FINAL PROGRESS REPORT

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Project Title:

Workshop Series: Control Banding: A Risk Assessment Tool for Joint Labor/Management Health and Safety Committees

Final Reoort Date:

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Co-investigator:

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Starting and ending dates

July 1,2006-June 30, 2008

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ABSTRACT: Control banding (CB) is a control-focused risk management model that has received international attention. Control banding is designed to control workplace chemical exposures after the completion of a semi-quantitative risk assessment. Connecticut was one of the first states to provide training on how to use this control focused tool. Joint labor/management teams and individuals attended a series of three control banding workshops and learned how to use the United Kingdom (UK) Health and Safety Executive (HSE) Control of Substances Hazardous to Health (COSHH) Essentials Toolkit, a control banding model. After the initial training program the investigators used follow-up workshops, questionnaires, site visit data and case studies to evaluate the training curriculum and assess the utility and effectiveness of the CB strategy.

Sixty-eight (68) participants, including managers (40%), workers (29%), consultants (22%), and planning committee members (9%) attended Workshop I. The participants came from 34 worksites. Fourteen of these worksites sent teams and 20 sent individuals. Thirty-six workers, managers and planning committee members attended Workshop II and seventy-nine health and safety professionals, managers, workers and planning committee members attended Workshop III. Thirty-one (45%) of the participants who had attended Workshop I returned for the second workshop. Twenty four (35%) of the participants who had attended Workshop I returned for the third workshop.

We found that the COSHH Essentials CB model can be easily learned, although some areas for improvement were identified. After attending Workshop I participants from ten of the workplaces returned to work and used COSHH Essentials to evaluate at least one task. Based on a follow-up survey with these workplaces the investigators concluded that the training curriculum was effective- the worksites had used the model correctly. The agreement between the CB exposure variables coded by these workplaces and the independent expert, a certified industrial hygienist (CIH), was highly concordant. The model promoted a discussion of risk between workers and managers and resulted in implementation of improvements in the work environment. The model agreed with an independent CIH qualitative risk assessment 75% of the time, and likely over-controlled for 60% (3/5) of the cases of non-agreement. Feedback from workshop participants informs current dialogue on the implications of implementing CB in the United States.

HIGHLIGHTS/ SIGNIFICANT FINDINGS: Individuals and joint labor/management teams from a cross section of workplaces attended a series of CB workshops, and the investigators conducted a site-based evaluation of the use and adequacy of the model for those participants. The turnout for the workshop series exceeded the forty participants we had expected. Sixty-eight (68) participants from thirty four worksites attended the first workshop. Fourteen of these worksites sent teams and 20 sent individuals. 60% of the participants who completed surveys stated that their facility employed less than 500 people.

Thirty-six participants (45%) from Workshop 1 returned for the second workshop and twenty-four (35%) plus an additional fifty-five participants attended the third workshop. In addition, we held a fourth training session for thirty-four (34) OSHA Region 1 compliance officers. During our two years of funding we communicated the concepts of control banding to over 150 workers, managers and health and safety professionals.

The training curriculum was effective, particularly when case studies were included. After completion of the workshop series participants reported that they were able to:

- List several factors that contribute to occupational chemical exposure risk
- Identify the hazardous properties of a chemical by using an international classification and labeling system such as R-phrases and the GHS
- Complete a workplace risk assessment using COSHH Essentials
- Locate fact sheets that describe how to design and implement the recommended control

The CB model can be easily learned. It was seen as a very valuable and efficient tool for a relatively easy control-focused risk assessment. Some improvements are needed in the availability and consistency of Risk-phrases, clarification and expansion of some exposure assessment variables, understanding how to handle mixtures and ease of finding direct advice factsheets.

Participants from ten of the worksites returned to work and used the model to complete a control-focused risk assessment. They reported that the model promoted a discussion of risk between workers and managers and resulted in the implementation of improvements in the work environment. These worksites used the model correctly. The agreement between the CB exposure variables coded by these workplaces and the independent expert, a certified industrial hygienist (CIH), was highly concordant. The CB model agreed with the CIH's qualitative risk assessment 75% of the time, and likely over controlled for 60% (3/5) of the cases of non-agreement.

As the "globally harmonized" set of occupational health initiatives moves forward, control banding (CB) could become an important part of U.S. policy. The feedback from this group could help shape both the control banding model and the training approach in the U.S.

TRANSLATION OF FINDINGS: CB can be used to supplement or enhance the traditional approach to risk assessment involving exposure assessment and comparison to Occupational Exposure Levels (OELs) so that scarce health and safety funds can be directed primarily to exposure prevention and controls rather than air sampling.

The CB model codifies many of the semi-quantitative strategies industrial hygienists currently use to characterize risk. Employers with limited access to industrial hygienists can use CB to take steps to improve the health and safety conditions for their workers.

We found that the CB model can be easily learned. Some improvements are needed. The model can be used as a training tool that promotes a discussion of risk. It is likely that the model will emerge as a more commonly used tool as the Globally Harmonized System for Hazard Classification and Labeling (GHS) is implemented.

OUTCOMES/RELEVANCE/IMPACT: Through our control banding workshop series we addressed three of NIOSH's control banding priority areas. We communicated the concepts of control banding to small and medium sized enterprises (SMEs), we assessed its utility for this audience, and we performed a validation of the model by using expert industrial hygiene IH) follow up surveys.

For the CB model to take hold there must be an underlying sense of trust that the system works. Ideally CB should neither over-control nor under-control hazards, the latter case being a more serious concern for a screening tool. We found that the model agreed with an independent CIH qualitative risk assessment 75% of the time, and likely over controlled for 60% (3/5) of the cases of non-agreement.

Although our data suggest that the generic COSHH Essentials CB model may not always work as designed, it should be clearly noted that reliance on the current U.S. approach of PEL-based compliance very frequently fails to protect health due to incomplete, inadequate and outdated standards as well as dependence upon potentially inadequate measurement strategies. COSHH Essentials' generic risk management model is meant to be one aspect of a comprehensive health and safety program. SMEs should be encouraged to use the model in the context of a broader discussion of risk. The teams we trained understood that the model could not address all exposure potential variables. The model should not be used as a cookbook for risk management. More research focused on the validation and verification of CB models would be of value.

SCIENTIFIC REPORT:

BACKGROUND

Control banding (CB), an innovative control-focused risk management model, has received international attention. The model assigns intervention categories (control bands) to work tasks after the completion of a semi-quantitative risk assessment. Control banding toolkits are attractive because they offer employers and workers simple, accessible, risk assessment strategies that can be used to target the tasks that require exposure controls or professional risk assessment advice.

In the early 1990s, occupational health experts in the United Kingdom (UK) began to examine the alignment between hazard classification, the occupational exposure limit, and data on exposure and control systems. These efforts led to the publication of one of the first control banding toolkits, COSHH Essentials. The toolkit was developed to help small-to-medium sized enterprises (SME) comply with the UK's Control of Substance Hazardous to Health (COSHH) Essentials directive. Several countries have built on COSHH Essentials approach and developed their own control banding models.

The COSHH Essentials CB model groups occupational risk control strategies into four bands based on a hierarchy of control procedures. Moving from least restrictive to greatest, the control bands include 1) dilution ventilation and good industrial hygiene practice, 2) engineering controls 3) containment and 4) the recommendation that the workplace seek specialist advice. In addition, substitution is recommended for chemicals with a high hazard potential regardless of the potential for exposure. The combination of a substance's inherent toxicity and its exposure potential determine the desired control band for a task. For some tasks and industrial processes COSHH Essentials offers " direct advice" (best practice) controls which removes the interim steps of evaluating specific chemical hazards and exposures. Once the assessment has been made, COSHH Essentials directs employers and employees to fact sheets that describe how to design and implement the recommended control band or best practice advice.

Control banding can be used to supplement or enhance the traditional occupational exposure level (OEL) approach to risk assessment so that scarce health and safety funds can be directed primarily to exposure prevention and controls rather than air sampling.

After three international CB workshops several control banding priority areas were identified. The priority areas included: a) communicating the concepts of control banding to small and medium sized enterprises (SMEs), b) assessing its utility for this audience, and c) performing validation of the model by using expert industrial hygiene IH) follow up surveys. This workshop series addressed these three priority areas.

METHODS/ SPECIFIC AIMS

Year 1

Curriculum development, planning, and outreach

Ms Bracker, the Principal Investigator (PI) and Dr. Morse, faculty collaborator, developed a hands-on interactive Control Banding curriculum with input from a workshop planning taskforce. The planning taskforce met four times in relation to developing the curriculum and planning outreach and objectives. A website was designed and implemented to provide information on both the conference and on the control banding approach. A conference brochure was developed and widely distributed both electronically and by mail to contacts and lists provided by planning taskforce members and others.

Control Banding Workshop I

After an extensive outreach effort in the fall, attendance at the introductory Control Banding workshop exceeded the forty participants we had expected. Sixty eight workers, managers and planning committee members attended the first workshop on November 16`h, 2006 at Rensselaer Hartford. Workers and managers from thirty four (34) worksites attended the program. Fourteen (14) of these worksites sent teams and twenty (20) sent individuals. Half of the participants stayed for an optional afternoon session in the computer lab, which was the maximum capacity for the lab. Two of the three instructors were women, 32% of the participants were women and 7% of the participants were ethnic or racial minorities (by obervation). The conference facility was handicapped accessible. The workshop curriculum included a Control Banding Overview, Control Banding exercises based on the United Kingdom's Control of Substances Hazardous to Health (COSHH) Essentials Toolkit and information on the Globally Harmonized System for Hazard Communication. The workshop brochure, agenda and curriculum materials can be found at the website we created for this program: http://www.oehc.uchc.edu/controlbanding.asp

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After the workshop, the participants were encouraged to apply the model to at least one task at their respective worksites. On February 1, 2007 participants reconvened at Rensselaer Hartford to discuss their experiences with the model. Discussions were in depth, and provided extensive qualitative information with respect to the usefullness of the model and suggestions for improvements (see below). Participants heard case studies from two committees and they also heard from a panel of stakeholders who addressed the topic: "What are the implications of using Control Banding in the US?" The stakeholders included a respresentative from the National Institute of Occupational Safety and Health (NIOSH), the US Department of Labor- Occupational Safety and Health Administration (OSHA), Connecticut OSHA (CONN-OSHA), the Connecticut Business and Industry Association (CBIA), the Connecticut Council on Occupational Safety and Health (ConnectiCOSH), the Society for Chemical Hazard Communication (SCHC) and the Connecticut Department of Public Health (CT DPH).

Thirty six workers, managers and planning committee members attended this follow-up session. Workers and managers from thirteen (13) worksites attended the program. Seven (7) of these worksites sent teams and six (6) sent individuals. Of the sixty-eight participants (including planning committee members) who attended the November 16th training program, thirty one (45%) returned for the second workshop. 40% of the instructors/presenters/panelists were women and 10% were racial or ethnic minorities. 31% of the participants were women and 8% of the participants were ethnic or racial minorities (by observation).

Control Banding Workshop for OSHA Compliance Officers

In addition to the two workshops, Ms. Bracker and Dr. Morse conducted an additional session for 34 OSHA staff from eight offices in Region I. This exceeded the goals of the original proposal and was added due to the high level of interest from OSHA in the topic. This full day workshop was held on January 19th, 2007 at the University of Connecticut Health Center. 41 % of the participants were women and 6% of the participants were ethnic or racial minorities (by observation).

Year 2

Evaluation

We used a questionnaire survey, site visit data and case studies to evaluate the utility and effectiveness of a control banding strategy and the effectiveness of the curriculum.

Questionnaire survey

Ten weeks after the second workshop the participants were sent a questionnaire survey to obtain information about the extent of utilization, "ease of use" of the control banding approach, the type of tasks evaluated, obstacles in applying the model and agreement with the model's recommended

control band. The closed-ended questions were peer-reviewed by investigators with extensive experience in questionnaire design. Participants who did not complete the questionnaire survey were called and asked to complete the survey over the phone.

Industrial Hygiene Site Visits

After the questionnaire surveys were completed, a CIH, visited nine of the ten worksites that had evaluated tasks with control banding. The CIH independently reviewed twenty-one (21) of the sixty-six (66) tasks the worksites had evaluated before her site visit. During her qualitative control-focused evaluation the CIH reviewed material safety data sheets, gathered information on multiple exposure potential variables (quantity, frequency, form, room size etc) and evaluated the design and maintenance of existing controls. Using this information, she identified a control strategy (the " perceived proper control strategy") for the task. The level of agreement between the variables (hazard group, quantity and dispersion potential) and control bands generated by the CIH with those identified by the worksites was assessed as a measure of the effectiveness of the CB training and the model. The level of agreement for the variable "task frequency" was not calculated because the "pen and paper' model used by many of the worksites does not include this variable.

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The taskforce met again to plan the outreach and curriculum for Workshop III. The third workshop was co-sponsored by the local section of the American Industrial Hygiene Association and was designed primarily to present findings to the professional industrial hygiene community. Seventy-nine health and safety professionals, managers, workers and planning committee members attended Workshop III. Two of the three instructors were women, 35% of the participants were women and 6% of the participants were ethnic or racial minorities (by observation). Workshop III speakers addressed the topic: *Control Banding: Does the Model Work?* In addition to speakers from the research team, OSHA and the pharmaceutical sector, seven of the ten worksites that had used the CB model to evaluate a task presented their case studies to the audience of health and safety professionals and SMEs. Five of these presenters were women and two were ethnic or racial minorities (by observation).

RESULTS

Did the workshop participants implement CB at their workplaces?

Forty-four (71 %) of the Workshop I participants (not including planning committee members) completed the questionnaire survey. Twenty four (54%) of the survey respondents had tried to use CB at their worksites. On a scale from 1 (difficult) to 10 (easy) these respondents rated the model's ease of use as 7.2 (SD =1.5). Eighteen (18) participants from ten workplaces used the generic COSHH Essentials model to evaluate at least one task.

Twenty (46%) of the survey respondents did not try to use CB at their worksites. Of these, 30% stated it was not appropriate for their setting, 25% were too busy, 10% lacked management support, 5% found using the computer too difficult, 5% already had a risk management protocol and 25% did not respond to the question. After the training program these non-user respondents had rated the model's ease-of-use as 6.1 (SD=2.4) on a scale from 1 (difficult) to 10 (easy).

What were the perceived strengths and weaknesses of the model for those using it?

During Workshop II participants discussed the control banding activities they had launched at their workplaces. Their thoughts were summarized by the investigators. The participants provided feedback on the most valuable parts of the model (Table II).

Table II: Participants' feedback: The most valuable part of the CB model.

- It represents a simple, uniform approach to hazard classification
- It helps identify chemicals that could be substituted with safer alternatives
- It is most useful for tasks involving chemicals with a low-medium hazard classification because tasks involving chemicals with a high hazard classification frequently resulted in the recommendation to "seek special advice".
- It provides a system for the documentation and validation of existing controls. The documentation provided by the on-line e-tool is particularly attractive.
- It is relatively easy to use and could be attractive to the smaller employer
- It is a useful training tool for workers

The participants provided feedback on the barriers (and possible solutions) associated with the model. Their feedback is summarized in Table III.

Table III: Participants' feedback: The barriers (and possible solutions) associated with the CB model

- R-phrases are hard to find, especially for mixtures. R-phrases are sometimes inconsistent- different sources list different R-phrases for the same chemical. Chemicals without a R-phase are classified as Hazard Group A- this violates the "precautionary principle."
  Solution: A globally harmonized system for hazard communication and hazard classification would have enormous value. Health hazard information should be shared and updated frequently. MSDS writers will need extensive training on how to assign R-phrases or the GHS equivalent. Chemicals without R-phrases or toxicological data should be classified as Hazard Group C.
- The variables used to classify exposure assessment could be clarified and expanded. Quantity classifications jump significantly from medium (liters) to large (cubic meters); mixing tasks are confusing and the model doesn't take all potential exposure variables into account (such as application method, distance from the process and decomposition products).
  Solutions: COSHH Essentials could be expanded. Individuals that use CB should always be encouraged to step back and discuss the model's recommendations because the model is not a cookbook. Best practice factsheets are promising in that they can address the industry-specific control of exposures generated by different application methods (machining or soldering for example).
- Direct advice fact sheets were hard to find online- they were only available after the completion of a risk assessment. Direct advice factsheets were not available for some industry sectors.
  Solution: The HSE (and ultimately OSHA/NIOSH) should publish a searchable, expanded library of guidance sheets.
- For some tasks the model either over or under controlled.
  Solution: More validation studies are necessary.

How effective was the training curriculum?

Seventy-four percent of the participants from Workshop I completed workshop evaluation forms. These participants reported that the workshop's objectives had been met. The results (based on a scale of 1: not at all to 4: completely) were dichotomized into high (3-4) versus low (1-2) scores to assess how well participants were able to:

- Identify factors that contribute to occupational chemical exposure risk (95% high)
- Identify the hazardous properties of a chemical by using international classification and labeling system such as R phrases and the GHS (96% high)
- Complete a workplace risk assessment using CB (100% high)
- Locate fact sheets that describe how to design and implement the recommended control

The level of agreement between the variables and control bands identified by participants from nine workplaces and those identified by the CIH is shown in Table IV.

Table IV: Effectiveness of Training Curriculum: Did Worksites Use the Model Correctly? (tasks=21)

Variable	Worksite / Investigator Agreement (%)	Kappa*
R-Phrase Classification (100% agreement on all assigned R hrases	67	
Hazard Group (A-E)	90	0.87*
Amount (Small, Medium, Large)	86	0.70*
Dispersion (Low, Medium, High)	90	0.81 *
Control Band (1-4)	81	0.74*
Located Control Guidance or Direct Advice Fact Sheets (Y/N)	76	0.44

*p<0.01 for significance of kappa value

How effective was the generic COSHH Essentials CB model?

The control bands generated by the model agreed with the perceived proper controls the investigator (CIH) and the worksites identified for the tasks 75% of the time for each of the paired comparisons and 65% for all three (CB model, CIH, and worksites) (Table V). Ten (33%) of the thirty tasks reviewed were classified as "seek special advice". These tasks were removed from the analysis since by definition the recommendations of a CIH could be classified as "special advice".

Table V: Effectiveness of the Model: Were the control recommendations (bands) generated by the generic COSHH Essentials (using the CIH's classification) consistent with the controls the investigator (CIH) and/or the worksites perceived as correct?

	Percent of tasks (n=20)	If Disagree, Does the Model Over or Under Control?
Model and CIH agree	75%	3 over control 2 under control
Model and Worksite agree	75%	4 over control 1 under control
Model, CIH, and Worksite all agree	65%	5 over control 2 under control

`based on CIH or worksite team as comparison standard

There were eight tasks for which the CB model recommended a higher level of control than was currently being used in the workplace. Because the worksites agreed with the model for these tasks, all of the worksites stated that they planned to use (or had already used) the model to justify the enhancement of existing controls.

DISCUSSION

The participants that attended these workshops were some of the first to be trained on how to use the Control Banding model in the U.S. The extensive outreach effort paid off– individuals and joint labor management teams from a variety of industry sectors and sizes attended the workshops. As the " globally harmonized" occupational health initiatives move forward, Control Banding could become an important part of U.S. policy. The feedback from this group could help shape both the approach and training models in the U.S. There were several conclusions to draw from this combination of workshops and on-site evaluations of implementation.

The interactive control banding training curriculum was effective. Although SMEs can be encouraged to learn about the CB model by visiting websites or requesting CB publications, CB workshops represent a more effective approach to launching this model in the US. Tool kits, such as COSHH Essentials, are more likely to be used by employers and workers if accompanied by training programs, ideally with case studies and a computer lab component. Training teams of workers and managers from the same workplace allowed for a healthy dialogue about the model.

Workshop participants found the model relatively easy to use and they reported that workshop objectives had been met. Eighteen participants from ten worksites used the model to complete a semi-quantitative risk assessment of multiple tasks. The CB training curriculum was effective as illustrated by the high level of agreement between the variables and control bands identified by the worksites and those identified by the investigator.

The participants had little trouble using the model. However, there were three exceptions: (1) classifying the "quantity" variables for mixtures, (2) researching Risk phrases and (3) locating some control guidance sheets. These three training gaps can be addressed.

The COSHH Essentials CB model can be an effective tool when it is accompanied by a discussion of risk and best practices. Although the participants welcomed the model and a simplified approach to risk classification, they expressed concerns as well. Our data suggest that the generic COSHH Essentials CB model may not always work as currently designed. However, it should be clearly noted that reliance on the current U.S. approach of PEL-based compliance very frequently fails to protect health due to incomplete, inadequate and outdated standards as well as dependence upon potentially inadequate measurement strategies.[11] COSHH Essentials' generic risk management model is meant to be one aspect of a comprehensive health and safety program. SMEs should be encouraged to use the model in the context of a broader discussion of risk. The teams we trained understood that the model could not address all exposure potential variables. We emphasized that the model should not be used as a cookbook for risk management.

The CB model was valuable because it encouraged health and safety teams to discuss risk. The CB model encourages SMEs and workers to develop a greater appreciation for the factors that contribute to occupational exposure risks, and to develop the in-house ability to evaluate and control chemical exposures. Rather than limiting a task evaluation to generic COSHH Essentials, SMEs should be encouraged to consult Best Practice advice as well. COSHH Essentials' growing library of direct advice topics (best practice resources) represents an important initiative.

The control banding model identifies high hazard chemicals. Many of the teams we trained used the model to highlight the need for chemical substitutes. The model would be strengthened even more if it clearly pointed to "safer substitutes" that would reduce the required control band.

The GHS provides opportunities for control banding. OSHA has already published an advance notice of rulemaking to modify the current Hazard Communication standard in order to integrate the GHS. The agency is expected to issue a proposed regulation this year. This is likely to result in an easily available system for obtaining hazard phrases, which will pave the way for the use of a CB model. Control Banding is likely to be a very useful tool for doing such a comprehensive assessment, particularly if the problems noted in this study are remedied.

CONCLUSION

Individuals and joint labor/management teams from a cross section of workplaces attended a series of Control Banding workshops, and the investigators conducted a site-based evaluation of the use and adequacy of the model for those participants. We found that the model can be easily learned, though some improvements are needed in availability of risk phrases, understanding how to handle mixtures, and ease of finding direct advice factsheets. The training curriculum was an effective tool, particularly

when case studies and hands-on activities were included. The model promoted a discussion of risk between workers and managers and resulted in implementation of improvements in the work environment. The model agreed with an independent CIH qualitative risk assessment 75% of the time, and likely over controlled for 60% (3/5) of the cases of non-agreement. It was seen as a very valuable and efficient tool for a relatively easy control-focused risk assessment. It is likely that the model will emerge as a more commonly used tool as the Globally Harmonized System of Classification and Labeling of Chemicals is implemented.

PUBLICATIONS

Journal Articles:

A manuscript: Bracker A, Morse T, Simcox N: `Training Health and Safety Committees to Use Control Banding: Lessons Learned and Opportunities for the United States" has been submitted to the Journal of Occupational and Environmental Hygiene.

Conference Presentations

Bracker A, Morse T (2007) Training Health and Safety Committees to Use Control Banding. American Industrial Hygiene Conference and Exhibition (AIHce), Philadelphia, PA.

Bracker A: (2008) Can Control Banding Be Implemented Successfully in United States Workplaces? AIHce, Minneapolis, MN.

INCLUSION OF CHILDREN

Not-applicable. No children were invovled

INCLUSION OF GENGER AND MINORITY STUDY SUBJECTS

(see attached gender and minority inclusion table (PHS-2590)

Principal Investigator/Program Director (Last, First, Middle): Bracker, Anne Louisa

Inclusion Enrollment Report

This report format should NOT be used for data collection from study participants.

Study Title: Workshop Series: Control Banding: A Risk Assessment Tool for Joint Labor/Mgmt HIth

Total Enrollment: 152 Protocol Number:

Grant Number: 5 R13 OH008949-02

PART A. TOTAL ENROLLMENT REPORT: Number of Subjects Enrolled to Date (Cumulative) by Ethnicity and Race

Ethnic Category	Sex/Gender: Females	Males	Unknown or Not Reported	Total	
Hispanic or Latino	0	2		2	**
Not Hispanic or Latino	57	93		150	
Unknown (individuals not reporting ethnicity)					
Ethnic Category: Total of All Subjects*	57	95		152	
Racial Categories					
American Indian/Alaska Native					
Asian	5	0		5	
Native Hawaiian or Other Pacific Islander					
Black or African American	0	2		2	
White	52	93		145	
More Than One Race					
Unknown or Not Reported					
Racial Categories: Total of All Subjects*	57	95		152	

PART B. **HISPANIC ENROLLMENT REPORT: Number** of **Hispanics** or **Latinos Enrolled** to **Date (Cumulative)**

Racial Categories	Females	Males	Unknown or Not Reported	Total	
American Indian or Alaska Native					
Asian					
Native Hawaiian or Other Pacific Islander					
Black or African American					
White	0	2		2	
More Than One Race					
Unknown or Not Reported					
Racial Categories: Total of **Hispanics** or **Latinos****	0	2		2	* *

These totals must agree.
These totals must agree.