narap

The National Alliance
of Research Associates Programs

Research Associates Program: Background Research

Pre-health professional college students will gain experience with patients through participation in ongoing clinical research, public health screening, and quality assurance programs in emergency departments while providing an economical and successful service for institutional, local, and national research studies.

Dr. Keith Bradley, MD*

The National Alliance of Research Associates Programs (NARAP) is a non-profit 501c3 organization designed to offer pre-health professional college students, called Line Research Associates (RA's) the opportunity to gain experience with patients through participation in ongoing clinical research, public health screening and quality assurance programs in emergency departments (ED's).

The Line Research Associates Program based at St. Vincent's Medical Center in Bridgeport, CT, draws participants from area colleges and universities during the fall and spring semesters, and from across the nation in the Summer. This research model allows for the enrollment of large numbers of subjects in clinical studies in short time frames.

Since the inception of the RA Program in 1994 at Lincoln Medical and Mental Health Center in the South Bronx, almost a thousand RAs from over 100 colleges and universities volunteering in the program have enrolled more than tens of thousands of subjects in various studies at no additional cost to their sponsoring medical institutions. RAs in our program have facilitated research resulting in peer-reviewed publications, numerous abstracts and papers pending publication (see attachments). The program serves as a model for many of the more than thirty similar programs at academic EDs around the country.

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Research Associates Program: Background Research continued...

From their volunteer work in the program, RAs derive benefits toward their discernment, development and qualification for their careers in health care. Involvement with health professionals in the ED provides RAs an inside look at medical, nursing and paraprofessional roles and responsibilities in an emergency setting. Direct patient contact with significant responsibilities offers them "hands on" experiences through which they develop skills in observation and therapeutic communication. They demonstrate their qualification as a health professional in the area of greatest importance, how they work with patients.

With emergency departments seeing over 120 million patients, plus their accompanying family and friends each year over an average time from entry to discharge of about four hours, these sites have a rich potential for exploring issues central to health promotion. Building upon a body of work begun at Lincoln with a study on window guards to prevent pediatric falls from heights and continued with research on domestic violence and firearms injury risk assessment, the RA Program continues to focus on the emergency department as a site to facilitate primary health care. Our work has shown how RAs can effectively screen large numbers of patients and visitors in the emergency department for compliance with a wide variety of primary health care recommendations.

St. Vincent's Medical Center is a recognized leader in cancer treatment. To forward that mission, the RA Program instituted a series of IRB-approved studies assessing rates of American Cancer Society recommended screenings among patients and visitors in the emergency department. In our research model, RAs approach those waiting in non-critical treatment areas and use scripted algorithms to check their status on cancer screenings. Those individuals not up to date for Pap tests, mammograms, prostate specific antigen tests, digital rectal exams, and colon-rectal cancer screenings were assisted to access the necessary screening resources. Follow up calls revealed a (20-30%) follow through on recommendations, with study participants having either completed or scheduled their needed screenings.

Our study on a tobacco cessation effort among emergency patients and their visitors specifically illustrates the potential power of the RA model in a single ED. In twenty-one weeks during the spring and summer semesters, 2008, RAs at St. Vincent's enrolled 3125 subjects in the study. They identified over 1682 (54%) as having used tobacco products for more than a month in their lives and 681 (22%) who had smoked within the preceding 30 days.

Among those who had ever smoked, 299 (18%) accepted a referral to the Connecticut Quitline, a free, validated, telephone-based tobacco cessation program paid for from tobacco company settlement funds. For those who smoked within the thirty days of their ED visit, 261 (38%) were referred to the Quitline. This represents about 40% of all the Quitline referral in the entire state of Connecticut during that time period.

In 2012, ten (10) hospitals around the country joined together as the National Alliance of Research Associates Programs (NARAP) to replicate the pilot tobacco cessation study on a national basis. In less than a year, RAs enrolled more than 19,000 participants in this study with over a third of active tobacco users requesting a referral to their state's Quitline. Thus, NARAP's first attempt at multicenter research produced the fourth-largest prospective study ever done in the United States.

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Research Associates Program: Background Research continued...

Results of our previous work in combination with the four numbers noted in the funding application, ½, 4, 500,000 and 60 million, demonstrate the potential power a funded National Alliance of Research Associates Programs (NARAP) has for the public health on a national scale.

- Half the U.S. population attends an ED each year;
- Average ED visit is 4-hours including inevitable wait time;
- By conservative estimate 500,000 "pre-meds" per year;

If 4 hours per week of service for the public health, similar to the time spent in labs for prerequisite basic science courses, for was a requirement for health professional school admission = 60 million VOLUNTEER work hours per year compensated for by something other than money.

Abstracts of Research Utilizing Research Associates

Promoting tobacco cessation utilizing pre-health professional students as research associates in the emergency department

Abar B, Ogedegbe C, Dalawarie P, Freeman K, Boudreaux E, Illuzzi F, Carro-Kowalcyk S, Molloy M, Bradley K. Addictive Behaviors, 2015, 40: 73-76.

OBJECTIVE: The objective of this study was to investigate the extent to which volunteer research associates (RAs) can be utilized to screen emergency department patients and their visitors for tobacco use and effectively refer tobacco users requesting help to state Tobacco Quitlines.

METHODS: A sample of 19,149 individuals in 10 emergency departments around the country was enrolled into a prospective, interventional study on tobacco cessation by pre-health professional RAs. Participants who screened positive for tobacco use were provided a brief description of Tobacco Quitline programs and then offered a faxed referral to their respective state Quitline.

RESULTS: A total of 10,303 (54%) participants reported tobacco use for more than one month during their lives, with 3861 (20%) currently using every day and an additional 1340 using on some days (7%). Most importantly, 2151 participants requested a faxed Tobacco Quitline referral (36% of individuals who used tobacco in the past month).

DISCUSSION: Pre-health professional RAs were shown to be an effective and cost-efficient resource for providing a strongly recommended service in the emergency department. Patient care (and the care of their visitors) was supplemented, emergency department personnel were not provided with additional burden, and RAs were provided with valuable experience for their futures in the health professions.

Outcome of an emergency department intervention on tobacco cessation among emergency department patients and visitors: a validation study

Delgado J, Illuzzi F, Jablow R, King R, Carro-Kowalcyk S, Molloy M, Bradley K

BACKGROUND: Pilot work at St. Vincent's Medical Center demonstrated the potential for public health interventions, such as referral to tobacco cessation programs. To validate this model, two other institutions in Connecticut, Hartford Hospital and Lawrence and Memorial Hospital joined St. Vincent's

OBJECTIVES: Using pre-health professional students as Research Associates (RAs), 1. To assess tobacco use among adult non-emergent ED patients and visitors 2. To determine rate of referrals to a telephone-based tobacco cessation service

METHODS: Design: prospective, observation and intervention, convenience sample. Setting: an urban, community teaching hospital ED with an inner-city and suburban catchment area, a major academic medical center and a community hospital. Type of participants: non-emergent patients and visitors; RAs, volunteer college and post-baccalaureate students interested in a career in the health professions, trained in clinical research methods and the study protocol.

During weekly four-hour shifts, RAs approached as many non-emergent patients and visitors 18 years of age or older as possible. After obtaining informed consent, they used a scripted format to get demographic information and a detailed tobacco history. If a participant had used tobacco products for > 30 days at any time in their lives, they were offered a referral to the Connecticut Quitline, a service provided by the CT Department of Public Health. Those who indicated an interest in stopping tobacco use or to have help maintaining their tobacco cessation had a referral request and contact information sent to Free and Clear, Inc., the agency responsible for implementing Connecticut Quitline's treatment program. Free and Clear, Inc. provides a validated, free, telephone-based tobacco cessation program, funded by monies from the tobacco companies' settlement.

RESULTS: Over 20 weeks during the spring and summer semesters of 2011, RAs served 1530 shifts of four hours each. They approached 10,324 potential participants, identified 8558 as eligible and successfully enrolled 6750 (79%) and guided 6333, 74% of eligible and 94% of eligible, to study completion. Among our participants, 3640 (58%) used tobacco for > one month at some time in their lives. 1640 participants (26% of enrolled and 45% of those who used tobacco ever) had used tobacco within the last 30 days. Of those participants who used tobacco for > one month in their lives, 1118 (17% of enrolled and 31% of tobacco users) accepted a CT Quitline referral. For those who used tobacco within the last 30 days, 52% were referred.

CONCLUSIONS: In this validation study, RAs were able to arrange referrals to a free tobacco cessation service for a large number of tobacco users among ED patients and visitors. This study demonstrates the potential for a substantial public health intervention in the emergency department setting with minimal financial impact in a variety of ED settings.

SPEED (Serving Patients Efficiently in the Emergency Department): Improvement in ED flow from an emergency physician at the initial point of contact

Frank Illuzzi, MD**, Ryan King, BSEE*, Melanie Dabakis, BS*, Ankur Talati, BS*,
Jenna Turocy, BS*, Keith Bradley, MD*

Ann Emerg Med 58 S295-296

OBJECTIVES: to determine the accuracy and time intervals of care from a system change in assigning an emergency physician as Rapid Assessment Physician (RAP) with nurses and emergency techs as a Rapid Assessment Team to the Rapid Assessment Area (RAA)/triage.

METHODS: design prospective, observational. setting: urban, community hospital. participants: Rapid Assessment Team in the RAA. During their 4-hour shifts, Research Associates (RAs), pre-health professional volunteer data collectors, stood by the side of the RAP recording the times and dispositions from initial contact to dispositions based on anticipated use of resources: Main ED (> 1h, potential for admission), Express Care (about 1h, > 1-2 test, low-moderate potential for admission), Brief Testing (< 1 hour, 1-2 test, admission unlikely), discharge without testing. Times for other elements out of sight of the RA were recorded from standard electronic documentation on computers with times synchronized with the study computers.

RESULTS: Over 135 shifts in 10 weeks, 25 RAs observed 6 EPs' interactions with 1571 patients in the RAA. From triage, 272 (17 %) were sent to the main ED, 217 (14 %) to Express Care, 694 (44 %) discharge from triage, 385 (25 %) Brief Testing. Thus, 69% of patients presenting to the RAA were seen and discharged by the RAP. There were 59 (4%) admissions from the RAA. This was 12% of those sent from the RAA to the main ED/Express Care. All admitted patients were identified by the RAP as needing more intensive work-up than could be accomplished in the RAA.

From	To	Median	68%-ile	95%-ile
Quick Reg	RAP initial contact	20	8-47	3-83
	RAP initial decision	23	10-52	5-87
	Discharge home from RAA w/o testing	46	26-85	14-141
	Discharge home after Brief Testing	87	56-131	42-183
RAP initial contact	RAP initial decision	3	1-5	1-9
	Discharge home from RAA	20	10-40	5-98
	Discharge home after Brief Testing	64	41-89	20-125
RAP initial decision	Discharge home from RAA w/o testing	17	6-36	3-91
	Discharge home after Brief Testing	59	38-86	13-122
RAP decision after Brief Testing	Discharge home after Brief Testing	8	2-21	1-55

CONCLUSION: A Rapid Assessment Team can efficiently assess, treat and release the majority of patients presenting for triage. Emergency physicians in a RAA make accurate and very rapid disposition decisions. Testing beyond history and physical examination introduced delays in decision making without adding to the disposition decision. Non-physician personnel contributed to most of the time needed to discharge triage patients who are going home from the ED.

Facilitating Colon-Rectal Cancer Screening Among Emergency Department Patients and Visitors

Trowbridge R, King R, Byun R, Dabakis M, Talati A, Turocy J, Illuzzi F, Bradley K

Ann Emerg Med 2010 56:S104-105

OBJECTIVE: To determine the ability of Research Associates (RAs), volunteer pre-health professional students, to facilitate colon-rectal cancer screenings among patients and visitors in the emergency department.

METHODS: *Design:* prospective, interventional *Setting:* community teaching hospital ED *Type of participants:* convenience sample, non-acute patients and visitors ≥ 50 years old. *Protocol:* Using a scripted format, RAs enrolled as many potential subjects as possible during their weekly four-hour shift in the ED. After obtaining an informed consent, the RAs assessed the subjects' compliance with American Cancer Society-recommended scheduled visits to primary care practitioners (PCP) and the colon-rectal cancer (CRC) screenings, colonoscopy and flexible sigmoidoscopy (FS). If requested by the subject, the completed data forms were sent to the designated physician. For those subjects who were not up-to-date with ACS recommendations, follow-up contact was made to determine if the compliance had been achieved.

RESULTS: Over the twenty (20) weeks, seventy-one (71) RAs identified 2051 eligible subjects of whom 1280 (62%) agreed to be in the study. For PCP visit, 1180 (92%) could identify a PCP, 1048 (82%) had seen their PCP within the preceding 12 months and 225 (18%) needed a PCP referral. For CRC screening, 847 (66%) indicated having some form of testing, 778 (61%) colonoscopy and 56 (4%) FS. Of those with previous screening, 62 (7%) were overdue. Thus 83 (6%) needed PCP referral and 340 (27%) needed referral for CRC screening. Telephone follow-up was made with 295 (60%) with 32 (39%) saying they had a PCP visit done or scheduled and 36 (11%) saying they had CRC screening either done or scheduled.

CONCLUSION: RAs identified a large number of non-acute ED patients and visitors needing referral for a PCP visit and/or CRC screening with a considerable percentage indicating they had or were in the process of having that screening accomplished.

Referrals for emergency department patients to a telephone-based tobacco cessation program using college research associates as screeners.

Bradley K, Illuzzi F, Lee K, Castillo R, Trowbridge R, Byun R.

Presented at American College of Emergency Physicians meeting, Boston, October, 2009

BACKGROUND: There is potential for public health interventions, such as referral to tobacco cessation programs, for the estimated more than half the U.S. population coming to an emergency department (ED) as a patient or visitor each year. Clinical ED personnel focused on care of the emergency problem cannot be expected to provide such additional services. However, the pre-health professional students looking for clinical experience may offer a willing work force who could accomplish this work.

OBJECTIVES: Using pre-health professional students as Research Associates (RAs), 1. To assess tobacco use among adult non-emergent ED patients and visitors 2. To determine rate of referrals to a telephone-based tobacco cessation service

METHODS: Design: prospective, observation and intervention, convenience sample. Setting: urban, community teaching hospital ED with an inner-city and suburban catchment area. Type of participants: non-emergent patients and visitors; RAs, volunteer college and post-baccalaureate students interested in a career in the health professions, trained in clinical research methods and the study protocol.
During weekly four-hour shifts, RAs approached as many non-emergent patients and visitors 18 years of age or older as possible. After obtaining informed consent, they used a scripted format to get demographic information and a detailed tobacco history. If a subject had used tobacco products for > 30 days at any time in their lives, they were offered a referral to the Connecticut Quitline, a service provided by the CT Department of Public Health. Those who indicated an interest in stopping tobacco use or to have help maintaining their tobacco cessation had a referral request and contact information sent to Free and Clear, Inc., the agency responsible for implementing Connecticut Quitline's treatment program. Free and Clear, Inc. provides a validated, free, telephone-based tobacco cessation program, funded by monies from the tobacco companies' settlement.

RESULTS: Over 21 weeks during the spring and summer semesters of 2008, 63 RAs approached 4613 potential subjects. 893 (19%) refused enrollment. RAs successfully enrolled 3125 (67%) to study completion, 53% patients and 47% visitors. Among our subjects, 1682 (54%) used tobacco for > one month at some time in their lives and 1615 (96%) used cigarettes. The average age of those using tobacco products was 17 years (range 5 – 54) when they started smoking, and the average duration of tobacco use was 22 years (range < 1 - 76). 681 (22%) subjects had used tobacco within the last 30 days. Of those subjects who used tobacco for > one month in their lives, 299 (18%) accepted a CT Quitline referral. For those who used tobacco within the last 30 days, 261 (38%) were referred.

CONCLUSIONS: RAs were able to arrange referrals to a free tobacco cessation service for a large number of tobacco users among ED patients and visitors. This study demonstrates the potential for a substantial public health intervention in the emergency department setting with minimal financial impact.

Design and implementation of an emergency medicine research associates program.

Vilnaff RL, Mrklas K, Yeun GWH, Bromely M, Yarema MC, Bradley K

CJEM 2009 May; 11 (3), 299-300 (abstract)

INTRODUCTION: The emergency department is a desirable clinical arena to conduct research. However, the ability of emergency nurses and physicians to identify and enroll potential research participants is difficult as patient care and departmental flow take priority. To improve research productivity in Calgary's Emergency Departments, we designed the Emergency Medicine Research Associates Program.

METHODS: The program will recruit volunteer students in medical, nursing, or allied health programs from accredited postsecondary institutions in Calgary, Alberta. These students will be research associates" and they will be responsible for identifying potential research participants for studies involving emergency department patients. In addition, associates will receive biweekly lectures on research methodology and clinical emergency medicine during their 13-week participation. Prior to implementing the program, representatives from Calgary Health Research, Legal Services, the Conjoint Health Research Ethics Board, the Alberta Privacy Commissioner's Office, and the Regional Department of Emergency Medicine were consulted to ensure all legal, ethical, and privacy issues of the program design were addressed. The program will first be implemented at the Foothills Medical Centre and expanded to all Calgary Emergency Departments over the following year.

RESULTS: The design of the program was approved by all key stakeholders in 2008. The first group of Associates will begin in the spring of 2009.

CONCLUSIONS: We have successfully designed and implemented an Emergency Medicine Research Associates Program. It is expected that this program will increase research productivity in Calgary's Emergency Departments as well as improve collaborative research efforts with other clinical departments.

Compliance with recommended prostate cancer screenings among emergency department patients and visitors assessed by research associates

Illuzzi F, Gomes J, Lat C, Lee K, Castillo R, Bradley K

OBJECTIVES: The goal of this study was to assess the potential need for providing elements of prostate cancer screening among emergency department patients and visitors. The specific objective of the study was to determine the compliance with the American Cancer Society's (ACS) prostate screening recommendations among a group of non-critical patients and visitors in an urban, community hospital emergency department as identified by Research Associates (RAs).

METHODS: This was a convenience sample survey performed by RAs, pre-health professions college students trained as case finders and data collectors. They served a minimum of one 4-hour shift per week in the Emergency Department for 10 weeks of an academic semester. There was no attempt at sampling. RAs were simply encouraged to approach and enroll as many adult patients as possible. The numbers of patients approached and subjects entered by each RA were key components of their letter of evaluation.
Inclusion criteria were adult, male, non-urgent patients and visitors ≥ 50 years old or who were ≥ 45 years old and African-American or had a first degree relative (father or brother) diagnosed with prostate cancer before age 60. Potential subjects were excluded from the study if they refused to participate, were judged to be too sick, clinical activities took precedence or the RA could not communicate with them for any reason, such as language barrier or altered mental status.

Following a scripted introduction, the following data were collected for each subject: 1) age, gender and ethnicity, and insurance status, 2) whether they had a primary care practitioner (PCP) and location and timing of their latest visit, 3) compliance with ACS screening recommendations for prostate cancer, i.e., prostate-specific antigen test (PSA) and a digital rectal examination (DRE). In order to be compliant with ACS recommendation, subjects should have seen their PCP and have had a PSA and DRE yearly. Informed consent was obtained from all subjects enrolled in the study.

RESULTS: Forty-nine RAs served shifts over 20 weeks in the spring and summer semesters, 2007. Among the 949 patients and visitors approached, 603 subjects (64%) were enrolled. Subjects' average age was 65 years (range 45-98 years); African American 17%, Caucasian 76%, Hispanic 7%, Other >1%. A PCP was identified by 546 subjects (91%). Eighty-five percent (85%) had seen their PCP within one year recommended for cancer screening. For PSA testing, 65% had been tested at some time with 56% having had the test within the preceding 12 months. For DRE, 87% indicated they had been so examined at some time with 62% having had the examination within 12 months.

CONCLUSIONS: Among non-urgent ED patients and visitors, RAs identified a large number of subjects who indicated they were not in compliance with ACS recommended prostate cancer. EDs can be an important venue for detecting persons in need of prostate cancer screening.

Compliance with recommended cervical and breast cancer screenings among emergency department patients and visitors assessed by research associates.

Illuzzi F, Rush L, Lat C, Rose A, Bradley K

OBJECTIVES: The goal of this study was to assess the potential need for providing elements of cervical and breast cancer screening among emergency department patients and visitors. The specific objective of the study was to determine the compliance with the American Cancer Society's (ACS) Pap test and mammography screening recommendations among a group of non-critical patients and visitors in an urban, community hospital emergency department as identified by Research Associates (RAs).

METHODS: This was a convenience sample survey performed by RAs, pre-health professions college students trained as case finders and data collectors. They served a minimum of one 4-hour shift per week in the Emergency Department during a summer academic semester. There was no attempt at sampling. RAs were simply encouraged to approach and enroll as many adult women patients and visitors as possible. The numbers of patients approached and subjects entered by each RA were key components of their letter of evaluation.

Inclusion criteria were adult, female, non-urgent patients and visitors ≥ 20 years old. Potential subjects were excluded from the study if they refused to participate, were judged to be too sick, clinical activities took precedence or the RA could not communicate with them for any reason, such as language barrier or altered mental status.

Following a scripted introduction, the following data were collected for each subject: 1) age, ethnicity, and insurance status, 2) whether they had a primary care practitioner (PCP) and location and timing of their latest visit, 3) compliance with ACS screening recommendations for cervical and breast cancer screening, i.e., Pap test and, for subjects ≥ 40 years old, mammography. In order to be compliant with ACS recommendation, subjects should have: 1) seen their PCP, 2) had a Pap test and, 3) if appropriate, a mammogram yearly.
Informed consent was obtained from all subjects enrolled in the study.

RESULTS: Twenty (20) RAs served 114 four-hour shifts over seven weeks in the summer semester, 2005. Among the 1463 patients and visitors approached, 1095 subjects (75%) were enrolled and 1080 (74%) completed the study. Subjects' average age was 51.5 years (range 20-102 years); African American 18%, Caucasian 62%, Hispanic 18%, Other 2%; 74% said they had private insurance or Medicare supplemented by private insurance, 18% government coverage and 8% no insurance. A PCP was identified by 996 subjects (92%); for those with private insurance, 96% said they had a PCP, Medicare (95%), Medicaid (89%) and those without insurance 56%. Eighty-five percent (85%) had seen their PCP within one year recommended for cancer screening.

For Pap test, 94% had been tested at some time with 65% having had the test within the preceding 12 months. Of those who had a Pap test > 12 months prior, 40% were told by a health professional that they did not need annual Pap testing Thus, according to history, 24% of women in the study needed a Pap test. Of those needing a Pap test, 82% said they had a PCP. (Continued...)

(Compliance with recommended cervical and breast cancer screenings… continued…)

For mammograms, there were 781 subjects ≥ 40 years old. 727 (93%) said they had a mammogram at some time, with 558 (71%) having had it within the preceding year. Thus, by history, 23% of appropriate subjects needed a mammogram. 77% of these women had a PCP.

There were 309 subjects (29%) who needed a PCP visit, Pap test and/or mammogram. Of these subjects, 167 (54%) consented to follow-up contact and 114 (68%) of those were contacted. Among those contacted, 32 (28%) said they had complied with the suggestion to arrange for testing or visit given in the ED. Of those who did not make such follow-up arrangements, 18% cited financial reasons, and only 4% said they did not want to be screened.
Among the 114 subjects contacted, only one rated the experience of enrollment in the study as negative.

CONCLUSIONS:
Among non-urgent ED patients and visitors, RAs identified a large number of subjects who indicated they were not in compliance with ACS recommended Pap tests, mammograms and/or PCP annual visits. EDs can be an important venue for detecting persons in need of cervical and breast cancer screening.

Compliance with recommended cancer screenings among emergency department patients assessed by college research associates.

Illuzzi F, Rush L, Bradley K

Ann Emerg Med 2004 44:S26

OBJECTIVES: The goal of this study was to assess the potential need for providing elements of cancer screening among emergency department patients. The specific objective of the study was to determine the compliance with the American Cancer Society's (ACS) screening recommendations among a group of non-critical patients in an urban, community hospital emergency department as identified by Research Associates (RAs).

METHODS: This was a convenience sample survey performed by RAs, pre-health professions college students trained as case finders and data collectors. They served a 4-hour shift per week in the Emergency Department for 10 weeks of an academic semester. There was no attempt at sampling; RAs were simply encouraged to approach and enroll as many adult patients as possible. The numbers of patients approached and subjects entered by each RA were key components of their letter of evaluation.

Inclusion criteria were adult (≥ 18) non-urgent patients during their ED visit. Patients were excluded from the study if they refused to participate, were judged to be too sick, clinical activities took precedence or the RA could not communicate with them for any reason, such as language barrier or altered mental status. Following a scripted introduction, the following data were collected for each subject: 1) age, gender and ethnicity, 2) whether they had a primary care practitioner (PCP) and location and timing of their latest visit, 3) compliance with ACS screening recommendations for oral, skin, cervical, breast (self-breast exam, clinical breast exam, mammography), colon-rectal (fecal occult blood test + sigmoidoscopy or colonoscopy) and prostate cancer (digital rectal examination, prostate-specific antigen).

In order to be compliant with ACS recommendation, subjects who were ≥ 40 years of age or females ≥ 18 years of age should have seen their PCP or appropriate specialist for screening yearly. Males ≥ 20 and ≤ 39 years of age need a visit every 3 years for cancer screening to be compliant.
No identifying information was collected. According to the IRB, informed consent was not required in this study under the survey exception.

RESULTS: 25 RAs covered 60% of possible shifts over 8 weeks in the summer semester, 2003. Among the 2403 patients approached, 1574 subjects (66%) were enrolled. Subjects' average age was 49.8 (range 18-97); male 46% and female 54%; Caucasian 58%, African American 21%, Hispanic 17%, Other 3%. A PCP was identified by 82% (males 72%, females 89%; Caucasians 88%, African-Americans 76%, Hispanics 70%). Cumulatively, 40% said they had seen their PCP within one month, 66% within 6 months, 75% within one year, 79% within 3 years. Stated compliance for cancer screening was oral 35%, skin 21%, Pap smear 59%, self breast exam 41%, clinical breast exam 63%, mammography 59%, colon-rectal 57%, digital rectal exam 51%, PSA discussion 41%. Only 9% indicated they were in compliance with the time interval for all their appropriate cancer screenings.

CONCLUSIONS: RAs identified a large number of subjects who indicated they were non-compliant with ACS recommended cancer screenings among non-urgent ED patients. EDs can be an important venue for detecting persons in need of cancer screening.

Cardiovascular disease risk assessment in non-acute ED patients

Razzak, J, Bradley K, Markarian M, Cordone M, Quintner-Pollack S, Zarich S, Werdmann M

OBJECTIVES: To determine the pattern of risk among ED patients and to explore the potential of the emergency department (ED) as a site for screening for cardio-vascular disease (CVD) risk.

METHODS: *Design:* prospective, observational. *Setting:* Community teaching hospital ED serving an urban/suburban catchment area. *Subjects:* Adult, non-acute patients presenting to the ED when a Research Associate (RA) was on duty were eligible for the study. *Observations:* RAs were instructed on a scripted screening procedure using the American Heart Association's (AHA) "What's Your Risk of Heart Attack" tool. This instrument was the only AHA screening tool not requiring a serum cholesterol level. The RA conducted the CVD risk assessment as part of a series of ED 1° health screening. At the completion of the CVD screening, subjects were advised of their risk by the AHA scoring system and, by script, were given information on strategies to reduce this risk.

RESULTS: 1462 subjects were enrolled over two 10-week semesters (M=42%, F=58%), mean age of 44 years (+/- 19; range 17-93 years). 275 (18.8%) were found to have a low risk, 1154 (78.9%) a moderate risk and 33 (2.3%) a high risk of CVD. Individual risk factors analysis showed 36.7%(n=537) smoked regularly, 16.4% (n=241) said they had abnormally high BP, 50% of patients (n=731) were overweight by 20 lbs or greater, while 23% (n=330) weighed 50 lbs or more than desirable. 60% (n=872) and 77% (n=1126) of subjects did not know their cholesterol and HDL levels, respectively. 432 patients (30%) did not know if their BP was normal or abnormal. While the prevalence of individual factors in our sample compares favorably to AHA data, total risk assessment differs from expected.

CONCLUSIONS: The ED appears to offer a suitable site for cardiovascular risk assessment. This AHA screening tool may not accurately assess the CVD risk in the ED population.

College Research Associates as screeners for firearms injury risk assessment in an urban, community, teaching hospital emergency department

Cordone M, Bradley K, Werdmann M

Ann Emerg Med 1999 34:S58

OBJECTIVE: To determine if College Research Associates (RAs) could successfully screen for firearms risk assessment in adult patients presenting to an urban, community, teaching hospital ED.

METHODS: Design Prospective, observational. Setting Urban, community, teaching hospital. Participants Volunteer, college RAs received training on screening using a formatted script that took about 90 sec. to administer. Interventions The screening instrument was based on the AMA Physician Firearm Safety Guide "Risk Factors for Firearm Injury and Death." When not enrolling patients in other studies, RAs screened a convenience sample of non-acute, adult ED patients. If the patient said that they or someone they knew had a gun, they were asked if they would allow a follow-up call at one month to see if there had been a change in their risk factors. If the patient was a city resident and did not have a trigger lock, they were eligible to receive a free one in the ED. All patients received information on their firearm risk and safety factors.

RESULTS: 631 patients were approached for ED screening by RAs over 160 shifts during 13 weeks. 609 (97%) were screened for firearms injury risk assessment; 111 (18%) had a gun. An additional 98 patients knew someone who owned a gun for a total of 208 patients (34%) for whom screening could potentially influence gun ownership / risk behavior. Of those who said that they owned a gun, 30 (27%) said they did not have a trigger lock, 23 (21%) said the gun was not secured and 18 (16%) said that the gun was kept loaded. 7 patients (6%) were eligible for free trigger locks and 3 accepted them. 9 eligible staff also received trigger locks. 21 (19%) of the gun owners would allow contact after ED discharge. Post-ED discharge contact could be made with 7 of the gun owners. 3 refused to answer further questions. Of the four who answered questions, two said they no longer had the gun, two reported that they had placed trigger locks on their guns, one reported locking a previously unlocked gun and one reported that a gun that had been kept loaded was now stored unloaded.

CONCLUSIONS: RAs can successfully screen for primary health care issues in the ED. This screening identifies important firearm risks among patients attending the ED. The outcome of this screening on the risk factors of those with a gun could not be determined.

Time Factor and Value Assessment of Cervical Spine X-rays in Major Trauma Patients in the Resuscitation Suite

Cordone M, O'Connell M, Pineau M, Bandanza D; Atweh, N, Bradley K

Abstract presented at the American College of Emergency Physicians Research Forum, Oct 2001

PURPOSE: To determine the time delays incurred and the value added for cervical spine x-rays taken during the 1st hour of major trauma resuscitations.

METHODS: Design prospective, observational Setting Level 1 trauma center Inclusion criteria While a Research Associate (RA) was on duty, all major trauma patients (Code > Alert) were included. Exclusion criteria None. Procedure The RA used a stopwatch to record the elapsed time from arrival to various radiologic studies, procedures, patient movements and outcomes. After cervical spine x-rays were returned, the RA also asked the Trauma Team Leader if repeat studies were being taken and if the C7-T1 junction was visible on the lateral film.

RESULTS: 99 subjects were enrolled. 25 (25%) were Trauma Codes. 89 (90%) were collared on arrival and 10 (10%) were not. 4 (4%), all Alerts, were clinically cleared. 85 subjects were collared at the end of the secondary survey and were included in analysis. 62 (73%) had cervical spine films in the Resuscitation Suite at a mean time from arrival of 17 minutes and mean time to viewing by the Trauma Team Leader of 34 minutes. The remainder had a cervical CT without initial cervical spine x-rays. The C7-T1 junction could not be seen on 30 (48%) of the initial lateral views. Of these, 70% had additional plain radiographs, 30% had cervical spine CT as the next study. 41% of those who had additional plain radiographs went on to cervical CT. 50 (81%) subjects evaluated with cervical spine films in the Resuscitation Suite had them performed before a chest x-ray, but with an average delay to performance of only 3.5 minutes. Of the 85 subjects collared at the end of the secondary survey, only 15 (18%) had their collars removed within the first hour of care (mean time to removal within the first hour = 34 min).

CONCLUSIONS: Cervical spine radiographs in the Resuscitation Suite are of limited value in cervical spine clearance, but have only a minimal impact on time factors for trauma resuscitations.

College Research Associates as screeners for women's health issues in an urban, community, teaching hospital emergency department

Sibley H, Bradley K, Werdmann M

Abstract presented at the Connecticut College of Emergency Physicians annual meeting, 2000

OBJECTIVE: To determine if College Research Associates (RAs) could screen adult female ED patients for completion of annual cervical and breast cancer exams and for the risk of domestic violence (DV). Methods Design Prospective, observational. Setting Urban, community, teaching hospital. Participants Volunteer, college RAs received training on screening using a formatted script that took about 90 sec. to administer. Interventions When not enrolling patients in other studies, RAs screened a convenience sample of non-acute, adult women ED patients. If patients said that it was > one year since their last PAP smear or clinical breast examination (CBE), they were encouraged to accomplish this as soon as possible. A follow-up call was made at one month to see if the missed tests had been accomplished. If the patient answered (+) to any of the 3 Feldhaus questions on domestic violence, this information was conveyed to the EP and appropriate referral was arranged. All patients received information on cervical and breast cancer and INFOLINE cards.

RESULTS: 13 RAs served a weekly 4-hour shift in the ED for 10 weeks. 441 women were approached for screening. 353 (80%) were screened; 62 (14%) refused screening, 25 (7%) of those agreeing could not be screened. 166 (47%) had their last PAP smear >12 months. 147 (42%) had their last CBE > 12 months ago. 196 (56%) needed at least one of these tests done. On follow-up call, 78 (40%) could be contacted. 48 (62%) of these contacted women said they had their missing tests accomplished or scheduled. 37 (10.5%) of the women answered "yes" to at least one of the Feldhaus questions for DV. 8 (22%) had a social work consult accomplished.

CONCLUSIONS: RAs can successfully screen for primary health care issues in the ED. This screening identifies important health needs of women attending the ED.

Impact of Troponin-T determinations on hospital resource utilization and costs in the evaluation of patients with suspected myocardial ischemia.

Zarich S, Bradley K, Seymour J, Ghali W, Traboulsi A, Mayall ID, Bernstein L.

Am J Cardiol 2001 88:732-736.

BACKGROUND: The evaluation and triage of patients with suspected myocardial ischemia in the emergency department remains challenging and costly.

OBJECTIVE: To evaluate the impact of serial troponin T determinations on hospital resource utilization and costs in the entire spectrum of patients (both with and without chest discomfort) presenting to the emergency department with suspected myocardial ischemia.

METHODS: Design: Prospective randomized trial. Setting: University-affiliated, community based emergency department. Patients: 856 patients with suspected myocardial ischemia. Intervention: Patients were randomized to receive a standard evaluation including serial electrocardiographic and creatine phosphokinase-MB determinations (controls) or a standard evaluation with the addition of serial troponin T determinations (troponin group). Measurements: Emergency department and hospital length of stay, bed utilization, and hospital charges.

RESULTS: Significant reductions in length of hospital stay were seen in troponin T patients both with (3.6 vs 4.7 days; p=0.01) and without (1.2 vs 1.6 days; p=0.03) acute coronary syndromes as compared to controls. Total hospital charges were reduced in a similar fashion [($15,004 vs $19,202; p=0.01) and ($4,487 vs $6,187; p=0.17), respectively] in troponin patients as compared to controls. Troponin patients without acute coronary syndromes had fewer hospital admissions (25% vs 31%; p=0.04), while troponin patients with acute coronary syndromes had shorter telemetry and CCU lengths of stay (3.5 vs 4.5 days; p=0.03) as compared to controls.

CONCLUSIONS: Routine use of troponin T in a broad spectrum of emergency department patients with suspected myocardial ischemia can improve hospital costs and resource utilization.

A simple strategy for improving patient contact after ED discharge.

Ferrigno RF; Bradley K; Werdmann MJ.

Am J Emerg Med 2001 Jan;19(1):46-48.

The purpose of this study was to assess strategies to improve telephone contact with adult patients discharged from the emergency department (ED). The basic procedure was a prospective, randomized, interventional trial of a convenience sample of patients 18 years or older being discharged from the ED. Patients were excluded if they had altered mental status or were unable to communicate with the College Research Associates (RAs). RAs asked intervention subjects a set of scripted questions confirming patients' telephone numbers and times for a follow-up call. Control subjects received routine discharge instructions from the ED staff. Subjects were called back within 4 days of ED discharge. Eighty-seven control subjects and 76 intervention subjects were enrolled. There were no significant demographic differences between the 2 groups. Forty-seven (54%) control subjects were contacted versus 58 (77%) in the intervention group (P <.003; Chi-square test). A simple patient interview conducted immediately before discharge confirming the patient's telephone number and setting a time for a follow-up call significantly improved patient follow-up contact rates.

Effect of erythromycin on myocardial repolarization in patients with community-acquired pneumonia.

Kdesh A; McPherson CA; Yaylali Y; Yasick D; Bradley K; Manthous CA.

South Med J 1999 Dec;92(12):1178-82.

BACKGROUND: Erythromycin has been associated with prolongation of myocardial repolarization and torsades de pointes (TdP).

METHODS: To determine the frequency, dose-response, and risk factors for erythromycin-associated prolongation of myocardial repolarization, we observed data of patients admitted to our hospital with pneumonia who were treated with erythromycin.

RESULTS: In 35 women and 28 men enrolled in this study, the QTc increased from 434 +/- 4 milliseconds at baseline to 464 +/- 5 milliseconds after receiving a cumulative dose of 3.2 +/- 0.2 g of erythromycin. Neither age, sex, presence of preexistent congestive heart failure/coronary artery disease, electrolyte values, nor cumulative dose of erythromycin was associated with QTc prolongation. In 27 patients who received intravenous erythromycin for 3 days, the QTc increased from 427 +/- 5 milliseconds before to 461 +/- 8 milliseconds at 24 hours but did not increase further by day 3 (457 +/- 10 milliseconds). No patient in this cohort had TdP.

CONCLUSIONS: Erythromycin therapy is associated with prolongation of myocardial repolarization that manifests after the first few doses in a majority of patients.

Parental use and misuse of antibiotics: Are there differences in urban vs. suburban settings and is it a significant contributing factor in antibiotic resistance?

Edwards DJ, Richman P, Bradley K, Eskin B, Mandell M

Acad Emerg Med.2002 Jan;9(1):22-6.

OBJECTIVE: To compare the prevalence of parental misuse of antibiotics (Abx) in a suburban vs. urban setting.

METHODS: Prospective survey in a suburban ED in New Jersey (NJ) with 60,000 annual visits and an urban ED in Connecticut (CT) with 58,000 visits. Patients (pts) with children < 18 years of age were consecutively enrolled only during hours when research associates were available. Pts who were critically ill and/or not oriented were excluded. Subjects provided written answers to a series of closed questions regarding their knowledge and use of Abx for their children over the previous 12 months. Categorical data were analyzed by chi-square and Fischer's exact test; continuous data were analyzed by t-tests. All tests were two-tailed, alpha set at 0.05. The primary endpoint, Abx misuse, was defined as parental administration of Abx to a child during the previous 12 months without the consultation of a physician.

RESULTS: 801 prts were enrolled, 424 at NJ. Parents in NJ were significantly different with regard to mean age (39 +/- 7.2 vs. 32 +/- 9.0, p <0.001), % female sex (63% vs. 79%, p< 0.001), Caucasian (78% vs. 34%, p, 0.001), and % with private insurance (89% vs. 56%, p<0.001) A greater percentage of prt in NJ had misused Abx (12.1% vs. 4.0%; p< 0.001). Using logistic regression, there was still a significant difference in the rate of Abx misuse between the two groups when we adjusted for demographic variables and insurance status of the prt (p< 0.04). There was a large difference in the % of prt in each group who had been discharged from an ED without Abx, only to go to another health facility in order to obtain Abx for their children (5% vs. 48%; p< 0.001).

CONCLUSIONS: We found that parents in the suburban setting were more likely to have misused Abx. On the other hand, prt in the urban setting were more likely to have left an ED from which they were discharged and gone to another health facility to obtain Abx for their children

New-onset bronchospasm or recrudescence of asthma associated with cocaine abuse.

Osborn HH; Tang M; Bradley K; Duncan BR.

Acad Emerg Med 1997 Jul;4(7):689-92.

OBJECTIVE: To determine whether the occurrence of new-onset bronchospasm or the recrudescence of asthma is associated with the use of cocaine.

METHODS: A consecutive sample of patients presenting to an inner-city adult ED with new-onset bronchospasm or recrudescence of bronchospasm after > 5 years were prospectively enrolled in a case-control prevalence study. The bronchospasm patients were queried as to their exposure to illicit drugs, and urine was obtained to screen for cocaine and its metabolite, benzoylecgonine. An age- and sex-matched control group was composed of randomly chosen subjects without respiratory complaints or a history of asthma. The control group was also screened by urine toxicology for cocaine and its metabolite, benzoylecgonine.

RESULTS: In the asthma group, 21/59 (36%) had a urine toxicologic screen positive for cocaine metabolite (benzoylecgonine). Of the 21 with a positive screen for cocaine, 8 denied illicit drug abuse. Among the 13 patients reporting drug use, 10 said that they smoked crack and 3 snorted cocaine. In the control group, 8/53 (15%) were positive. Multivariate logistic regression analysis, with adjustment for age and sex, indicated that the use of cocaine was associated with a 3-fold higher prevalence of new-onset bronchospasm or recrudescence of asthma (OR = 3.28, 95% CI: 1.26 to 8.50).

CONCLUSIONS: There appears to be an association between cocaine use and new-onset bronchospasm or recrudescence of asthma in this inner-city ED population. Further study is necessary to determine the basis for this association.

Efficacy of atropine sulfate in combination with albuterol in the treatment for acute asthma.

Diaz JE; Dubin R; Gaeta TJ; Pelczar P; Bradley K.

Acad Emerg Med 1997 Feb;4(2):107-13.

OBJECTIVE: To determine the efficacy of combination therapy using atropine sulfate and albuterol in the treatment for an acute exacerbation of asthma.

METHODS: A prospective, randomized double-blind, placebo-controlled study was performed in the ED of a large, inner-city, university-affiliated teaching hospital. Participants were a convenience sample of patients presenting to the ED between September 1993 and March 1994 with acute exacerbations of their asthma. Patients judged to be in extremis were excluded. All patients received 3 nebulized treatments with 2.5 mg of albuterol at 0, 30, and 60 minutes. Patients were randomized into 1 of 3 groups with the following added to their nebulizer solutions: 1) saline placebo during all 3 treatments; 2) 2.0 mg atropine sulfate added to the first nebulizer and saline in the second and third; or 3) 2.0 mg atropine to the first and third treatments (with saline in the second). No other medication was administered during the study period. At 90 minutes, the patients were evaluated for admission or release from the ED according to predetermined criteria, and additional medications were given as necessary. Vital signs, peak expiratory flow rate (PEFR), degree of wheezing, level of distress, and side effects were measured before and after each nebulizer treatment.

RESULTS: Of the 153 patients eligible for the study, 126 completed the entire study protocol. There was no significant difference between the 3 groups on any parameter studied, including improvement of PEFR, vital signs, or level of distress. There was no difference in the admission rate between the 3 groups, nor was there a difference in the incidence of side effects among the groups.

CONCLUSION: In this study population, combination therapy with atropine sulfate and albuterol offered no significant benefit over the use of albuterol alone in the treatment for acute exacerbation of asthma.

College research associates: a program to increase emergency medicine clinical research productivity.

Bradley K; Osborn HH; Tang M

Ann Emerg Med 1996 Sep;28(3):328-33.

STUDY OBJECTIVE: To evaluate a program using health care pre-professional college students as research associates (RAs) to facilitate research in emergency medicine.

METHODS: We developed a program using health care pre-professional college students as RAs in an urban ED with an emergency medicine residency program. RAs were recruited from four local colleges. Potential RAs were instructed during four 2-hour sessions on clinical research in emergency medicine, the ethical issues of confidentiality and informed consent, personal safety, and specifics on data collection for the individual studies. For the 13 weeks of the 1995 spring semester, each RA served one 4-hour shift in the ED each week. They identified patients who were eligible for the studies, began the informed-consent process, obtained nonclinical and historical information, and assisted the physicians in the study protocols. The RAs were evaluated on every shift by two faculty members from New York Medical College. The RAs were surveyed at the completion of the semester about their experiences with the program.

RESULTS: Forty-one students completed the orientation course and served at least one shift in the ED. Thirty-three completed more than 7 of 13 possible shifts and received credit for the semester. The average number of shifts served for all RAs was 9 (average numbers of shifts served by RAs receiving credit for the semester and RAs not receiving credit were 10.3 and 4, respectively). Two studies were completed during the semester, each with a significant increase in patient enrollment after the RAs' arrival. Three studies were ongoing at the end of the semester and had patient entries well above projected expectations. The principal investigators for the studies expressed their satisfaction with the RAs' productivity. The faculty evaluations were overwhelmingly positive, as were the results of the RA survey at the end of the semester. The cost of the program was minimal.

CONCLUSION: College students serving as research associates can be an economical and successful tool for clinical studies in the emergency department.