

Audience Segmentation, Selection and Analysis

Part One

Overview, Theory, and Methods



Segmentation Strategies

- **Commercial Marketing & Communication**
 - **Cosmetics - Estee Lauder vs. Clinique**
 - **Cars - Mustang vs. Sebring convertibles**
 - **Computers - IBM vs. Apple**
- **Social Marketing and Communication**
 - **STD prevention and SoC (Maibach and Parrott, 1995)**
 - **Charitable giving (Kotler & Andreasen, p.186, 1991)**
 - **Mammography promotion (ACS, 1995)**



Benefits of segmentation

- more effective use of public dollars
 - 25% of 50% is better than 5% of 100%
- can leverage “easier change” audiences to increase social norms
- increases culturally sensitive approaches
- attractive to partners with audience focus
- allows a way to share work with partners
- consistent with CDC’s data driven culture



Definition of audience segments

"...segments must be definable, mutually exclusive, measurable, accessible, pertinent to an organization's mission, reachable with communication in an affordable way, and large enough to be substantial and service economically." (Grunig, 1989, p. 209).



Why segment ? People Differ!

- **in health knowledge, motivations, beliefs**
- **in access to behaviors and social norms**
- **in life path points, media habits, cultural values**
- **in non-health motivations, beliefs, and traits**
- **communication is filtered through these differences**



Why we have not fully embraced segmentation . . .

- **Poor availability of data for segmenting**
- **Concerns about leaving “segments” out**
- **Lack of understanding and skills**
- **Concerns about resources to develop several “targeted” programs**
- **Lack of awareness-segmentation adds value**
- **Concern about “different programs may encourage competitive messages”**
- **Concerns about reliability & validity of databases**

When to segment in the planning process ?

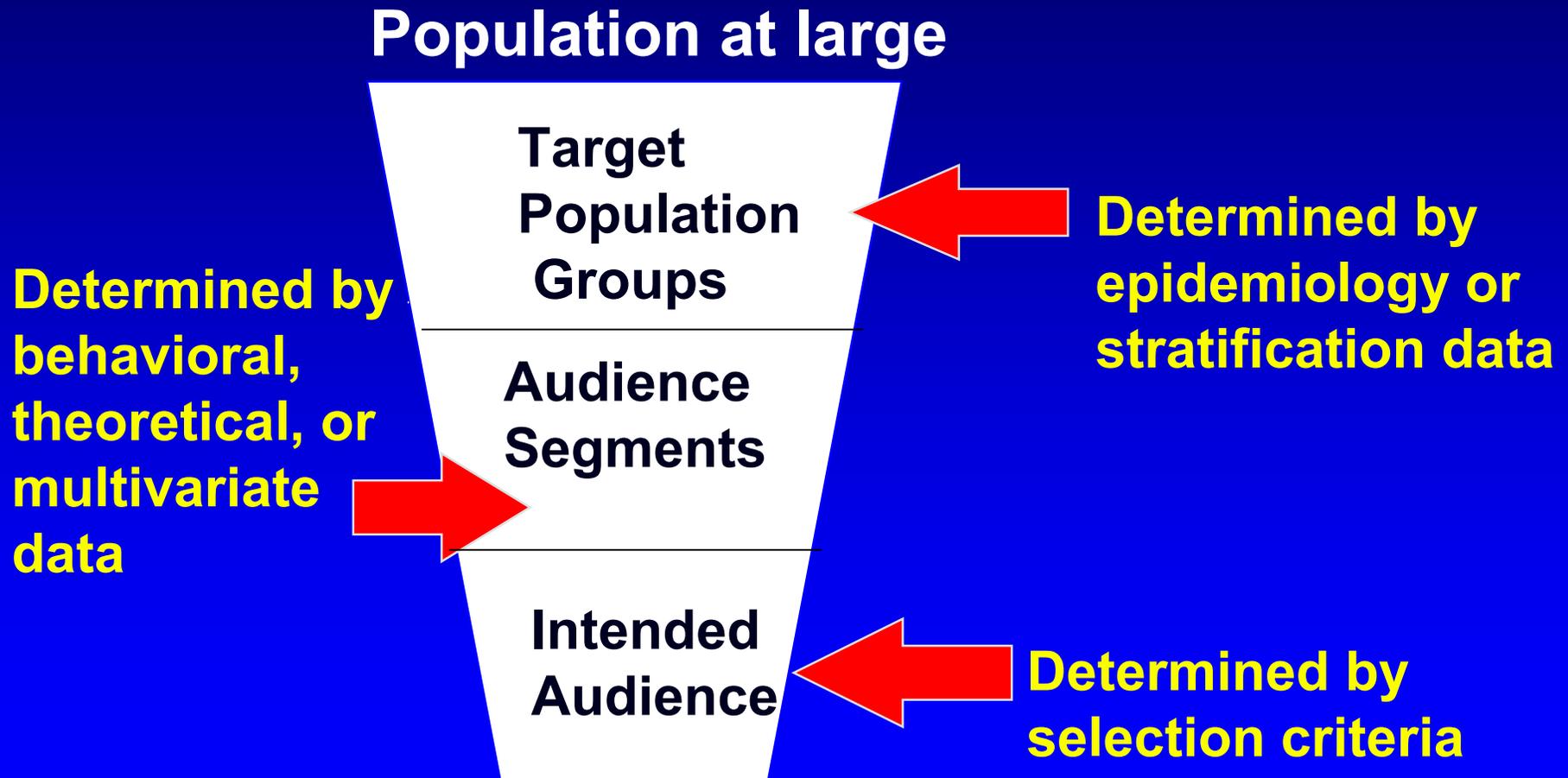


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- ▶ **Module 6** FEEDBACK



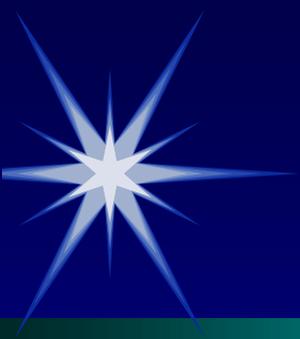
Segmentation in a picture





How to Segment . . . *GROUP*

- **Gather relevant data that helps make decisions about how to divide a population into smaller more meaningful groups**
- **Restructure population into audience segments based on the data**
- **Outline criteria to help select and prioritize audience segments**
- **Use selection criteria to select and prioritize audience segments**
- **Profile the selected segments, paying special attention to communication mix factors**



Gathering relevant data

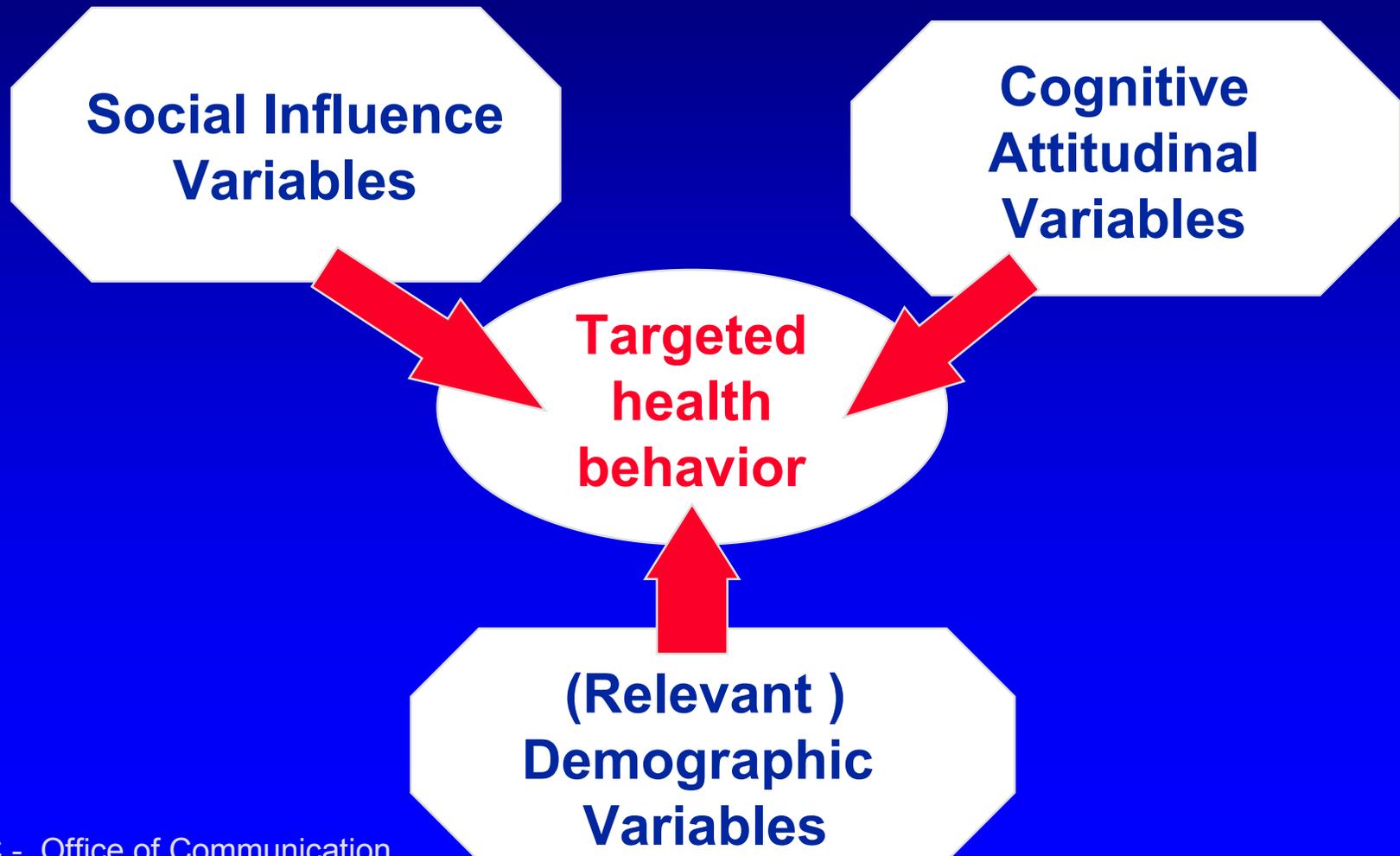
**What data should I collect and how
should I organize it for the “R” step**



Relevant Data for Audience Segmentation

- **What data?**
 - **Epi and behavioral science can help make decisions**
 - **Knowledge, beliefs, attitudes, social norms, skills, and self-efficacy are some variables that predict behaviors of interest**
 - **Demographics, geography**
 - **Media use is seldom a good segmentation variable**
 - **unless you have access to a specific media channel**
- **How to organize?**
 - **Homogeneity within groups and heterogeneity between groups**

Behavioral determinant model





Warning! Warning!

Focus groups and segmentation

- **Focus groups**
 - **not appropriate method for segmenting audiences**
 - **ideally suited to in-depth understanding of segments once identified, and for testing messages intended for those segments**
- **Segments are ideal as basis for recruiting focus group participants**



Restructuring a population into smaller more homogeneous and meaningful (to your program) audience segments

How do I group people together from the data that I have?



Segmentation Schemes or Ways to Restructure

Mass audience

Demographics

Geodemographics

Single construct

Behavioral

**Psycho -
Behavioral**

Multivariate

Restructure population into more but smaller groups

Segment A = 100
is just fun



Segment B = 400
reduces stress



Population = 1000
that exercise regularly



Segment C = 500
controls weight



Segment D = 50
good for my heart





Demographic Segmentation

- **PROs**

- **Most common, obvious, easy, cheap**
- **demographics predict media consumption**

- **CONs**

- **demographics rarely predict behaviors or motivators of behavior**
- **often misleading, stereotyping, and insensitive**

Example

Low-income or women or young people



Geodemographic Segmentation

- **PROs**

- **Excellent for locational decisions or for direct mailings**
- **Cost-effective data**

- **CONs**

- **demographics rarely predict behaviors or motivators of behavior**
- **often misleading, stereotyping, and insensitive**

Example

Rural Hispanic population



Single theoretical construct

- **PROs**

- **Theory or behavior-specific models are important to public health planning**
- **Effective if selected variable has high explanatory value**

- **CONs**

- **Impoverished in comparison to cross-theoretical approaches**
- **Not prescriptive, only diagnostic**

Example

Low self-efficacy or poor access to exercise



Behavioral segmentation

- **PROs**

- **Behavior based planning is well accepted in public health planning**
- **Easy segmentation to explain to public, congress and partners**
- **Separates out those who are doing from not doing**

- **CONs**

- **Impoverished in comparison to cross-theoretical approaches**
- **Only diagnostic**
- **Not prescriptive**

Example

Smoking or Mammography use status



Psychobehavioral segmentation

Behavior + determinants of behavior

• PROs

- **Best for diagnosis and prescription**
- **Scientifically sound; predictive**
- **May help limit the number of UNIQUE programs you need to offer**

• CONs

- **Difficult and costly data collection**
- **Hard to explain to partners**
- **May increase # of media channels you must reach**

Example

American Healthstyles; Stages of Change



Multivariate Segmentation

Multiple types of variables, not necessarily behavior

- **PROs**

- **Uses an acceptable empirical process**
- **Most scientifically pure of all methods**
- **May be diagnostic**

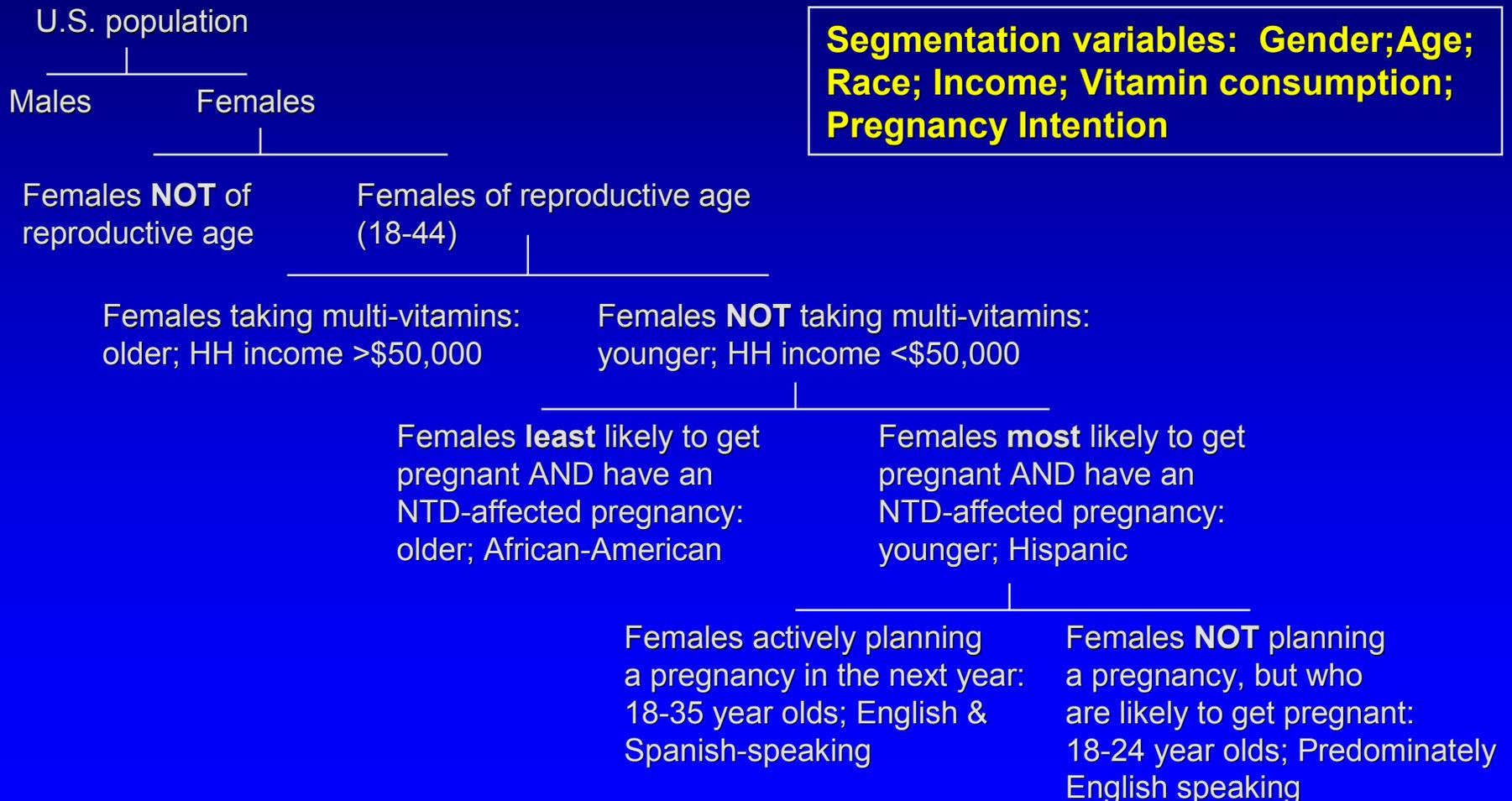
- **CONs**

- **Difficult and costly to collect**
- **Unlikely to be prescriptive**
- **Theoretically weak**
- **Difficult to explain to stakeholders**

Example

PRIZM and VALs

Folic acid segmentation





A few additional thoughts on segmentation



Segmentation choices and limited resources

	low resources	high resources
segments not known	lit search, key informant interviews-- range of perspectives	lit search, prelim. interviews, survey and cluster/other analysis
segments well known	save resources for message testing provide profiles to partners	focus groups with segments, intensive message testing



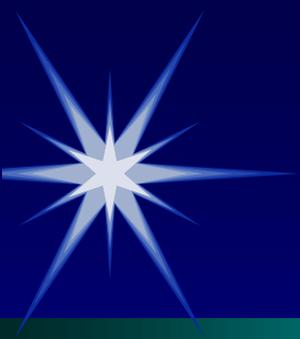
Turnkey Segmentation Systems Benefits

- **Makes results available and affordable for state and local programs**
- **Easy to accomplish with syndicated data**
- **Scientific communication product for partners**
- **Fits CDC's expertise and image**
- **Helps create more consistent, but not identical messages**



Turnkey Segmentation Models How-To

- **Create in-depth audience profile notebooks that include recommendations for:**
 - **segment selection rationale**
 - **creative concepts and executions**
 - **pretested messages**
 - **channels and message sources**
 - **potential partners**
 - **other intervention elements**
- **Use to recruit focus group members to test strategies**
- **Use a shorter version of survey for local validation**

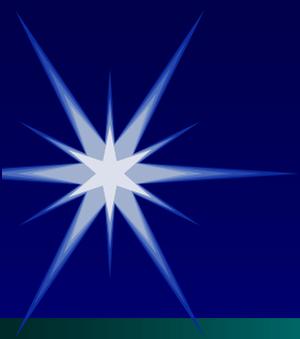


Questions and Answers

Small Group Activity #1

Behind Tab 1

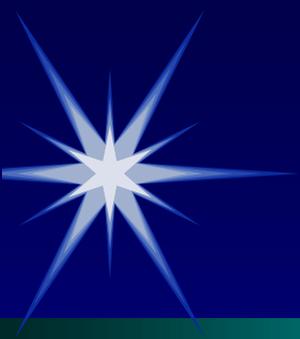
“Defining” groups versus “Describing” groups



Audience Segmentation, Selection and Analysis

Part Two

Audience Databases



**Databases that help you
Gather relevant data and
Restructure Population into
Segments**



Factors to assess database for segmentation and communication?

- **Timely collection and release**
 - national, state, and local data collection
- **Cost-effective**
- **Valid and reliable**
 - acceptable to CDC science community
- **Ability to be used as a baseline for eval.**
- **Behavioral, demographic, & predictors**
- **Includes communication relevant data**
 - communication mix factors



Existing Data Sources

Strengths and weaknesses for segmentation

- **BRFSS**
- **NHANES, NHIS**
- **Program-specific studies**
- **Other marketing syndicated databases**
 - **VALS**
 - **PATH**
 - **INFORUM**



New Segmentation Databases

Strengths and weaknesses for segmentation

- **Porter Novelli's Adult HealthStyles[©]**
 - **DDB Needham's Lifestyles[©]**
- **Claritas' Compass system - PRIZM[©]**
- **PRIZM[©] + Adult HealthStyles[©]**
- **STARS[©] and Youth HealthStyles[©] (1999)**
- **D&B MarketMatch[©]**
 - **businesses and organizational data**



HealthStyles[©] + Lifestyles[©] rating for communication planning

- **Collected each Summer, released by Fall**
 - **Data generalizeable at national level only**
- **Sample is slightly skewed to more educated**
 - **ethnic minorities and low-income have small cell sizes**
 - **validity and reliability depend on specific item performance**
- **Can be used in time series evaluation designs**



HealthStyles[©] + Lifestyles[©] rating for communication planning

- **Can include behavioral, demographic, & predictors**
- **Includes many communication relevant factors**
- **Generally costs programs about \$1,500 per item**
 - **extremely flexible item development and inclusion**



PRIZM[©]

rating for communication planning

- **Data collected annually, available on CD-ROM**
 - **National, regional, state, county, city, zip, zip+4, and block groups**
 - **can purchase lists of PRIZM clusters for research or direct mail**
- **Costs are minimal for programs at CDC but costs OC about \$100,000 per year**



PRIZM[©]

rating for communication planning

- **Strong reliability & validity for consumer data**
 - few health relevant items, little flexibility in their data collection
 - not very useful for baseline evaluation
- **Very little health behavioral or predictor data**
- **Wide range of communication relevant data**
 - Media use, lifestyle information, consumer habits



HealthStyles[©] Overview

- **Sample recruited from Lifestyles[©] survey**
 - **HealthStyles conducted and datasets merged**
- **Sample size = 3,500 per year for both surveys**
- **Weighted to U.S.. census on 7 variables**
 - **gender**
 - **age**
 - **education**
 - **census region**
 - **race**
 - **marital status**
 - **income**



HealthStyles[©] Overview, cont.

- **CDC-OC collects items from CIO's and submits suggestions for CDC and public health issues**
- **Various public health and private businesses**
 - **CDC sits on the Healthstyles[©] Advisory Board**



HealthStyles[©] Overview, cont.

- **Conducted by Porter Novelli each year in June**
 - **raw HEALTHSTYLES data (only) usually back by mid-October**
 - **demographic banner point table usually back by mid-December**
 - **Raw data on disk, cannot release outside CDC**
 - **OC secures license for all of CDC**



HealthStyles[©] Overview, cont.

- **OC secures license for all of CDC**
- **OC charges CIOs per item submitted (~\$1500)**
 - **CIO Funds are TAV'd to OC for payment**
 - **can also be paid to PN through other contracts**
- **Columns do not have to be related**
 - **programs can collaborate on custom reports**



HealthStyles[©] Overview, cont.

- **Custom reports include Healthstyles[©] and Lifestyles[©] data**
 - **programs don't always need both and can choose**
 - **custom reports usually take 3 weeks to produce**
- **Can have up to 19 columns with no stat testing and 15 columns with stat. testing**



American Healthstyles[©] Segmentation System

- **A psycho-behavioral cluster analysis of chronic disease prevention behaviors and their predictors**
 - **smoking, alcohol, nutrition, weight control behaviors, & physical activity**
- **Predictors based on Social Cognitive Theory**



American Healthstyles[©] Segmentation System, cont.

- **Seven distinct health lifestyles were identified**
 - **transcended demographics**
 - **have discriminative, construct and predictive validity**
 - **results applicable to chronic disease prevention behaviors**
- **See article by Ed Maibach, et. al, in your manual**



Reading Demographic Banner Reports

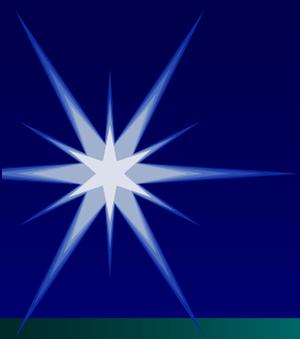
Items from Marketing Public Health Demographic Banner Reports

COLUMNS

Total	Gender	Race	Age	Marital	Income
	M/F	W/B/H	18-24/.....	M/NM/O	<\$15/.....

ROWS

- **Item Response and the Proportion of Respondents for each**
- **Mean score across all item response levels (bottom of page)**
- **Statistical test results (letter indicators)**



Example of Healthstyles Custom Segmentation Banners Folic Acid Project



Folic Acid Custom Banners

Legend for Segments

- **COL.** **DEFINITION (WOMEN . . .)**
- **A** **between ages 18-44 (of reproductive years)**
- **B-C** **in specific age groups**
- **D-E** **of specific age and ethnicity**
- **F** **planning to get pregnant in the next year or are currently pregnant**
- **G** **18-44 planning to get pregnant in future, but not next year**
- **H** **18-34 NOT planning to get pregnant and NOT using permanent birth control method**
- **I** **18-44 not using any reliable birth control method**
- **J-L** **18-34 by vitamin consumption behavior**
- **M-O** **18-34 by expectations for using folic acid**



Claritas, COMPASS and PRIZM[©]

- **Claritas is the company name**
 - **CDC licenses our database through NDS**
- **COMPASS is the navigation and database merging software**
- **PRIZM[©] is a multivariate segmentation system based on geodemographic clustering**
 - **Precise Rating Index for Zip Markets**



PRIZM[©] overview

- **A core database of all U.S. census data and all Simmons Market Research adult data (n=40,000)**
 - census data updated annually via forecasting
- **Other databases can be merged into COMPASS**
 - data must have a geographic identifier
- **Results are cluster by cluster not case by case**
 - harder to interpret for public health
 - not as precise as some CDC studies
- **Reports usually available in one to two weeks**



PRIZM lifestyle clustering

- **A segmentation scheme built on the notion that “birds of a feather flock together”**
 - **probably accurate for many consumer behaviors**
 - **unknown if this holds true for health behaviors**

☞ **Consumer behaviors are determined by many factors**

☞ **income**

education

occupation

☞ **family makeup**

mobility

social norms

☞ **ethnicity**

type of housing

prior

experience

☞ **urbanization**

psychographics

etc..



PRIZM lifestyle clustering

- **Health behaviors are determined by many of the same factors as consumer behaviors**
- **Consumer researchers seldom measure behaviors in which public health is interested**
- **Consumer organizations are seldom concerned with stimulating primary demand**
- **Health programs are frequently working to increase primary demand**



PRIZM lifestyle clustering

built on three types of variables

☆ Affluence measure

- **explained 79% of variance**
- **categorized into 3 groups**

🕒 Population density measure

- **89% of variance explained**
- **categorized into 5 density groups**
- **Affluence by Density = 15 Major Social Groups**

🕒 Consumer & lifestyle behaviors added to model

- **93% of variance explained and 62 PRIZM clusters**



Affluence Levels = 3 groups **High, Medium, Low**

- **income**
- **household wealth**
- **education**
- **occupation**
- **home value**
- **other variables**



Population Density

0-99 levels of density = 5 groups

☆ Metro Urban

- Peak of 79+
- Washington DC

🕒 Metro Suburban

- Peaks of <79 and surrounding areas 78-40
- Between DC and Rockville

🕒 Second city

- ☞ Peaks of 78-40
- ☞ Rockville, MD

🕒 Towns

- ☞ Peaks of 21-39
- ☞ Manassas

🕒 Rural

- ☞ Peaks of 0-20

PRIZM's 15 social groups

Affluence Levels

High	T1		C1	S1	U1
	R1	T2	C2	S2	
	R2			S3	U2
	R3	T3	C3		
Low	Rural	Towns	Cities	Suburbs	Urban

Population Density

Add Consumer and Lifestyle Behaviors

62 PRIZM clusters

Affluence Levels	High	T1= 4		C1 = 3	S1 = 5	U1 = 5
	Mid	R1=4	T2=4	C2 = 5	S2 = 5	U2=5
		R2=2			S3 =4	
	Low	R3=5	T3=4	C3 = 4		U3=3
		Rural	Towns	Cities	Suburbs	Urban
		Population Density				



PRIZM Clusters at a Glance & The Cluster Narrative Descriptions - thumbnails

- **At-A-Glance in manual (Tab 5, p. 1-3)**
 - **identify cluster demographics quickly**
 - **compare one cluster to another on demographics quickly**
- **Thumbnail Sketches (Tab 5, p. 4-13)**
 - **general demographics**
 - **information about media, lifestyle, and purchasing that strongly differentiates this cluster from others**



Similar Demographics . . .

Married couples with children
Household Income = \$45,000-55,000
Age 35-45
Single Family Homes
College educated
White-collar professionals

Are all of these people so alike in ways that predict commercial purchases that the same set of program elements would work equally well for all of these people?



At Least Three different Population Densities

- Suburban density-Medium affluence
 - **Kids and Cul-de-Sacs**
- Second City density - Medium affluence
 - **Upward Bound**
- Small Town/Exurban density - Low affluence
 - **God's Country**



Dissimilar Behaviors by Cluster

Top and Bottom 20 Report Data

Kids and Cul-de-Sacs

home remodeling

baseball

Entemann's snacks

sugar-free yogurt

Consumer's Digest

Sports Illustrated

Upward Bound

Sea World

Volleyball

Brie cheese

Cornish hens

Byte

New Woman

God's Country

Auto races

**Cross-country
skiing**

homemade bread

meat stick snacks

Country Living

Discover



Developing a PRIZM Profile

- **Define audience segments based on proxy behaviors or census demographics**
 - If additional data, geocode & import
- **Every address has a cluster assignment**
- **Mapping of geographic areas to block level**
- **Behavioral reports by PRIZM cluster**
- **PRIZM profiles contain two reports**
 - **geomapping report**
 - **audience data reports**



Example for Health

☆ **We defined demographics related to Beryllium health problem**

- **Occupation: Blue-collar workers**
- **Location: Plant in Cullman, Alabama**

🕒 **Restricted geographic parameters**

🕒 **Restricted occupational parameters**

🕒 **Review the example profile in book**

🕒 **geomapping report p.1-3**

🕒 **audience data report p.4-**



PRIZM Geomapping Report

- **Examine each census tract for . . .**
 - **Number of blue-collar workers**
 - **Names of Clusters group and nickname**
 - **Census Tract by Cluster by Occupation**
 - **Note % of census tract that is BCW (Across Column)**
 - **INDEX = % of each tract that are BCW divided by % of all clusters in the county that are BCW**
 - **prevalence of BCW in this tract relative to all tracts**
 - **Size of census tract - absolute measure**



NIOSH Example

Rustic Living Clusters: Co <u>cluster</u>	<u>% of BCWs in Cullman, that belong to each</u>
Back Country	66.0%
Blue Highways	06.5
Rustic Elders	02.3
Heartlanders Clusters:	
Grain Belt	05.0
Working Towns Clusters:	
Mine & Mills	07.0
Golden Ponds	<u>13.0</u>
All BCWs in Cullman	100%



Reading TCI and COV reports

- **New target = PRIZM cluster number**
 - on the thumbnail sketches in the row labeled “cluster number”
- **Target Cluster Index (at top of page)**
 - TCI 1 is the label inside the table
- **Target Cluster Coverage (at top of page)**
 - COV 1 is the label inside the table



Reading TCI and COV reports

- **Title heading = measurement item**
- **Number in Parentheses = U.S. average**
- **Top label is at the end of top items**
- **Bottom label is at the end of bottom items**



PRIZM Audience Data

TCI (Target Cluster Index) Report

- **Compares the % of target cluster that participates in a behavior to the % across the U.S.**
- **Best for differentiating target clusters from other clusters and the U.S. overall**
- **100 INDEX = the same % as U.S.**



PRIZM Audience Data

TCI (Target Cluster Index) Report

- **>100 INDEX = more than U.S.**
- **<100 INDEX = less than U.S.**
- **Rank ordered from top 20 and bottom 20**
 - **don't usually see the items that aren't in the top or bottom twenty**



TCI Report Legend - Bohemian Mix in manual

- **Reads NY Times daily (1.6%) 372**
 - **means this PRIZM cluster is 3.7 times as likely than the U.S. average to read the NY Times daily**
- **100 = average compared to all other clusters**
 - **372 = 3.72 times more likely**
 - **50 = 50% less likely**



TCI Report Legend - Bohemian Mix in manual

- **Reads Outdoor Life (3.6%) 50**
 - **means this PRIZM cluster is about half as likely as the U.S. average (3.6) to read Outdoor Life**



COV Reports

- **Indicates the overall prevalence of a behavior in a cluster.**
 - **an absolute measure that indicates what % of the target cluster participates in the behavior.**
- **Indicates national averages as well**
 - **for example, 88% of Back Country Folks watch WTBS station while only 57.9% of all clusters report watching WTBS.**



COV Reports, cont.

- **TV and Radio Networks, Formats, and Time of Day**
 - ranked in descending order, not top and bottom twenty
- **Magazine Readership**
 - Top and Bottom Twenty only
- **Lifestyle - consumer behaviors, activities, leisure**
 - Top and Bottom Twenty only



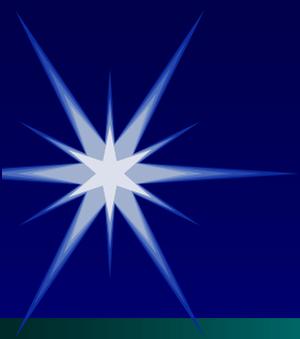
COV Report - Legend

- **GQ (3.76) 11.4**
 - means that only 11.4% of this cluster says they read GQ while 3.7% of U.S. reads GQ
 - this group is a little above average but might not be enough to get into the top and bottom twenty TCI
 - the TCI for GQ on this cluster is $11.4/3.7=308$



COV Report - Legend, cont.

- **Vogue (5.4%)** **9.980**
 - means that 9.98% of this cluster reads Vogue
 - what % of U.S. adults claim to read Vogue
 - is Vogue on TCI and COV?



TCI and COV Reports
Small Group Activity #2
Worksheets and PRIZM profiles
behind Tab 3



Integrating HealthStyles and PRIZM

- **Few CDC programs have geocoded datasets large enough to merge**
 - **NuPAC had three years of HealthStyles data**
- **OC geocodes HealthStyles every year**
- **Imported HS to COMPASS**
 - **examined stage of change for physical activity by PRIZM cluster at national level**
- **Mapped specific areas of Illinois to clusters**
 - **state selected 5 PRIZM clusters**



D&B Marketmatch

- **Businesses, organizations, schools, churches**
 - includes almost every single employee business
- **Search database and code file by SIC+4 coding**
- **Over 40 data points on each account**
- **CD-ROM based**
 - inexpensive & updated twice annually
- **NIOSH communication office has a license**
- **Direct mail list printing capability**



STARS

Simmons TeenAge Research Study

- **Sample size = 2,500 (12-19 years old)**
- **Two step data collection (in home and mail)**
- **Geocoded using PRIZM cluster assignments**
- **Psycho-social attitudes, leisure and media habits, life and dating expectations, consumer purchases, celebrity credibility ratings, and demographics**
- **OC holds the CDC license and runs reports**
 - **OC has basic demo banners in books**
 - **No report charges at this time**



1999 Youthstyles

- **CDC participates the same as in Healthstyles**
- **First ever national level dataset with health behaviors, predictors, psychographics and communication relevant data combined**
- **~ 3,000 in-school interviews**
 - **middle school and high school**
- **CDC purchased a “Signature” license for 1999 database**
- **Banner reports available by demographic cuts**
- **Custom segmentation available by request**



HIV testing data and PRIZM

GIS, Public Health Data, and Syndicated Market Research Data Bases in Health Communication Planning

William E. Pollard, Ph.D.



New Directions in Health Communication

Data-based health communication planning based on integration of:

- US Census data
- GIS Data
- Public Health Data
- Syndicated market research data



PRIZM Lifestyle Segmentation

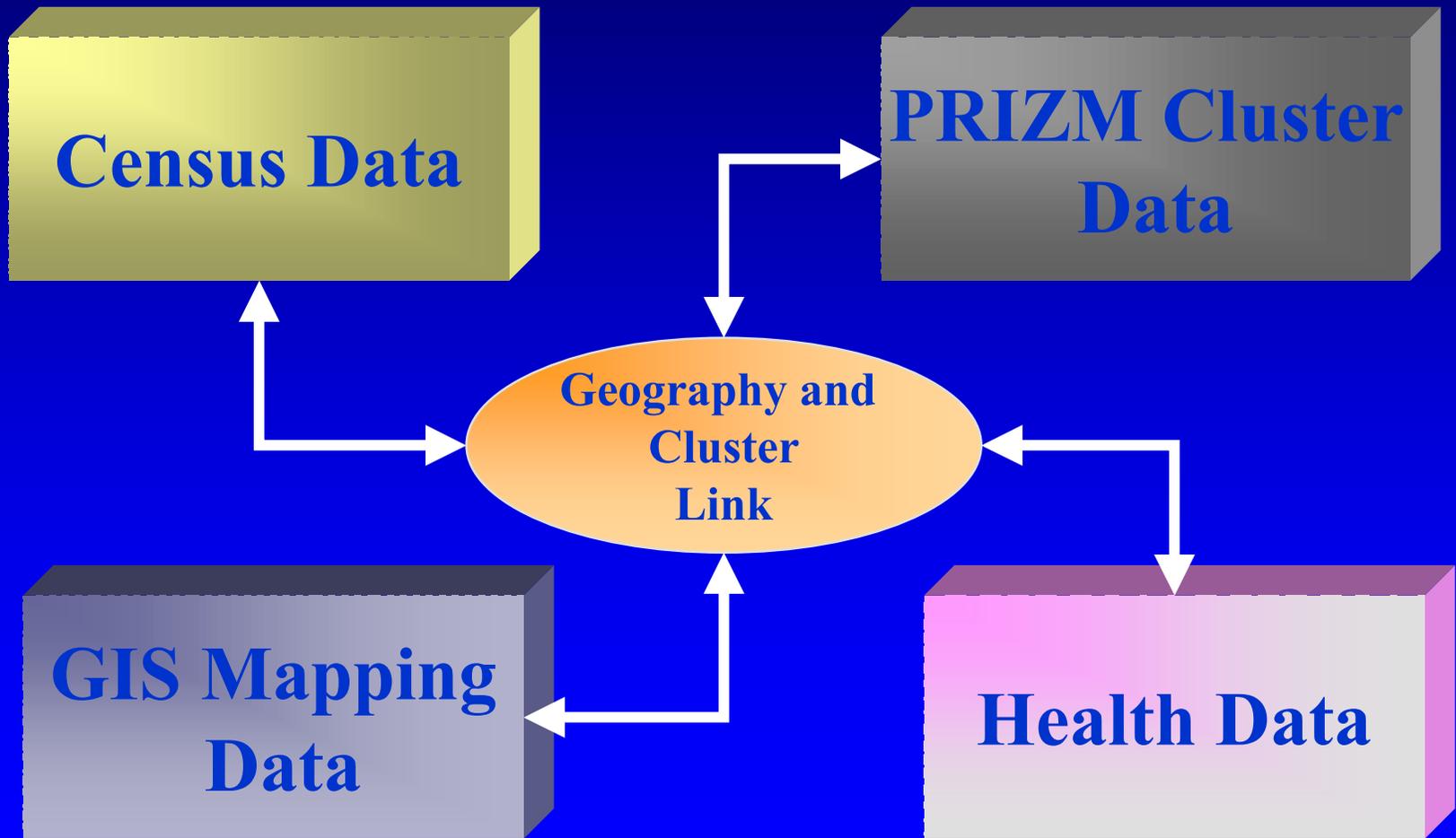
- Each cluster has a distinct combination of sociodemographics, lifestyle, and media habits
- Every block group, census tract, and ZIP code is classified into one of the clusters



Clusters and Data Integration

- Clusters are both segments of the population and geographic areas
- Geography provides the link for integrating a variety of data sets

Linked Data Sets





Entry to the Data Set

- Any item associated with a public health issue can be used as a starting point and then linked to other information about the audience to determine:

WHO the audiences are

WHAT they are like

WHERE they are

HOW they can be reached



Entry Points

- **GEOGRAPHIC -- Collaboration with ATSDR on hazardous site analysis**
- **DEMOGRAPHIC -- Collaboration with NIP on reaching low income populations with small children**
- **MARKETING DATA -- OC working with TV producers and writers on “Edutainment”, Soap Opera Summit**
- **HEALTH DATA -- Collaboration with NCHSTP on HIV awareness, NCID on hantavirus cases**



HIV Status Awareness

- Collaboration among OC, NCHSTP, & Pilot States
 - Objective: Identify clusters with highest concentrations of at-risk population and ultimately relate to communication variables
 - Method: Examine PRIZM clusters of ZIP codes of residence for AIDs cases (age 13+) diagnosed in 1995-1997.
 - Data: Case counts by ZIP code



Study Sample

- 12 MSAs
 - Total Population 33,747,725
 - Population Age 13+ 27,156,391
- AIDS Cases (13+)
 - 26,418 cases summarized by ZIP code



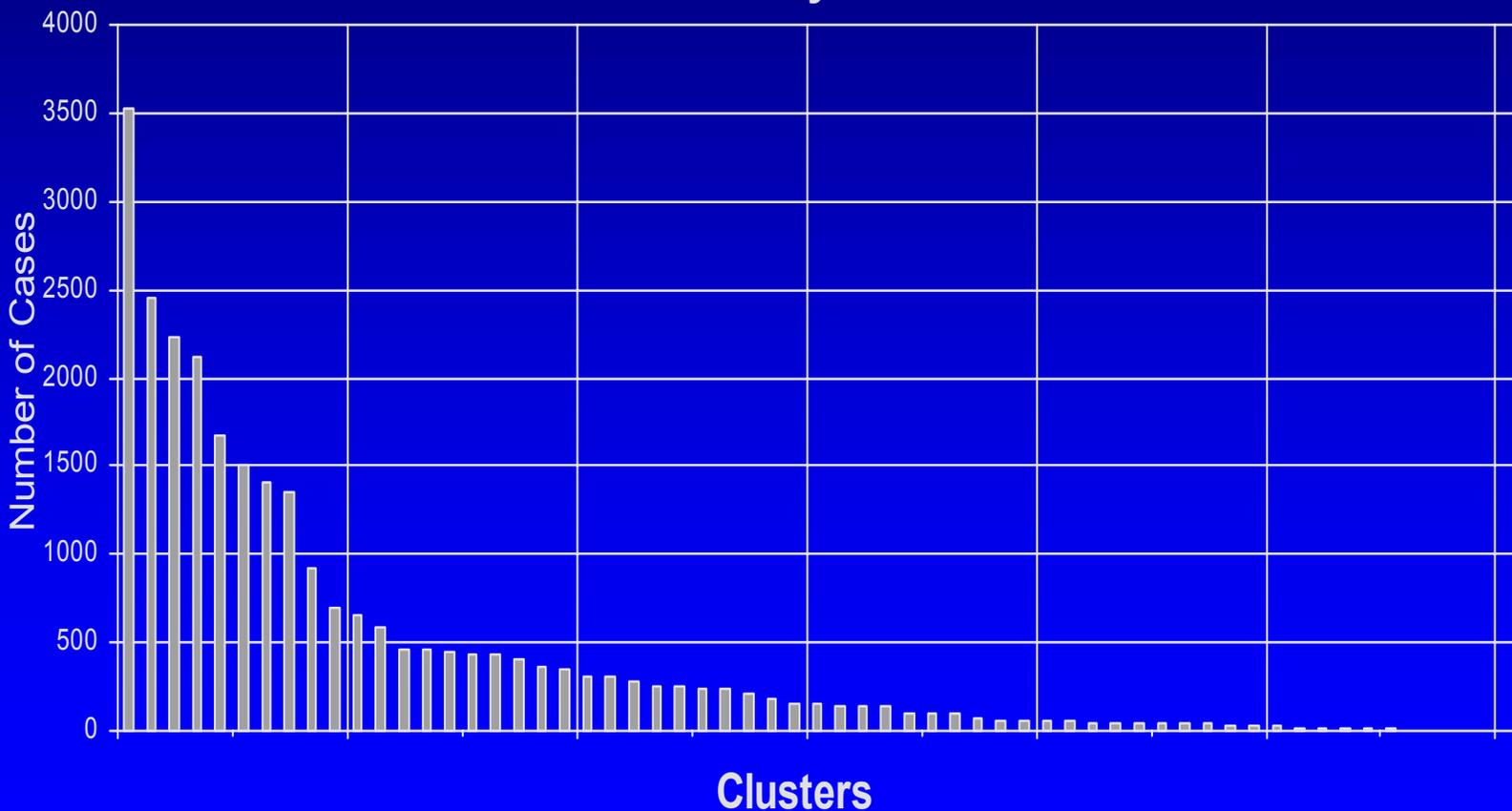
Confidentiality and Analysis of Aggregate Data

- The unit of analysis is the ZIP code rather than the individual case
- The data consist of counts of cases in ZIP codes
- There are no individual identifiers in the data
- Access to data is limited



Preliminary Results

Clusters Ranked by Number of Cases



Efficiency of Segmenting and Targeting

Lorenz Curve Showing Gains Due To Segmentation

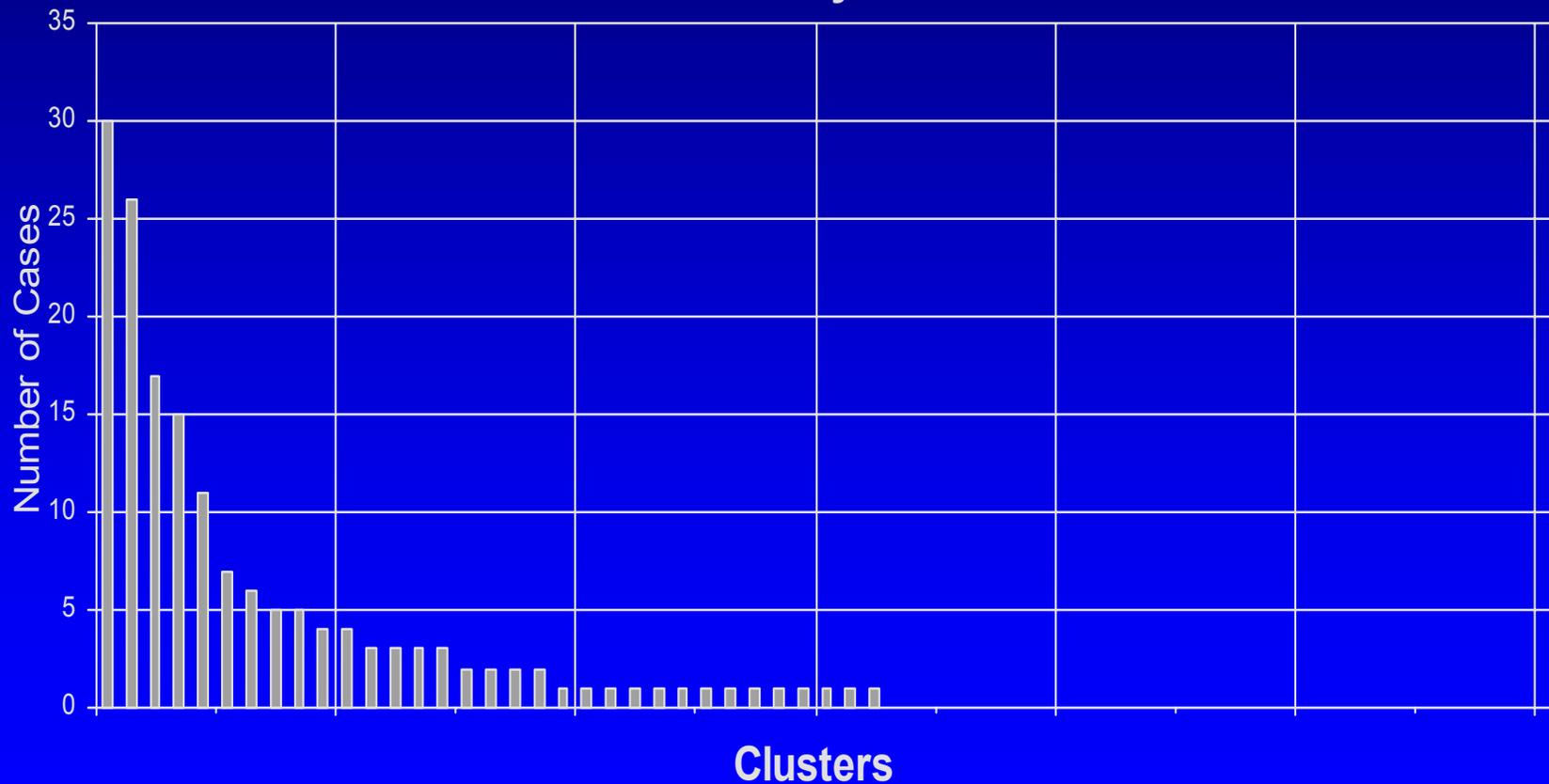




Hantavirus Cases, 1993-1997

NCID and OC Collaboration

Clusters Ranked by Number of Cases





AIDS Incidence Within Clusters

<u>Cluster</u>	<u>No. of ZIP Codes</u>	<u>% With Above Ave. Incidence</u>
A	30	93
B	50	92
C	32	84
D	31	74
E	39	72
F	37	68
G	38	50
H	43	40



Variability Within ZIP Codes

- **Some ZIP codes in urban areas contain large populations (20,000+)**
- **These ZIP codes may contain a number of clusters at the block group level**



Block Group Data and Regression Analysis

- **The number of block group households (BGHH) of each cluster within a ZIP code is available in the data**
- **Look at the relationship between ZIP code case counts and the block group level cluster composition within ZIP's**



Prediction Formula

- **Regression procedure produces an optimal prediction formula with weights (b) such that for each ZIP code:**

**Predicted count = Constant +
(b1 x Cluster1 BGHH) +
(b2 x Cluster2 BGHH) +
and so on ...**



Case Counts Associated With Block Group Level Clusters

- The predicted case count for each ZIP code is a sum of cases associated with each of the clusters at the block group level
- Summing this for each cluster over all the ZIP codes, yields a total number of cases associated with each of the clusters



Preliminary Results

- Ten clusters or less accounted for nearly three quarters of the cases in the total sample and in individual MSA's
- Multiple correlation coefficients of .72 for the total sample and .80's and .90's for individual MSA's



Greater Concentration in Fewer Clusters

- Five clusters that initially accounted for **41%** of the cases now account for **63%** of the cases
- Five clusters that accounted for **26%** of the cases now account for only **8%**
- Statistical issues: Outliers, influential cases, heterogeneity of variance, transformations



Provides for More Precise Targeting

Use of Results

- Separate profiles of audience characteristics developed for each of the top 5 clusters for message development
- Recruitment for focus groups from these clusters to validate profiles and to do preliminary message testing



Integrates Information About Populations, Locations, Behaviors, and Communication Factors

- “These links constitute the true power of these systems: they expand our knowledge about a cluster and relate this knowledge to other pieces of information. Links make a system ‘smart;’ they take seemingly unrelated facts and cross-reference them with others related to the same problem” (Curry, 1993, 259).



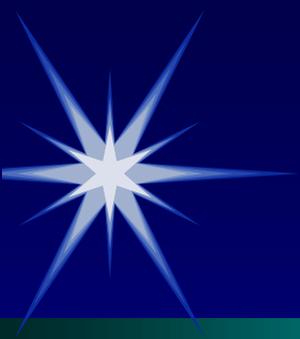
Advantages of Integrating Data Within a Geographic Framework for Communication Planning

- Geography links diverse kinds of data together for quantitative problem analysis
- Wide range of information readily available
- Cost effective
- Reduces need for government collection of personal data
- Get more out of user's own data



Healthstyles Resource Kit

- **May 1st is the deadline for submitting items for consideration on the 2000 Healthstyles panel survey**
- **Start working with behavioral scientists and measurement specialists NOW to develop and test potential items**



Audience Segmentation, Selection, and Analysis

Part Three

Segment Selection and Resource Allocation



Outline selection criteria

- **Consider two major factors:**
 - **Organizational Characteristics**
 - **Segment's Characteristics**
- **Organizational Characteristics**
 - **the fit and resources to reach audiences**
 - **political situation surrounding audiences**
- **Segment's Characteristics**
 - **size of group, readiness to change, ability to influence others, ability to reach, vulnerability**



Use selection criteria to prioritize segments

- **Weight criteria if some are more important than others to your organization or problem resolution**
- **Rate each audience group on the selection criteria**
- **Rank order audience groups**
- **Get buy in from management and partners**



Don't spend limited resources profiling every segment

- **Unless you plan to offer the profiles as your major communication product**
- **If not then . . .**
 - **Define variables for selection**
 - **Measure segments on only selection criteria**
 - **Decide on a segment or segments**
 - **Profile the selected segments in more depth**



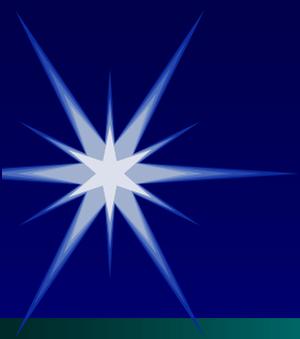
Segmentation Issues to Consider

- **Are there segments that agencies should ignore**
 - often YES in the short-run
 - secure buy-in to process early
- **Assess stage of adoption in Diffusion curve**
 - **should we push or pull at this point in diffusion**
 - ☞ Focus on a “pull” strategy when advanced segments can help pull a resistant segment along
 - ☞ Focus on “pull” strategy if the cost of reaching the resistant segment is too high



Segment Selection Criteria

- **Assessment measures (add others as applicable)**
 - **Severity of outcome in segment**
 - **Vulnerability or defenselessness**
 - **Unique or unserved segment**
 - **Organizational fit or focus**
 - **Societal trends/fit with segment**
 - **Reachability**
 - **Readiness to respond**



Segment Selection Matrix

3 Step Process (rows 1-7)

Example: Stages of Change in Physical Activity Project



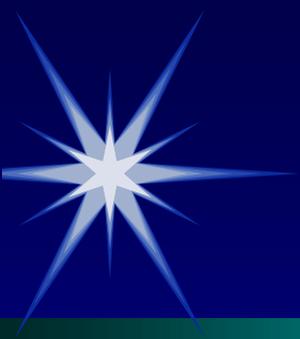
3 Steps to Scoring Segments on Selection Criteria

- **Determine each segments' score compared to each other mean for each criteria**
- **Add all the criteria scores for each segment and divide by the total possible score for all criteria (n=48). Result goes in Row 7**
- **Compare each segment's Selection Score and determine if there is only one segment or multiple segments to be addressed**



Too many segments, not enough resources!!

- **Build strategies around common variables**
- **Select segment(s) that CDC is best equipped to address**
- **Allocate resources across segments**
- **Provide partners' with audience profiles for segments that . . .**
 - **are not a CDC high priority**
 - **CDC cannot justify funding**
 - **CDC cannot communicate easily with**



Resource Allocation Matrix

5 Step Process (rows 8-10)

Example: Stages of Change in Physical Activity Project



5 Steps to Allocating Resources Across Multiple Segments

- **Determine the population size of each segment and it's % of the total target population group. Row 8**
- **Multiply the population size of the group by the Selection Score Index = Pop. Size Adjusted Score**
 - **PSAS (ROW 8 x ROW 7) = ROW 9**
- **Add all adjusted population scores in Row 9 =**
 - **Total Adjusted Population (TAP)**
- **Divide each segment's PSAS by the TAP = PSARS**
 - **Row 9/TAP**
- **Allocate resources using PSARS as a guide**



Profile selected audiences

- **Develop comprehensive profiles that include preferred communication mix factors:**
 - **credible sources and sponsors**
 - **message qualities**
 - **settings, channels, activities, and materials**
 - **desired behavior or mediating outcome**



Profile selected audiences, cont.

- **Add depth by including psychographic, psychosocial, and other relevant characteristics.**
- **Use qualitative and quantitative data sources for richest profile**



Audience Segmentation, Selection and Analysis

Part Four

Applying Segment Profiles to Communication and Social Marketing Program Plans



Analyze Relevant Data on Selected Segments

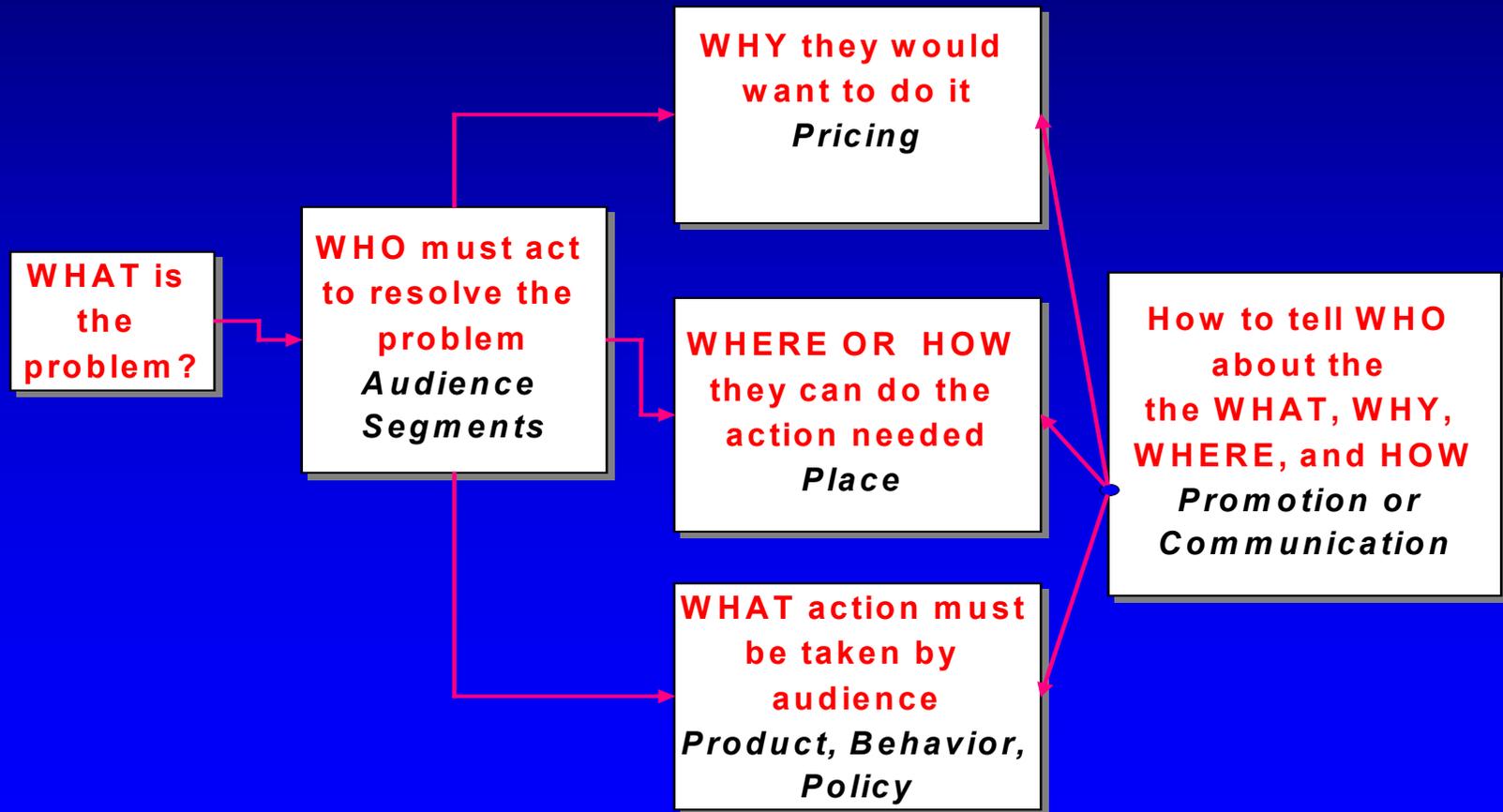
- **Communication Mix factors**
- **Describe each segment (means and %'s)**
 - **Demographics, health-specific data**
 - **Psychographics, behavioral, and behavioral predictors**
- **Assess gaps in necessary information**

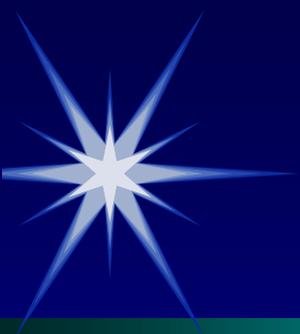


Communication Mix Factors

- **Receiver segment traits that impact choice of**
 - Sources, sponsors
 - Message content, tone, appeal, style
 - Channels
 - Communication objective
 - cognitive
 - behavioral

Social Marketing: A model for voluntary behavior change interventions





- **The Folic Acid story...**
**segmentation, selection and profiling within
the social marketing framework.**



WHAT is the health problem?

- **Disease problem**
 - **Folic acid preventable neural tube defects (2500/year)**
- **Behavioral “problem”**
 - **too few women are getting enough folic acid from dietary sources (fortified foods)**
 - **too few women are getting folic acid from supplements (folic acid alone or multi-vitamin)**



WHO needs to act?

- **Women of reproductive age who are sexually active and capable of becoming pregnant.**
- **Two very different groups emerged:**
 - **Non-contemplators:** Not planning a pregnancy now. (English-speaking women between the ages of 18-24; various ethnic backgrounds)
 - **Contemplators:** Planning a pregnancy within the next year. (English-speaking and Spanish-speaking women between the ages of 18-34)



WHAT must audience members do?

- **Contemplators must start taking a multivitamin *before* they get pregnant.**
- **Non-contemplators must start taking a multivitamin regardless of whether or not they are planning a pregnancy.**



WHY do it

- **WHY variable is the the EXCHANGE CONCEPT**
- **WHY they might take a multi-vitamin...**

Non-contemplators

- * if improved skin, hair, and nails
- * if made them look and feel healthier
- * if reduced the risk of having a baby with birth defects one day
- * if doctor recommended it

Contemplators

- * if reduced the risk of having a baby with birth defects
- * if it make them feel healthier
- * if doctor recommended it



WHY NOT do it

- **WHY they might NOT take a multi-vitamin...**

Non-contemplators

- * belief that diet is enough
- * size of pills
- * perceptions of no immediate benefit
- * conflicting nutrition information
- * many babies born healthy w/o moms taking a MV
- * <1/4 stated Dr. recommended

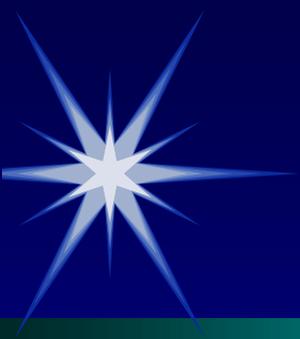
Contemplators

- * nausea and constipation from taking vitamins
- * perception of vitamins as chemicals
- * size of the pill
- * many babies born healthy w/o moms taking a MV
- * <1/2 stated Dr. recommended



WHERE and HOW they can do it

- **Audience members have lots of choices--**
- **Multi-vitamin use is ideal, but there are hyper-fortified foods that can be used for those who don't like taking pills.**
- **Audience research indicated lots of strategies for “remembering” to take a multi-vitamin (bedside table; desk at work; above sink)**
- **Audience research did not confirm “cost” as a barrier**
- **Audience research indicated that the behavior was “do-able” but only if women were convinced that it was important enough to do. (had to have clear benefits)**



Non-contemplator Concepts

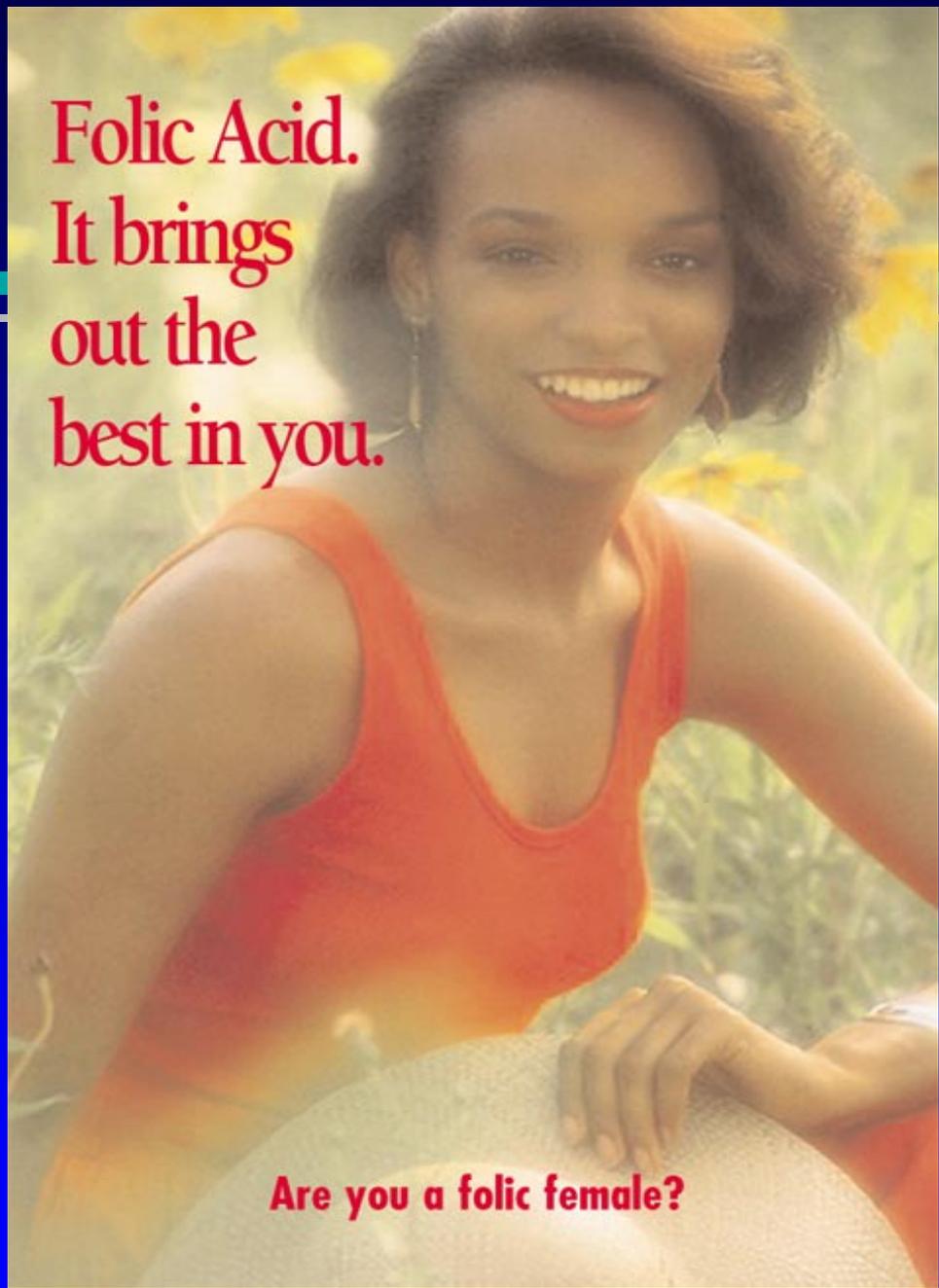


Bring out your
inner beauty for
a penny a day.



Folic Acid.

The beauty supplement we can all afford.

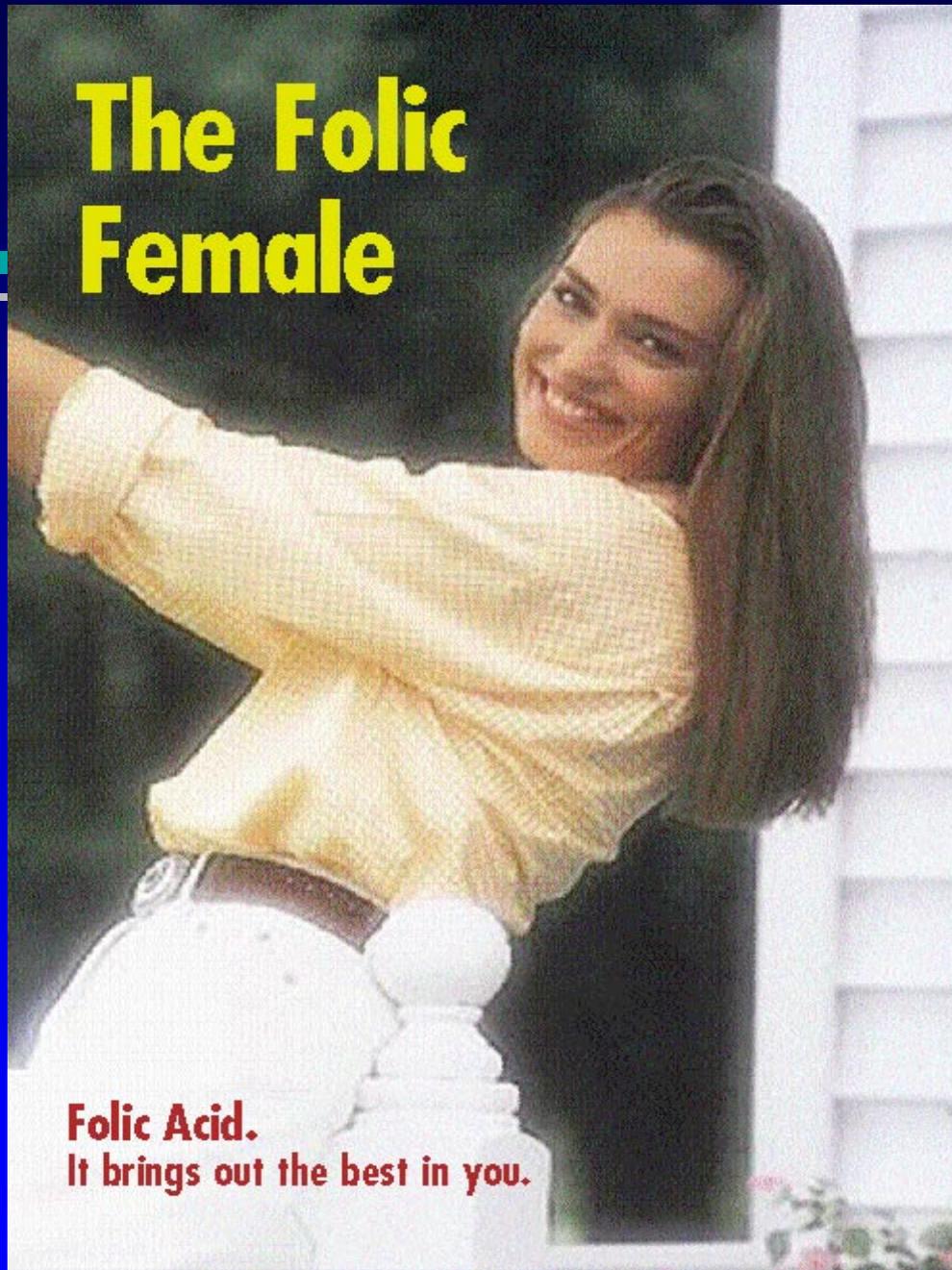


**Folic Acid.
It brings
out the
best in you.**

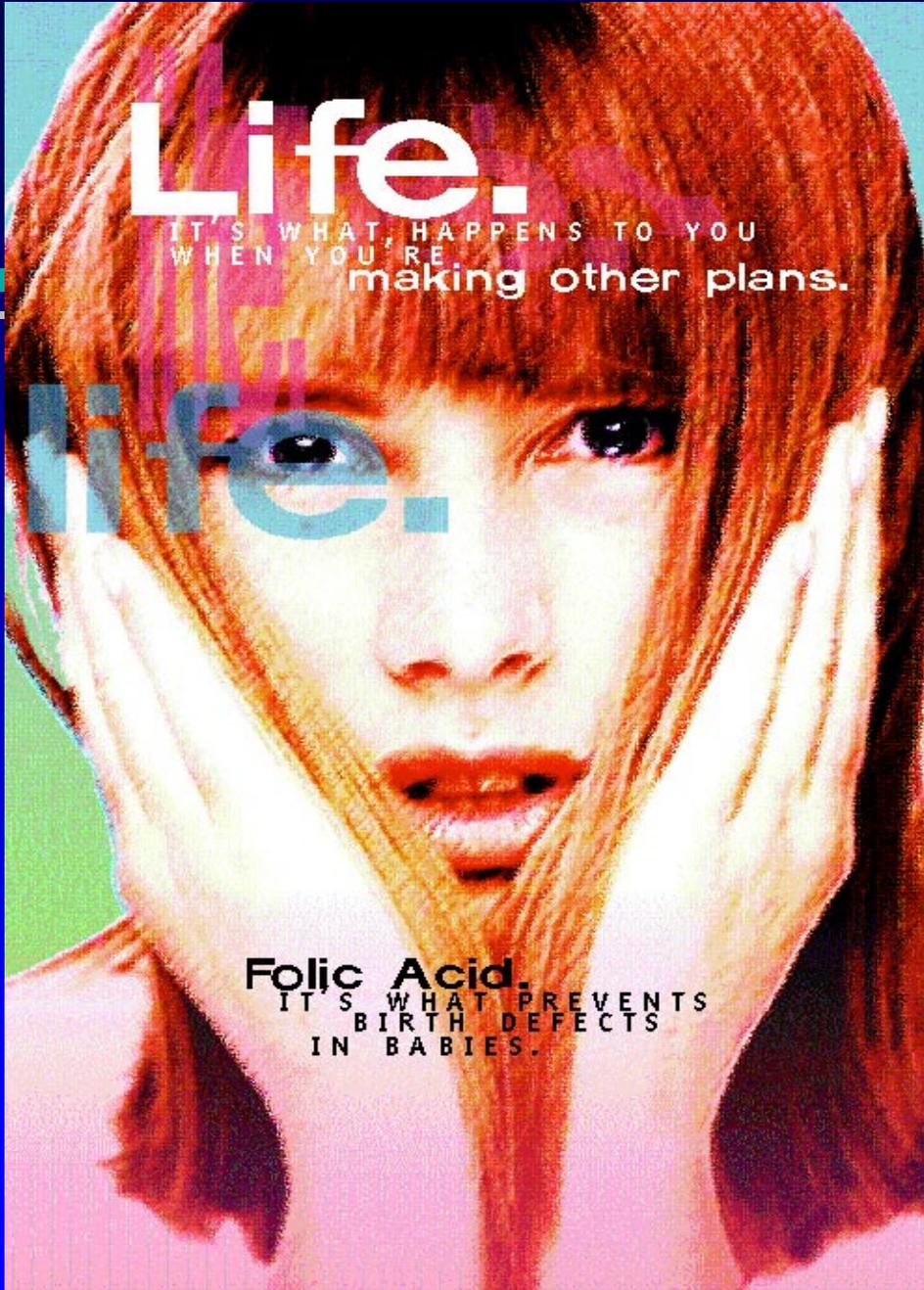
Are you a folic female?



The Folic Female



Folic Acid.
It brings out the best in you.

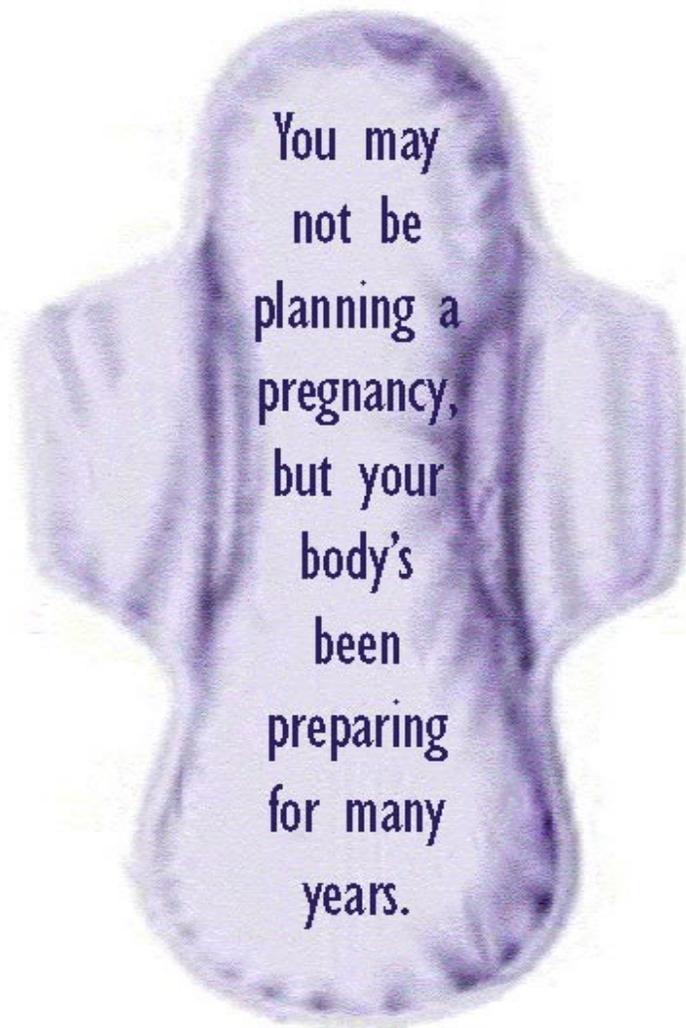


Life.

IT'S WHAT HAPPENS TO YOU
WHEN YOU'RE
making other plans.

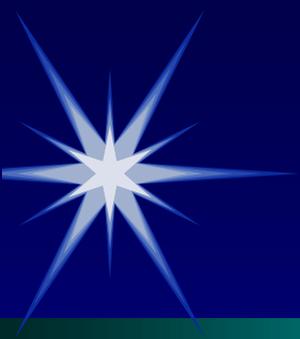
Life.

Folic Acid.
IT'S WHAT PREVENTS
BIRTH DEFECTS
IN BABIES.

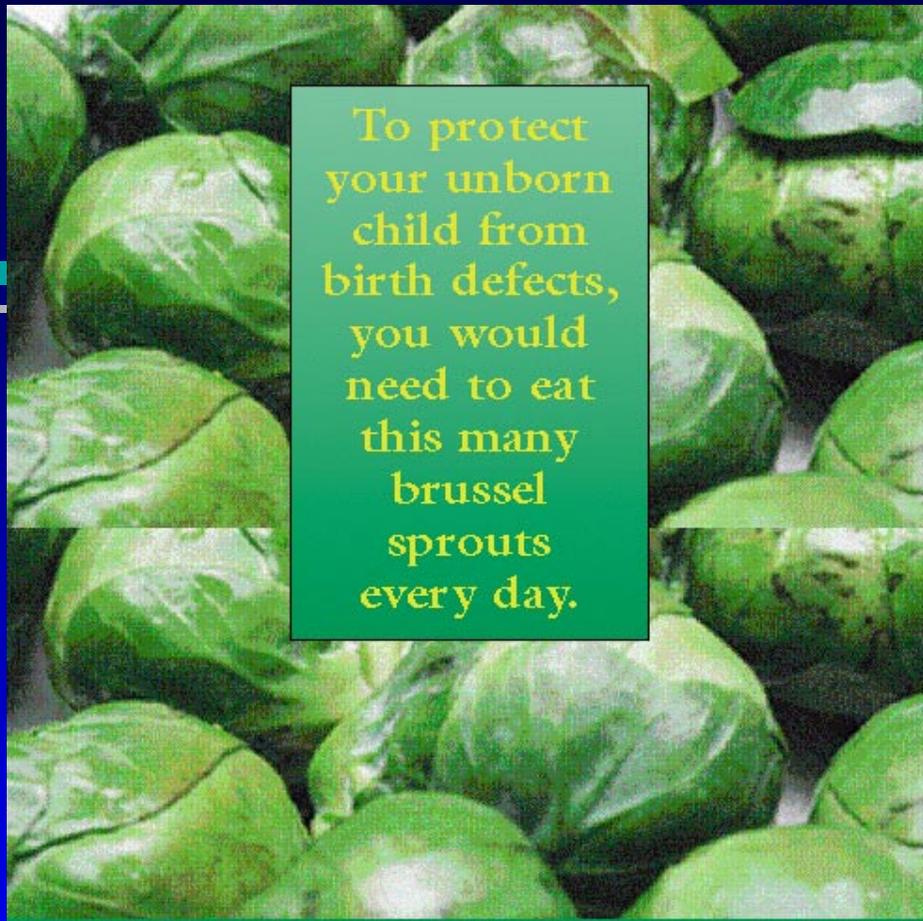


You may
not be
planning a
pregnancy,
but your
body's
been
preparing
for many
years.

Folic Acid today.
So your body's ready
when you are.



Contemplator Concepts



To protect your unborn child from birth defects, you would need to eat this many brussel sprouts every day.

Or, take one of these.



Folic Acid.

It needs to start when birth control stops.



And you thought
all you needed to
do was fool around.



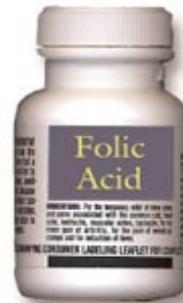
Folic Acid.
The pill to
take when
you're
planning.



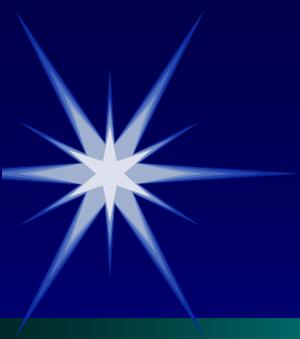
**When you stop
taking these,**



**start taking
these.**



**Folic Acid.
The other pill.**



Even before you realize
you're pregnant,
her little body
is growing a
spine.



Begin
taking
Folic Acid
when you stop
taking birth control.



HOW you will tell WHO

- **Motivational message concepts that stand up to the scrutiny of CDC scientists**

Non-contemplators

Biologically-based appeals which juxtapose a woman's capability of becoming pregnant (menstruating) against her psychological defenses/denial that she could become pregnant.

(REALITY)

- * **“Not a sanitary napkin”**
- * **“Ready, Not Ready”**

Contemplators

Nurturing, sentimental appeals which show beautiful, healthy babies but which make the point that folic acid needs to be taken before conception.

(TIMING)

- * **“Before you know”**
- * **“She doesn't know it”**



Potential channels, products, partners

- **Audience data indicated many opportunities for message dissemination/partnership opportunities**

Non-contemplators

- * Use in-home pregnancy tests
- * Shop at Montgomery Ward, the Gap, and the Limited
- * Drink designer coffees
- * Use dry cleaning services
- * Watch Travel channel
- * Read entertainment section of newspaper
- * Listen to progressive rock radio stations

Contemplators

- * Use in-home pregnancy tests
- * Shop at Wal-mart & Montgomery Ward
- * Watch daytime TV shows, the Learning Channel and the Family Channel (TV watchers!)
- * Read classifieds section of newspaper
- * English speakers listen to country or golden oldies radio/Spanish speakers listen to Spanish radio



HOW you will tell WHO about program

Non-contemplators

- * Print ads in “Hip” women’s magazines (Cosmo)
- * Radio PSA’s on “Progressive” rock radio stations
- * TV PSA’s on cable channels (partners to purchase time)
- * Message on inserts or packaging of home pregnancy tests
- * Posters in OB/GYN and family practitioner offices

***Exploring point-of-purchase “cues”/licensing agreements**

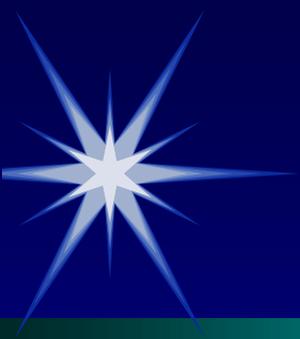
Contemplators

- * Print ads in selected women’s magazines
- * Radio PSA’s on variety of radio stations (especially country, oldies and Spanish-language radio stations)
- * TV PSA’s on cable channels (partners to purchase time)
- * Message on inserts or packaging of home pregnancy tests
- * Posters in **pediatrician**, family practitioner, & OB/GYN offices
- * get story on daytime tv (soaps, talk shows)

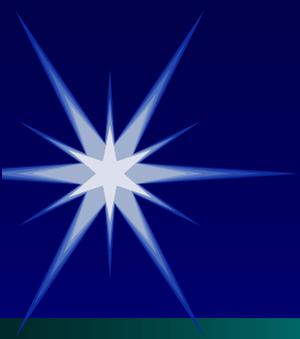


Message

- **Non-contemplators** must be “jarred” into considering the possibility of pregnancy and see the need for folic acid “just in case.” A variety of sources of folic acid must be offered (not just vitamin pills) to overcome barriers to pill-taking.
- **Contemplators** must be made aware that the time to take multi-vitamins is *before* and during pregnancy, not just during pregnancy. Having a healthy baby is the strongest motivator, which far outweighs barriers to pill taking.



Show
“Before you know it”
and
“Ready Not”
TV PSA’s



Applying Profiles To Communication Planning

Small Group Activity #4



Apply profile to communication mix factors

- **Consider your intended audience segments' profile**
- **Extract communication mix factors from profile info.**
 - channels
 - reasonable communication objective
 - sources, sponsors
 - message content, tone, appeal, benefits