



Memorandum

Date November 13, 2012

From Chair, NIOSH IRB (HSRB)

Subject Report of NIOSH IRB -- Protocol No. HSRB 12-DSHEFS-05XP "Industrywide Exposure Assessment and Cross-Sectional Epidemiologic Studies of Workers at Facilities Manufacturing, Distributing, or Using Carbon Nanotubes or Carbon Nanofibers in the United States" Approval of Protocol


To Mary Schubauer-Berigan, Ph.D.
Project Officer, IWSB, DSHEFS
Through: /Chief, IWSB, DSHEFS _____
/Director, DSHEFS _____

General Comments and IRB Actions

I received your revised protocol and consent document 11/13/2012 and find that it is responsive to the issues raised in my 10/31/2012 IRB report. Your protocol was reviewed using the expedited procedure in that it presents no more than minimal risk and involves collection of blood (criteria 2a, 2b); the collection of biological specimens (criterion 3); data collected through non-invasive procedures routinely employed clinical practice (criterion 4); previously collected material solely for non-research purposes (criterion 5); and a human factors evaluation (criterion #7) as provided for in 45CFR46.110. The revised protocol and consent documents (dated 11/13/2012) are **approved** for one year and will serve as the documents of record for this study (renewal date 11/13/2013). However, if you make any substantive changes, or any adverse reactions occur in any study participants, please notify me immediately.

If you choose to make changes to your approved protocol, the changes must be reviewed and approved prior to implementation by submitting via hard copy CDC forms 0.1379 (signature page), 0.1252 (amendment request), 0.1370 (non CDC collaborator, if have), a clean copy of the revised protocol and a highlighted copy (track changes or pen/ink) of the revised protocol (all changes highlighted). Electronic submission of your amendment request may facilitate review, but it is not required. The general procedure for requesting annual continuing review is to send 45-60 days prior to renewal date completed hard copy forms CDC 0.1379 (signature page), 0.1251 (continuing review request), 0.1370 (non CDC collaborator, if have), a copy of your current consent form (if consenting or recruiting currently). An electronic submission of your continuing review may facilitate review, but it is not required.

Protocol Issues, Consent Form Issues, Addenda Issues – None.
End of report


Mark A. Toraason, Ph.D.

cc:
HSRB 12-DSHEFS-05XP



Signature Page for Human Research Review Protocols and Related Documentation

Use this signature page when submitting HRPO forms to your center-level Human Subjects Contact. When submitting materials with these forms, please consecutively number all pages, beginning with the protocol title page and followed by consent form(s) and ancillary documents. See *HRPO Guide: Overview* for further details. **NOTE: IRB (Institutional Review Board) refers to the NIOSH HSRB (National Institute for Occupational Safety and Health (NIOSH) Human Subjects Review Board (HSRB) of the CDC Human Research Protection Office (HRPO).**

1 Protocol identifiers

CAN# _____ (optional)

Leave protocol ID blank if not yet assigned.

CDC protocol ID: *HSRB 12-DSHEFS-05XP*

Protocol version number | version date

Protocol title: Industrywide Exposure Assessment and Cross-Sectional Epidemiologic Studies of Workers at Facilities Manufacturing, Distributing, or Using Carbon Nanotubes or Carbon Nanofibers in the United States

Amendment number (if applicable):

2 Key CDC personnel

	Name and degrees (FirstName LastName, Degrees)	User ID	SEV #	CDC NC/division
Primary contact (required)	Mary Schubauer-Berigan, PhD	zcg3	14460	NIOSH/DSHEFS
Principal investigator (required)	Mary Schubauer-Berigan, PhD	zcg3	14460	NIOSH/DSHEFS

SEV # is CDC's Scientific Ethics Verification Number. CDC NC/division is the national center or equivalent and division or equivalent, or coordinating center or office if submitted at that level.

3 Forms submitted with this signature page

Check all that apply in the appropriate column.

IRB-reviewed protocols


- 0.1250: Initial Review by IRB
- 0.1251: Continuing Review of Approved Protocol
- 0.1252: Review of Changes to Approved Protocol
- 0.1254: Incident Report
- 0.1254S: Supplemental Adverse Event Report
- 0.1253: End of Human Research Review
- 0.1370: CDC's Research Partners
- 0.1371: CDC Rely on a Non-CDC IRB
- 0.1372: Outside Institution Rely on a CDC IRB
- 0.1373: CDC Cover an Individual Investigator

Exempted protocols


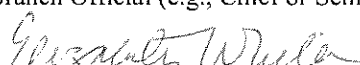

- 0.1250X: Initial Review for Exemption
- 0.1251X: Continuing Review of Exempted Protocol
- 0.1252X: Review of Changes to Exempted Protocol
- 0.1253: End of Human Research Review
- 0.1370: CDC's Research Partners

4 Signatures

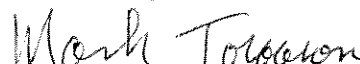
As principal investigator, I hereby accept responsibility for conducting this CDC-sponsored research project in an ethical manner, consistent with the policies and procedures contained in CDC's *Procedures for Protection of Human Research Participants*, and to abide by the principles outlined in federal policies for the protection of human subjects at 45 CFR part 46, 21 CFR part 50, and 21 CFR part 56.

Signature	Date	Remarks
Principal CDC Investigator: 	10/10/12	

As a supervisor of the principal investigator, I hereby accept responsibility for ensuring that this CDC-sponsored research project is conducted in an ethical manner, consistent with the policies and procedures contained in CDC's *Procedures for Protection of Human Research Participants*, and to abide by the principles outlined in federal policies for the protection of human subjects at 45 CFR part 46, 21 CFR part 50, and 21 CFR part 56.

Signature	Date	Remarks
Team Lead: 	10/11/2012	Check if PI is Team Lead: <input type="checkbox"/>
Branch Official (e.g., Chief or Senior Scientist): 	10/11/12	Check if PI is Branch Official: <input type="checkbox"/>
Division Official (e.g., Director or ADS): 	10/11/12	Check if PI is Division Official: <input type="checkbox"/>

I concur that this CDC-sponsored research project is consistent with the policies and procedures contained in CDC's *Procedures for Protection of Human Research Participants* and with other applicable CDC and national center policies.

Signature Chair, NIOSH HSRB: 	Date 11-13-12	Remarks Minimal Risk Bio marker study Categories 2a, 2b, 3, 4, 5, & 7. Annual Renewal 11-13-13
Other Clearance Official: (e.g., Confidentiality Officer, Coordinating Center/Office Official)		

Expedited Review; Minimal Risk; as provided for in 45CFR 46.110 (b)(1) category(s) 2a, 2b, 3, 4, 5, & 7
Approved for one year; renewal date 11/13/2013

5 Additional comments

Also, Addendum I approved 11/29/12 (info sheet)
Addendum II approved 12/17/12 (ALU.F LTR)

6 Reminder regarding other regulatory clearance processes

The principal investigator is responsible for obtaining other regulatory reviews as needed, which may include OMB clearance under the Paperwork Reduction Act (PRA) for federally sponsored information collections. Approval by or exemption from the IRB is unrelated to OMB clearance requirements under the PRA. For more information on whether your study requires clearance under PRA or other regulations, please consult the appropriate officials within your national center.

APPROVED



Request for Initial Review by an Institutional Review Board

Use this form to submit a protocol for its first review by a CDC IRB or a non-CDC IRB. If seeking review by a non-CDC IRB, also include form 0.1371. See *HRPO Guide: IRB Review Cycle* for further details on how to complete this form.

Received

Received 11-13-12

1 Protocol identifiers

Leave protocol ID blank if not yet assigned.

CDC protocol ID: 12-DSHEFS-05XP

Protocol version number 1 version date 11/5/12

Protocol title: Industrywide Exposure Assessment and Cross-Sectional Epidemiologic Studies of Workers at Facilities Manufacturing, Distributing, or Using Carbon Nanotubes or Carbon Nanofibers in the United States

Suggested keywords (optional). Enter each term in a separate cell:

<u>nanomaterials</u>	<u>biomarkers</u>	<u>carbon nanotubes</u>
<u>carbon nanofibers</u>	<u>cross-sectional</u>	<u>exposure assessment</u>

2 Key CDC personnel

	Name and degrees (FirstName LastName, Degrees)	User ID	SEV #	CDC NC/division
Primary contact (required)	<u>Mary Schubauer-Berigan, PhD</u>	<u>zcg3</u>	<u>14460</u>	<u>NIOSH/DSHEFS</u>
Principal investigator (required)	<u>Mary Schubauer-Berigan, PhD</u>	<u>zcg3</u>	<u>14460</u>	<u>NIOSH/DSHEFS</u>
Investigator 2	<u>Matthew Dahm, MPH</u>	<u>iwa6</u>	<u>11997</u>	<u>NIOSH/DSHEFS</u>
Investigator 3	<u>James Deddens, PhD</u>	<u>jad0</u>	<u>16409</u>	<u>NIOSH/DSHEFS</u>
Investigator 4	<u>Eileen Birch, PhD</u>	<u>mib2</u>	<u>19665</u>	<u>NIOSH/DART</u>
Investigator 5	<u>Douglas Evans, PhD</u>	<u>dje3</u>	<u>5899</u>	<u>NIOSH/DART</u>

SEV # is CDC's Scientific Ethics Verification Number. CDC NC/division is the national center (or equivalent) and division (or equivalent), or coordinating center or office if submitted at that level.

List all other CDC investigators, if any (name and degrees, user ID, SEV #, CDC NC/division):

Aaron Erdely, PhD; efi4; SEV# 18761; NIOSH/HELD

Marie De Perio, MD, MPH; hgj1; SEV# 6605; NIOSH/DSHEFS

Douglas Trout, MD, MPH; dyt1; SEV# 13159; NIOSH/DSHEFS

3 CDC's role in project

Check yes or no for each of the following.

- CDC employees or agents will obtain data by intervening or interacting with participants.
- CDC employees or agents will obtain or use identifiable (including coded) private data or biological specimens.
- CDC employees or agents will obtain or use anonymous or unlinked data or biological specimens.
- CDC employees will provide substantial technical assistance or oversight.
- CDC employees will participate as co-authors in presentation(s) or publication(s).

"Agents" includes on-site contractors, fellows, and others appointed or retained to work at a CDC facility conducting activities under the auspices of CDC.

4 CDC's research partners

Research partners include *all* direct and indirect recipients of CDC funding (e.g., grants, cooperative agreements, contracts, subcontracts, purchase orders) and other CDC support (e.g., identifiable private information, supplies, products, drugs, or other tangible support) for this research activity, as well as collaborators who do not receive such support. See *HRPO Guide: CDC's Research Partners* for further details. Check one of the following.

- No research partners.
- Research partners are listed on form 0.1370, which accompanies this form.

5 Study participants—planned demographic frequencies

Report estimated counts (rather than percentages). Include participants at domestic and foreign sites. See *HRPO Guide: IRB Review Cycle* for definitions.

Number of participants	100
Location of participants	
Participating at domestic sites	100
Participating at foreign sites	0
Sex/Gender of participants	
Female	30
Male	70
Sex/gender not available	0
Ethnicity of participants	
Hispanic or Latino	10
Not Hispanic or Latino	90
Ethnicity not available	0
Race of participants	
American Indian or Alaska Native	0
Asian	20
Black or African American	5
Native Hawaiian or Other Pacific Islander	0
White	70
More than one race	5
Race not available	0

Comments on demographics

These numbers are estimates only, as no subjects have yet been enrolled.

6 Regulation and policy**6.1 Mode of IRB review on CDC's behalf**

Location of IRB (check one):

- CDC IRB
- Non-CDC IRB through IRB authorization agreement [submit form 0.1371]

Institution or organization providing IRB review:

IRB registration number (if known):

Federalwide assurance number (if any):

Suggested level of risk to subjects (check one):

- Minimal
- Greater than minimal

Suggested level of IRB review (check one):

See *HRPO Worksheet for Expedited Review* for detailed assistance. If relying on a non-CDC IRB, please indicate the level of review that you think is appropriate under human research regulations.

- Convened-board review is suggested
 - Not eligible for expedited review. For example, poses greater than minimal risk; involves use of drug, biologic, or device under IND or IDE; involves collection of large amount of blood; use of x-rays or microwaves; anesthesia; or physically invasive procedures
 - Other specified reason:
- Expedited review is suggested, under the following categories (check all that apply):
 - 1a Study of drugs not requiring Investigational New Drug exemption from FDA
 - 1b Study of medical devices not requiring Investigational Device Exemption from FDA
 - 2a Collection of blood from healthy, nonpregnant adults; below volume limit, minimally invasive
 - 2b Collection of blood from other adults and children; below volume limit, minimally invasive
 - 3 Prospective noninvasive collection of biological specimens for research purposes
 - 4 Collection of data through routine, noninvasive procedures, involving no general anesthesia, sedation, x-rays, or microwaves
 - 5 Research that uses previously collected materials
 - 6 Collection of data from voice, video, digital, or image recordings made for research purposes
 - 7 Research that uses interview, program evaluation, human factors, or quality assurance methods

6.2 Vulnerable populations

Characterize the intention to include each of the following vulnerable populations. Choose one option in each row, and indicate the page(s) where inclusion or exclusion is justified in the protocol.

	Targeted	Allowed	Excluded	NA	Page(s)
Pregnant women or fetuses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66-67
Children (including viable neonates)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	66-67
Prisoners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	66-67

Describe other groups of potentially vulnerable subjects intended to be included or excluded, such as neonates of uncertain viability or nonviable neonates, persons with mental disabilities, or persons with economic or educational disadvantages.

There are no other known potentially vulnerable subjects who will be either included or excluded.

6.3 Free and informed consent

Characterize requested changes to required features of the informed consent process. If a waiver is requested, enter the page number of the protocol where the waiver is justified.

Which exceptions to the consent process are requested? Check all that apply:

- Waiver or alteration of elements of informed consent for adults pg
- Waiver of assent for children capable of providing assent pg
- Waiver of parental permission pg

Which exceptions to documentation of informed consent are requested? Check all that apply:

- Waiver of documentation of informed consent for adults pg
- Waiver of documentation of assent for children capable of providing assent pg
- Waiver of documentation of parental permission pg
- Waiver or alteration of authorization under HIPAA Privacy Rule pg

How is it shown that the consent process is in understandable language? Check all that apply:

- Reading level has been estimated pg61
- Comprehension tool is provided pg
- Short form is provided pg
- Translation planned or performed
 - Certified translation/translator pg
 - Translation and back-translation to/from target language(s) pg
 - Other method (specify:) pg

6.4 Other regulation and policy considerations

Check all that apply.

If requesting the exception to the PHS policy on informing those tested about HIV serostatus, enter the page number of the protocol where the waiver is justified.

- Exception is request to PHS informing those tested about HIV serostatus. pg
- Human genetic testing is planned now or in the future.
- This study includes a registrable clinical trial.
- This study involves long-term storage of identifiable biological specimens.
- This study involves a drug, biologic, or device.

See HRPO Worksheet to Determine FDA Regulatory Coverage for guidance on whether or not FDA regulations apply.

- This study will be conducted under an Investigational New Drug (IND) exemption or Investigational Device Exemption (IDE).

IND/IDE number(s):

6.5 Confidentiality protections

If at least one research site is within the US, then check either Granted, Pending, or No in each row. If no sites are within the US, then check NA in each row.

	Granted	Pending	No	NA
Certificate of Confidentiality (301(d))	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Assurance of Confidentiality (308(d))	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Describe any other formal confidentiality protections that are planned or are in place:

.....

7 **Material submitted with this form**

Check all that apply. Describe additional material in the comments section.

- Complete protocol
- Peer reviewers' comments or division waiver (NIOSH)
- Consent, assent, and permission documents or scripts
- Other information for recruits or participants (e.g., ads, brochures, flyers, scripts)
- Data collection instruments (e.g., questionnaires, interview scripts, record abstraction tools)
- Certification of IRB approval or exemption for research partners

8 **Additional comments**

The informed consent documents and data collection instruments are contained in the appendices to the attached protocol, as noted below:

The study fact sheet and informed consent documents are contained in Appendix I of the protocol. The questionnaire to be used in the computer-assisted personal interview is in Appendix II. The abstraction form to be used by NIOSH researchers to collect information about the workplace and the work practices is in Appendix III. There is also an emergency plan to be followed while conducting medical examinations and collecting biospecimens, in Appendix IV of the protocol.

11-13-12



CDC's Research Partners

Use this form to report current information on CDC's research partners whenever a partner institution or individual is added or information changes. Supply individual name and SEV number only for investigators collaborating with CDC under an individual investigator agreement (IIA). See *HRPO Guide: CDC's Research Partners* and either the *HRPO Worksheet for Basic Tracking of Research Partners* or the *HRPO Worksheet for Advanced Tracking of Research Partners* for details on how to complete this form.

Leave protocol ID blank if not yet assigned.

CDC protocol ID: 12-DSHEFS-05XP

Protocol version number 1 version date 11/5/2012

Protocol title: Industrywide Exposure Assessment and Cross-Sectional Epidemiologic Studies of Workers at Facilities Manufacturing, Distributing, or Using Carbon Nanotubes or Carbon Nanofibers in the United States

Partner 1

Institution name: Myriad RBM
 Institution location: 3300 Duval Road, Austin TX, 78759
 Individual name (IIA only): _____
 Reporting status: Initial report
 Regulatory coverage: Not engaged
 Financial support: Contract/subcontract
 Support award number: Not yet available
 Support end date: Not yet available
 Nonfinancial support: No nonfinancial support
 FWA number: _____
 SEV number (IIA only): _____
 IRB review status: Not applicable
 IRB approval expiration date: _____

Comments: This "partner" is a contract laboratory that will receive and analyze specimens for non-genetic biomarkers and return the analysis result and unused specimens to NIOSH. The only identifying information they will receive is a sequential number, which will contain no information that could be used to determine the identity of a study participant.

Not engaged. K. Masten

Partner 2

Institution name: Quest Diagnostics
 Institution location: 9275 Montgomery Rd, Cincinnati OH
 Individual name (IIA only): _____
 Reporting status: Initial report
 Regulatory coverage: Not engaged
 Financial support: Purchase order
 Support award number: Not yet available
 Support end date: Not yet available
 Nonfinancial support: No nonfinancial support
 FWA number: _____
 SEV number (IIA only): _____
 IRB review status: Not applicable
 IRB approval expiration date: _____

Comments: This "partner" is a contract laboratory that will receive and analyze blood specimens for a complete blood count with differential. The only identifying information they will receive is a sequential number, which will contain no information that could be used to determine the identity of a study participant. They will receive the study participant's age, gender and race, which they will need to determine whether findings are within normal limits. *Not engaged. K. Masten*