

# A Recruitment Strategy for the NCS

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# Principal Purpose

The NCS is the most expensive single study ever undertaken by the NIH.

Success will be judged by the extent to which it is able to identify and/or rule out potential prenatal and early childhood causes of health problems in children and (ultimately) adults.

# Four Key Features

- Large sample size
- Collection of extensive information, biological and environmental samples so that hypotheses in many domains can be tested
- Intention to recruit early in pregnancy or even before pregnancy
- Nationally representative sample

# Recruitment: Vanguard & Enhanced Centers

- Recruitment in Vanguard Centers has been slow and expensive with consent rates under 60%. Despite great effort it appears that fewer than half of pregnancies occurring in segments are enrolled.
- Proportion of pregnancies captured may drop when intensive recruitment finishes.
- Recruitment by the enhanced household method appears quite similar with no improvement in consent rates.

# Recruitment: Direct to the Public

- Similar to recruiting volunteers.
- Participation may be related to exposures and perceived vulnerability to disease
- This combination of biases invites distortion of study findings.
- Many volunteers may appear after the first trimester.
- Approach is likely to weaken research papers written from the NCS.

# Recruitment: Provider Based but Retaining Geographic Segment Eligibility

- Only 10% as many women contacted for same number of babies
- Consent rate 80%

BUT:

- Requirement to retain segments means:
  - Must work with nearly all providers
  - Many providers have few eligible patients
  - Address screening is burdensome

# New Proposal: Use Providers as Sampling Frame and Abandon Geographic Segments

- An obstetric group or clinic is a single provider
- Stratify providers by race/ethnicity of in-county births and by size of practice (large, small, or clinic)
- Sort providers into random order within strata and choose first 1 or 2 practices from each for a total of 6-8 providers. Refusers are replaced by next on list.
- Recruit the number of women required from each stratum to yield the proportion of 1000 births that is equal to the proportion of all births in county from that stratum.

## New Proposal (2)

- The quota for strata with 2 or more providers would be divided in proportion to number of in-county births per provider.
- Pace recruitment to desired rate from each provider by recruiting every  $n$ th new prenatal registrant.
- Race/ethnicity and educational status of practices easily monitored so over or under sampling could be imposed if necessary.
- A little staff time could be reimbursed for providers.

## New Proposal (3)

- Probably exclude large outside providers with fewer than 20 county births.
- Could exclude providers delivering in unique or uncooperative hospital.
- Providers may be able to identify women planning to get pregnant, but that needs exploration.

# Advantages of New Proposal

- 98% of births are in sampling frame.
- 80%+ of women register in first trimester.
- The problem of identifying pregnancies is solved.
- Provider is engaged; endorsement is implied.
- 80% consent rate already demonstrated, so sample probably more representative.
- Easier to arrange prenatal and birth bio samples.
- Staff not stretched across large number of providers.
- Number of birth hospitals reduced in large counties.

# Enhances All Four Key Features of NCS

- Large sample size
- Collection of extensive information, biological and environmental samples so that hypotheses in many domains can be tested
- Easier to recruit early in pregnancy.
- More representative sample

*And probably less expensive than other sampling methods.*