WTC Health Program Research-to-Care Logic Model (iterative)

Inputs

- Program Members
- Clinical Centers of Excellence
- Nationwide Provider Network
- Data Centers
- Program Support
- Technology
- Program Staff
- NYC 9/11 Health Registry
- Extramural Researchers
- Advisory Committee (STAC)
- Zadroga Act and Rules

Activities

- Solicit, evaluate & fund quality research proposals
- Conduct quality research
- Establish & maintain quality provider networks
- Render high quality patient care
- Develop & apply medical quality indicators
- Conduct & analyze health surveillance
- Translate findings from research & health

Outputs

- Identify new linkages of exposure & health outcome
- Elucidate disease mechanisms
- Updated research agenda
- Medical guidelines & protocols
- Program QA metrics
- Peer-reviewed publications
- Periodic CCE medical quality indicator reports
- Periodic health screening & health surveillance reports
- Member & provider education products

Outcomes

Short

- Improved recognition of WTC-related conditions
- Improved knowledge about treatment outcome
- Improved training & education for WTC providers
- Improved patient compliance with treatment

Intermediate

- Improved curriculum for NIOSH Educational Resource Centers
- Improved tools for longitudinal medical monitoring
- Improved customer satisfaction
- Improved patient care and management of chronic WTC diseases

Long

- Improved member health & well-being
- Improved response for future disasters

Contextual Conditions:

- Legislative environment: Health Insurance Portability and Accountability Act, Federal Employee Compensation Act, Social Security Act, Affordable Care Act, Federal Information Security Modernization Act, Public Health Service Act
- Limited care model (“medical neighbor”)
- Program enrollment (low statistical power)

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Mission: Through excellence in research and healthcare, we improve the health and well-being of our members and enhance the nation's response to future disasters.

Research-to-Care Goals:

1. Quality data collection, analytics and research
2. Excellence in health care services and chronic disease management
3. Improving methods and knowledge for future disaster response

Research-to-Care Logic Model: Provides a visible tool for use in program planning and evaluation (see Model diagram). The columns are described through tables below.

TABLE 1: INPUTS. THE FIRST COLUMN OF THE LOGIC MODEL DESCRIBES RESOURCES AVAILABLE TO THE WORLD TRADE CENTER HEALTH PROGRAM AND REPRESENTS THE INFRASTRUCTURE THAT MUST BE IN PLACE FOR THE PROGRAM ACTIVITIES TO BE IMPLEMENTED.

Program Members	Approximately 70,000 responders and survivors enrolled for health care services associated with 9/11 exposure.
Clinical Centers of Excellence (CCE)	A network of federally contracted CCEs in New York City and New Jersey with occupational and environmental medical expertise and experience in caring for 9/11 responders and the affected communities.
Nationwide Provider Network (NPN)	A federally contracted network administrator overseeing a nationwide network of primary and specialty providers to provide health surveillance and quality health care services outside the geographic area covered by the CCEs.
Data Centers (DC)	Federally contracted DCs receive, analyze, and report on standardized health surveillance and health screening tests for the corresponding CCEs. The data is used for program evaluation, quality improvement and research.
Program Support	Federally contracted program management and support in the areas of member services, benefits management, claims processing and payment, and reporting on claims data for federal oversight.
Technology	Application of commercial software customized to meet the needs for program management and compliant with laws and regulations governing protection of personally identified information, privacy, and data security.
Program Staff	A blend of federal employees and contractors.
NYC 9/11 Health Registry	A volunteer registry for 9/11 affected communities and workers for the purpose of periodic epidemiological study. Approximately 71,000 registrants.
Extramural Researchers	Scientists affiliated with academic institutions awarded federal research funds by NIOSH through a competitive public funding opportunity announcement process.
Science and Technical Advisory Committee (STAC)	A federal advisory committee authorized by modification of the Public Health Service Act (the James Zadroga Act) to provide advice to the WTC Health Program Administrator upon request including program eligibility criteria, research needs, and adding new conditions to the list of WTC-related health conditions.
James Zadroga Act and Regulations	Established and guides the WTC Health Program by amending the Public Health Service Act in 2011, and reauthorized in 2015 until 2090.

TABLE 2: ACTIVITIES. THE SECOND COLUMN OF THE LOGIC MODEL DESCRIBES WHAT ACTIONS ARE UNDERTAKEN BY THE PROGRAM STAFF OR THROUGH PROGRAM FUNDS AWARDED TO CONTRACTORS AND GRANTEES.

Solicit, evaluate & fund quality research proposals	Competitive research funding opportunity is published, establishing research goals and funding parameters. A peer-review process is used to select technically meritorious research proposals that are responsive to the solicitation.
Conduct quality research	Competitively awarded extramural researchers work within the guidelines of their funding agreements under the oversight of a federal program official to conduct high quality research.
Establish & maintain quality provider networks	CCEs and the NPN have business relationships with qualified clinicians and specialists to render the health care services required and tender bills for services according to program guidelines and policies.
Render high quality patient care	CCEs and the NPN provide high quality health care, benefits counseling, and case management services to members enrolled in their program component. Health care services include health screening, health surveillance and treatment of health conditions certified by the WTC Health Program.
Develop & apply medical quality indicators	DCs develop performance metrics to assess the quality of care and compliance with program guidelines, in consultation with the CCEs and Program Staff.
Conduct & analyze health surveillance	DCs design the protocols, collect and analyze the data for periodic health surveillance reports. Analyses are conducted for trending health effects, identifying emerging health concerns, and for measuring health burdens associated with 9/11.
Translate findings from research & health surveillance	Program staff and consultants create educational products designed for health care provider training or to inform the program members about new scientific and medical understandings related to the 9/11 terror attacks. The data are scientifically collected through standardized medical monitoring examinations and IRB-approved and funded research protocols.

TABLE 3: OUTPUTS. THE THIRD COLUMN OF THE LOGIC MODEL HIGHLIGHTS DIRECT RESULTS FROM PROGRAM ACTIVITIES AND FROM THE INTEGRATION OF NEW KNOWLEDGE (FROM RESEARCH AND SURVEILLANCE) INTO HIGH QUALITY CARE FOR OUR MEMBERS.

Elucidate disease mechanisms	There are chronic diseases observed in those adversely affected by the 9/11 attacks that are difficult to manage clinically. Program experience and research efforts are looking to define the mechanism of disease progression to help optimize clinical intervention.
Identify new linkages of exposure & health outcome	Health surveillance and research studies continue to identify latent disease or unexpected courses of illness that might be attributable to 9/11 exposures. This informs program needs for rulemaking or administrative procedures that cover additional conditions.
Updated research agenda	Iterative process to evaluate and revise future research investment strategy in the context of program priorities and any advances in scientific and medical knowledge stemming from current investments. This involves a process of stakeholder input, scientific evaluation, and strategic planning.

Medical guidelines & protocols	The Program requires the DCs to develop or adopt existing medical guidelines that comport with principles of medical necessity and recognized standards of care. Standardized health surveillance protocols approved by the Program are implemented by CCEs and the NPN for health screening and medical monitoring.
Program QA metrics	Program staff monitor quality assurance metrics designed to measure key areas of program and contractor performance; including contract costs, federal spend plans, health care claims processing, member services, government reporting, and medical benefits.
Periodic CCE medical quality indicator reports	DC work with CCEs to assess quality of services through the application of standardized medical quality indicators. The reports can signal when practice patterns are not consistent with expected standards of care so that the CCE can investigate and correct.
Periodic health screening & health surveillance reports	These reports summarize health care data to enable analysis of sub-cohorts of members by CCE, health condition or other demographic factor. These analyses would then inform needs for active surveillance or nested case-control studies to identify new linkages between health outcome and 9/11 exposure or other health burdens connected with certified conditions. These reports can also be used to tailor quality assurance efforts, program evaluation and quality improvement.
Member & provider education products	The products arise from research and health surveillance activities. These products would be used for provider training and for member education, which may facilitate program retention.

TABLE 4: OUTCOMES. THE FINAL COLUMN OF THE LOGIC MODEL ADDRESSES SPECIFIC CHANGES IN ATTITUDES, BEHAVIORS, KNOWLEDGE, SKILLS, QUALITY OF LIFE, OR IMPACTS TO NATIONAL PREPAREDNESS RESULTING FROM PROGRAM ACTIVITIES. THE OUTCOMES ARE DEFINED ON THE BASIS OF SHORT TERM, INTERMEDIATE, AND LONG TERM PERIODS OF TIME.

SHORT TERM: Research and health surveillance activities informing the Program and networks of researchers, clinicians and stakeholders has led to improved recognition of WTC-related health conditions (i.e., cancer). The interconnections between some of the grantees, contractors and stakeholders continues to enhance knowledge about treatment outcome; which will be integrated into educational products or priority areas for further research. Patient compliance with treatment is influenced by the interactions of stakeholders with clinicians and researchers; and the enhanced training of the Program providers.
INTERMEDIATE: More providers are educated about the lessons regarding exposure and disease associated with the 9/11 events and the Program's clinical and health surveillance experience. This provider education occurs through connections of the CCEs with clinical associations (i.e., Association of Occupational and Environmental Clinics [AOEC] and American College of Occupational and Environmental Medicine [ACOEM]) and NIOSH-funded Educational Resource Centers (ERCs) to provide residency training for occupational and environmental clinicians. The CCEs are housed in institutions participating in these organizations, with academic affiliations and proclivities to do analytical work to evaluate the effectiveness of medical monitoring. Lessons learned in recovery contribute to improvements in tools used for longitudinal medical monitoring. The program-designed interactions among stakeholders, clinicians and researchers contribute to greater opportunities for customer satisfaction and optimized chronic disease management.

LONG TERM: As the Program achieves the Intermediate outcomes; the added benefits are a reduction in preventable injury, illness, loss of function, and death. These gains, in turn, promote improvements in quality of life, and for those with terminal illness – improves the end of life experience. Lessons learned through program administration, tool refinement, consultation and published works improve the nation's response to future disaster.

Contextual Conditions:

The contextual conditions are factors that influence the implementation of the program. these factors include the applicable laws such as Health Insurance Portability and Accountability Act (HIPAA), Federal Employee Compensation Act (FECA), Social Security Act (SSA), Public Health Service Act (modified), Federal Information Security Modernization Act (FISMA) and the Affordable Care Act (ACA).

The World Trade Center Health Program requires a model of limited health care delivery; limited by virtue of a risk assessment in connection to 9/11 exposure – more like a workers compensation model than a general health insurance model. This enables function as a good medical neighbor, rather than a patient-centered medical home. Additionally, the program is limited by the inability to fully enumerate the population at risk and deficiencies in exposure assessment such that exposure characterization is qualitative. Both of these issues lower the statistical power on surveillance, analytics and research conducted program-wide.