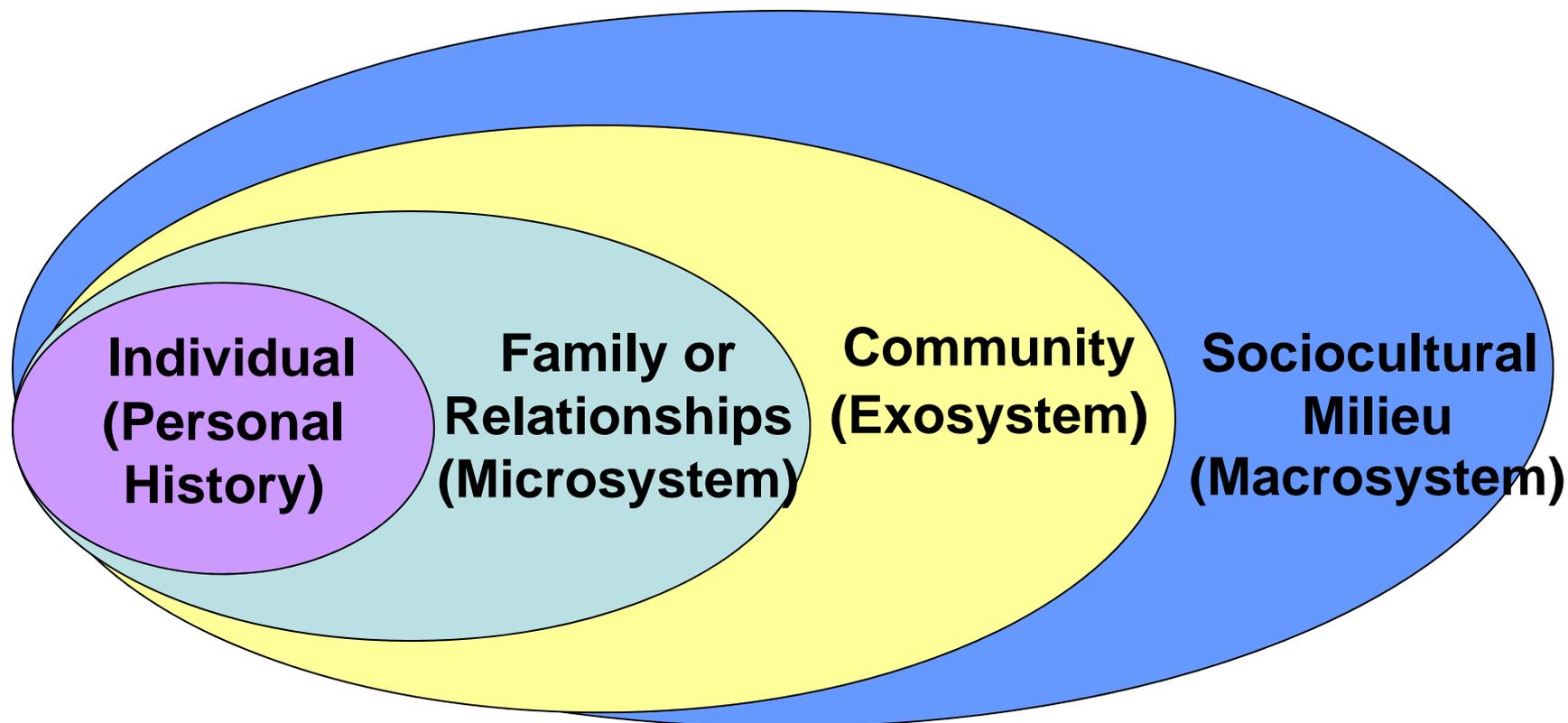
- Focus on **public health prevention**
- Organized around the **social ecology model**
- Incorporating the **life course perspective**



Public Health Prevention

- Primary: action taken so that the disease or **harmful event never occurs**
- Secondary: action taken so that the disease or harmful event occurs, it is detected early and **harm arrested**.
- Tertiary: action taken so that if the disease or harmful event occurs, it can be **stabilized, rehabilitated and overall impact minimized**.

Social Ecology Model

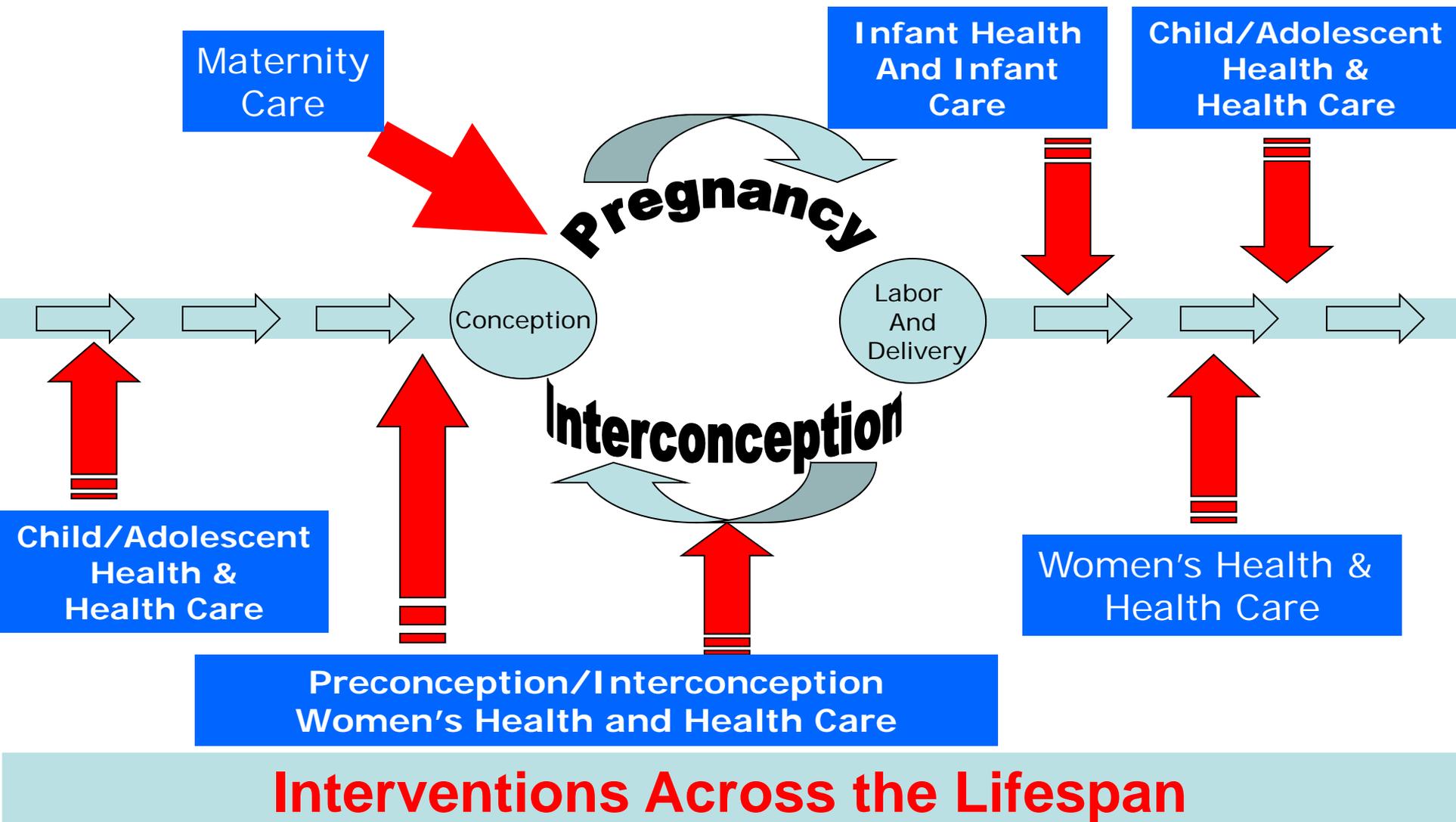




Maternal Health Framework I: linking two constructs

| Prevention | Primary | Secondary | Tertiary |
|--------------------------|---------|-----------|----------|
| Soc Ecology | | | |
| Individual | | | |
| Family/ Relationships | | | |
| Community | | | |
| Sociocultural Milieu | | | |

Women's Reproductive Health: A Life Course Approach





Maternal Health Framework II: linking three constructs

| Prevention +Life Course Social Ecology Model | I. Maximize health prior to pregnancy | II. Maintain health during pregnancy | III. Address health issues that arise in pregnancy |
|---|---|--|---|
| A. Individual | | | |
| B. Family/ Support Sys | | | |
| C. Community | | | |
| D. Social Milieu | | | |



Maternal Health Framework III– How did MCAH programs fit the framework?

| Prevention Soc Ecology | Maximize health prior to pregnancy | Maintain health during pregnancy | Address health issues that arise in pregnancy |
|---------------------------|------------------------------------|----------------------------------|---|
| Individual | Preconception Care | BIH | MQI |
| Family/ Support Sys | | | |
| Community | | LAMH | CA-PAMR CMQCC |
| Social Milieu | | | |

But this didn't give us enough direction to guide new program development so we converted framework from a program focus to a contributing factors focus.

Connie Mitchell, MD, MPH



Step 2: Use framework to organize contributing factors for maternal health

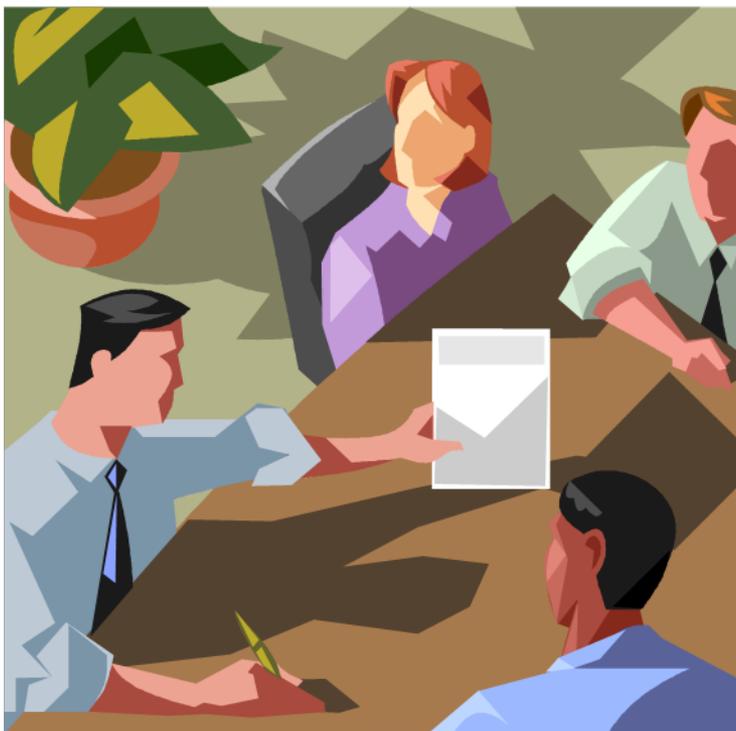
- Literature review to identify factors
- Reviewed and revised by internal and external stakeholders
- Well received as a suitable and workable framework for maternal health



Maternal Health Framework IV : Contributing factors for maternal health

| Prevention + Life Course Ecology Social Model | Maximize health prior to pregnancy | Maintain health during pregnancy | Address health issues that arise in pregnancy |
|--|---|--|--|
| Individual | Basic health literacy Non-smoker | Appropriate wt gain | Self Care for GDM |
| Family/ Support Sys | Has a primary support person Safe home | Birthing and parenting classes | Bereavement support if needed |
| Community | Access to fresh fruits and vegs School based sex & relationship ed | Access to prenatal care & education Occupational safety standards in preg | OB emergency drills and protocols OB QI efforts |
| Social Milieu | Access to family planning services Low levels of poverty | Legal protections for maternity leave | Regs to support regionalized levels of maternity care State PAMR review |

Group Exercise



- What other contributing factors would you add?
- Think about this
- Can write your ideas on your blank grid
- Share back to group



Maternal Health Framework: Examples of contributing factors for maternal health

| Prevention + Life Course Social Ecology Model | I. Maximize health prior to pregnancy | II. Maintain health during pregnancy | III. Address health issues that arise in pregnancy |
|--|---------------------------------------|--------------------------------------|--|
| A. Individual | | | |
| B. Family/ Support Sys | | | |
| C. Community | | | |
| D. Social Milieu | | | |

Could contributing factors be linked to programs and could programs be linked to outcome measures?

From a conceptual framework to a functional framework



Moving from a conceptual framework to a functional framework

| Contributing Factors (CF) for Maternal Health | Programs or Policy to address CF | How progress measured? |
|---|----------------------------------|------------------------|
| | | |



Step 3: Linking contributing factors to programs to outcomes

Scavenger hunt to look for:

- Program or policies in MCAH or elsewhere in CDPH that addressed each contributing factor
- How would we know if the program was working?



Maternal Health Framework: Examples of contributing factors for maternal health

| Prevention + Life Course Social Ecology Model | Maximize health prior to pregnancy | Maintain health during pregnancy | Address health issues that arise in pregnancy |
|--|--|--|--|
| Individual | Basic repro. health literacy Self Perception of health as good or excellent | Appropriate wt gain | Self Care for GDM |
| Family/ Support Sys | Has a primary support person Safe home | Birthing and parenting classes | Bereavement support if needed |
| Community | Access to fresh fruits and vegs School based sex & relationship ed | Access to prenatal care & education Occupational safety standards in preg | OB emergency drills and protocols OB QI efforts |
| Social Milieu | Access to family planning services Low levels of poverty | Legal protections for maternity leave | Regs to support regionalized levels of maternity care State PAMR review |



Moving from a conceptual framework to a functional framework – with examples

| Contributing Factors (CF) for Maternal Health | Programs or Policy to address CF | How progress measured? |
|---|--|---|
| Basic reproductive health literacy | Department of Education required sex education curriculum for K-12 Family Resource Centers | Required to pass for graduation? ? |
| Self perception of health is good/excellent | Black Infant Health promotes empowerment and self-efficacy through reproductive health knowledge | BIH program measures; CWHS and CHIS have questions on this |

Handouts



- Conceptual Framework – blank
- Conceptual Framework with Contributing Factors
- Functional framework with applications in 3 cells

CONCEPTUAL FRAMEWORK

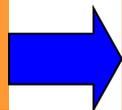
Prevention Focus

Social Ecology Model

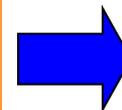
Life Course Perspective

MATERNAL HEALTH FRAMEWORK

Contributing factors for
maternal health



MCAH
Programs/Policies



Outcome Measures
and Evaluation

FUNCTIONAL FRAMEWORK

...any questions or comments?



Results/Conclusions

- A framework for maternal health identified gaps in programs and outcome analysis
- The framework provided a useful tool for MCAH program and policy development
- The framework was a visual tool to for understanding the connectivity and relatedness of programmatic efforts
- The framework has been well received by external partners