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World Trade Center Worker and Volunteer Medical Screening Program



Mount Sinai Center for Occupational and Environmental Medicine

Bellevue/NYU Occupational & Environmental Medicine Clinic

Center for the Biology of Natural Systems at Queens College

SUNY Stony Brook/Long Island Occupational and Environmental Health Clinic

Environmental & Occupational Health Sciences Institute at UMDNJ-Robert
Wood Johnson Medical School/New Jersey

The Association of Occupational and Environmental Clinics

Funded by NIOSH/CDC



WTC Worker and Volunteer Medical Screening Program

- To address concerns about short and long term health effects among WTC responders
- Funded by NIOSH
- Mt Sinai Center for Occupational and Environmental Medicine (COEM) received 11.8 million dollar contract to develop and oversee program



Primary Program Goals

- To rapidly establish a clinical program to provide 9000 free standardized exams to WTC responders:
 - At Mount Sinai,
 - At other NY/NJ regional occupational medicine programs, and
 - Nationally, coordinated by Association of Occupational and Environmental Clinics (AOEC)



What Does the Examination Include?

- Questionnaires about WTC exposures, OH, physical and mental health
- Physical examination
- Pre- and post- bronchodilator spirometry
- Chest x-ray
- Routine blood work
- Follow up mental health evaluation (separately funded)



How Are Appointments Made?

- Exposure-based eligibility criteria was established by Exposure Assessment Working Group: exams are for rescue/recovery/restoration workers/volunteers with most heavily exposed seen first
- Anyone who wants to be examined calls the toll-free phone bank number
- Exposure-based eligibility is established
- All patients are given first choice location

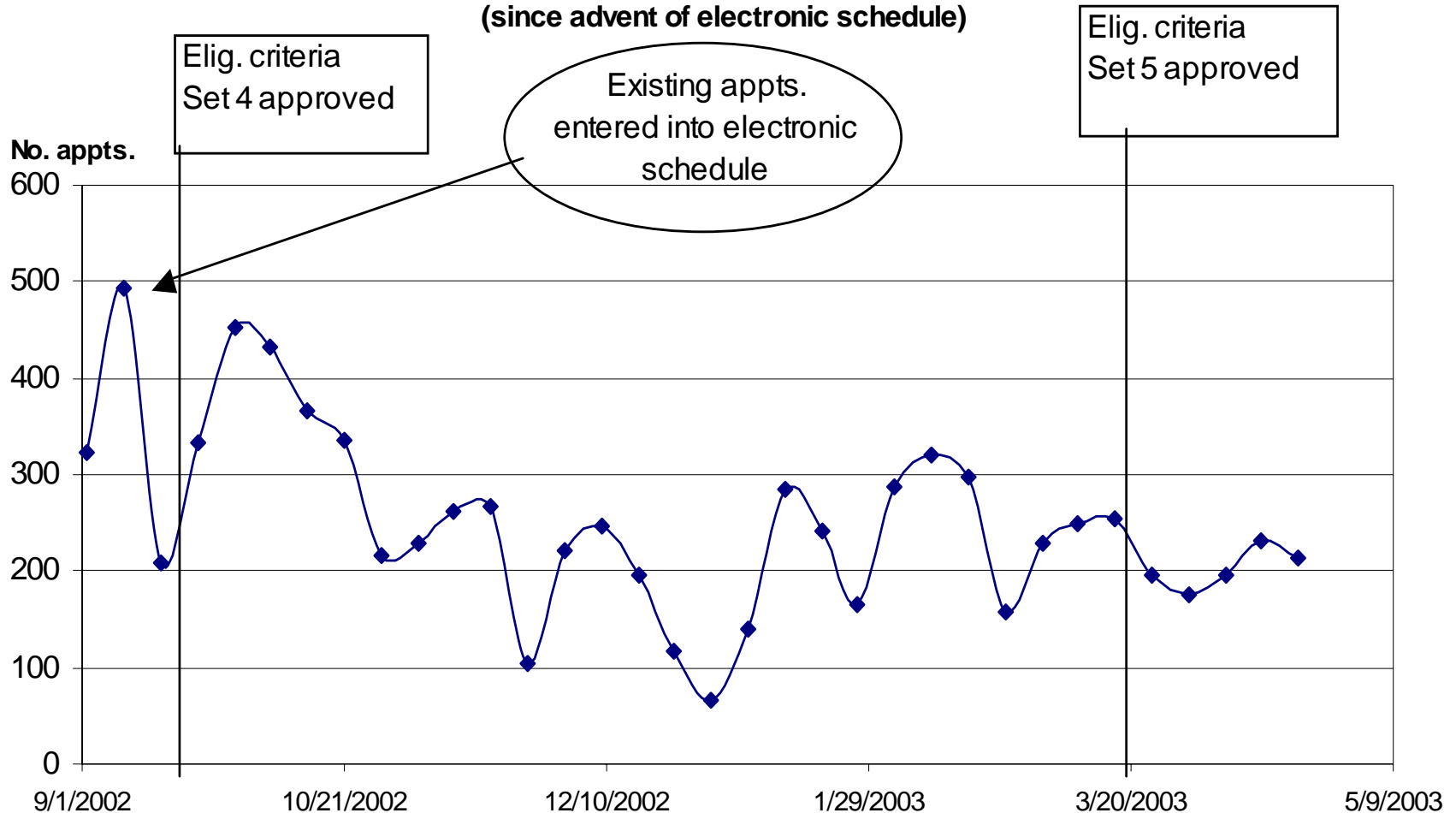


Program Status

- 5,630 workers and volunteers have been examined:
 - 5,294 patients at Mount Sinai
 - 290 at regional NY/NJ clinics
 - 46+ at AOEC clinics
- Program is almost out of new appointments while demand remains steady

Demand Remains Steady

WTC Worker and Volunteer Medical Screening Program
Number of appointments made for Mount Sinai (only) by week
(since advent of electronic schedule)



Program Status

	Contract signed	Started screening	Seen (as of 4/30)	Waiting to be seen¹
Mount Sinai	06/02	7/16/02	5,294	2,204
Bellevue	11/02	2/10/03	63	105
CBNS (Queens)	04/03	4/30/03	5	208
EOHSI (New Jersey)	10/02	1/3/03	136	171
Stony Brook (LI)	12/02	2/24/03	86	581
AOEC (national)	12/02²	1/03	46³	662
Total			5,630	3,931

¹ Includes eligible but not yet scheduled and scheduled but not yet seen.

² After AOEC contract with Mount Sinai signed, AOEC then sub-contracted with 30+ national clinics.

³ Number of charts received.



Challenges We Faced in Establishing WTC Program

- Need to establish large program very quickly and develop the infrastructure to handle program volume.
- Highly visible program with multiple “stakeholders”: patients/workers, unions, employers, elected officials, NIOSH/CDC, local public health officials.
- Significant difficulties with sub-contracting, inter-institutional IRB and HIPAA issues.



Challenges We Faced in Establishing WTC Program

- Need to establish fair and uniform eligibility criteria.
- Need to conduct staged outreach so as to reach a maximum number of people without overwhelming examination capacity.
- Importance of patient satisfaction in ensuring high participation rates.
- Meeting needs of a multi-lingual, diverse group of patients.



Challenges We Faced in Establishing WTC Program

- Examination program needs to fulfill multiple purposes:
 - To identify current WTC-related physical and mental health problems.
 - To serve as baseline for future exams.
 - To provide meaningful aggregate data in absence of control groups.
- Consequences:
 - Complex questionnaire required.
 - Complex clinical interpretation



Challenges We Faced in Establishing WTC Program

- Determining content of screening exam
- Exam content was determined by Medical Working Group
- How far should a screening program go in determining diagnoses?
- Tension of doing fewer tests and seeing more people vs doing more extensive work up of fewer people
- Tension of which outcomes to include: upper and lower respiratory, mental health, etc.



Challenges We Faced in Establishing WTC Program

- Concerns about access to follow up medical and mental health care:
 - **For WTC-related problems:** workers compensation delays, few occupational medicine specialists
 - **For other medical problems:** medically indigent
 - **For mental health problems**



Lessons for Future Screening

- Establishing Advisory structures and having strong support of labor were critical to the success of the program
- Maintaining a consistent focus on patient advocacy was also important: in outreach, education, conduct of exams and written communications
- Confidentiality issues are critical to address in designing future programs



Current Challenges

- Expanding access to exams for the estimated 3,000 people who meet current eligibility criteria but for whom there is inadequate current funding
- Ensuring access to follow up diagnostic testing and treatment when needed
- Need for long term medical monitoring

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Who has been examined?

(3702 seen patients who reported a Union or Organization affiliation)

	No.	Percent
Construction	1208	32.6
Law Enforcement	1108	29.9
Technical and Utilities	535	14.5
New York City workers	377	10.2
Transportation	169	4.6
Volunteers	144	3.9
Service	137	3.7
Media	11	0.3
Fire	6	0.2
Health	4	0.1
USAR	3	0.1
Total	3702	100%



WTC Medical Screening Program: Data from 5,196 Patients Examined

- 87% male
- Median age: 41 years (range: 14 – 79)
- Union membership: 84%
- 31% first worked on the recovery effort on 9/11/01; 13% on 9/12/01
- Median number of 8-hr days worked in WTC effort: 165 days
- 59% referred by union; 13% by coworker; 7% by employer



Smoking History (N = 5467)

- Current smokers: 22%
- Ex-smokers: 18%
- Never smokers: 60%

Ethnicity of Patients Examined

Ethnicity¹	No.	%
Caucasian	2,348	81.5%
African-American	386	13.4%
Other	84	2.9%
Asian	46	1.6%
American Indian or Alaskan Native	14	0.5%
Native Hawaiian/other Pacific Islander	3	0.1%
Latin descent ²	747	31%

¹ n=2,881 patients with information entered.

² n=2,410 patients with information entered.



Exposure to Dust in WTC Area on 9/11

(N = 1063)

Exposure Conditions	No.	%
Not exposed to dust and not in cloud of dust	51	4.8%
Exposed to some dust but not in cloud of dust	131	12.3%
Exposed to sig. amounts of dust but not directly in the cloud	402	37.8%
Directly in the cloud of dust	476	44.8%
Don't know	3	0.3%

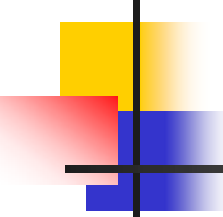
WTC Mental Health Effects

	No.	%
Screened "in" for mental health referral "yellow" (as of 4/1/03)	2,293	47.5%
Screened "in" for mental health referral "red" (as of 4/1/03)	474	9.8%
REASON FOR REFERRAL (770 patients with data entered)		
Somatic symptoms, anxiety and insomnia, social dysfunction, or severe depression	308	40.1%
Post traumatic stress disorder (PTSD)	149	19.4%
General anxiety	49	6.4%
Major depression	53	6.9%
CAGE/Alcohol questions	65	8.5%
Life Impact Survey		
Problem(s) with Spouse/Partner	28	3.6%
Problem(s) with Children	18	2.3%
Problem(s) with Work	96	12.5%
Problem(s) with Social Life	117	15.2%
Problem(s) with Home Life	109	14.2%
Panic symptoms	6	3%

Pulmonary Symptoms – Began at WTC Site and Persistent to Month before Examination

	No.	% of 1053
Any pulmonary symptom below	324	30%
Dry cough (excluding colds)	169	16%
Cough with phlegm (excluding colds)	82	8%
Decreased exercise tolerance	37	3%
Shortness of breath	172	16%
Wheezing	129	12%
Chest tightness on waking	17	2%
Chest tightness any other time of day	20	2%
Irritant-provoked cough	161	15%
Irritant-provoked wheezing	77	7%
Irritant-provoked chest tightness	92	8%
Irritant-provoked shortness of breath	127	12%

ENT Symptoms – Began at WTC Site and Persistent to Month before Examination



	No.	% of 1053 -1111
Any ENT symptom below (all excluding colds)	525	48%
Facial pain or pressure	56	5%
Head or sinus congestion	155	14%
Blowing nose more than usual	178	16%
Throat irritation	242	22%
Sore throat	155	14%
Nosebleeds	20	2%
Stuffy nose	186	17%
Sneezing	115	10%
Runny nose	91	8%
Post-nasal discharge	108	10%
Irritation in nose	86	8%
Ear fullness ("blocked")	112	10%
Ear pain	39	4%
Hoarseness	159	15%
Losing voice	25	2%
Irritant-provoked tightness around windpipe	18	2%



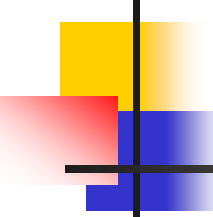
Persistent RADS Symptoms – Began or Worsened at WTC Site (N = 1080)

Began at
WTC Site

Worsened
at WTC
Site

	No.	%	No.	%
Trouble breathing	22	2%	9	1%
Wheezing	88	8%	20	2%
Chest tightness on waking	76	7%	2	<1%
Chest tightness other times of day	30	3%	3	<1%

Does not include those who developed symptoms only after leaving the WTC site



Chest Symptoms Provoked by Airborne Irritants, Cold Air, or Exercise – Began at Site, and Persistent to Month before Exam

	No.	% of 1081
Cough	161	15%
Wheezing	77	7%
Chest tightness	92	8%
Shortness of breath	127	12%

Fewer than 5% experience symptoms after exposure to animal dander



Acknowledgements

- The entire staff of the World Trade Center Worker and Volunteer Medical Screening Program and the Mental Health Screening Program, and the staffs of our consortium partners and AOEC, all of whom have worked tirelessly to make this program a reality.
- NIOSH staff, who have provided invaluable guidance in the conduct of this project.
- The members of our Executive Steering Committee, Program Council and Working Groups, who gave generously of their time to make the program a success.
- Our patients – for whom the program exists!