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Managing Asthma in NY State College Health Centers: Asthma Scorecard Total Scores (ASTS) and Recommendations

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Research Questions

What are New York State college health centers doing for asthma management?

What are college health center directors' attitudes toward and perceptions of asthma on campus?

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Background

- ☛ Asthma is a chronic incurable disease of the airways whose cause is unknown;
- ☛ In United States 23 million have asthma^{1,2};
- ☛ Asthma is one of the top 10 physical and mental problems on campus, affecting 12% of students³;
- ☛ 40% of college students with asthma symptoms do not seek treatment⁴.

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Literature Review

- ☛ An exhaustive review of the literature did not turn up a single study of asthma on college campuses from the perspective of the health center.
- ☛ Relative to other populations, there was a remarkable paucity of data on asthma among college students.

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Goals

- ☛ To determine the extent and scope of asthma management in NY State campus health centers;
- ☛ To assess attitudes and perceptions about asthma on NY State campuses.

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Development of Instrument

The Managing Asthma on College Campuses Survey Instrument (MACCS) was developed with the assistance of an Expert Panel comprising two medical doctors, an instrument design specialist, a national college health research director, and a world-renowned asthma expert.

The Expert Panel drew on the guidelines of the National Asthma Education and Prevention Program,^{5,6} which prominent asthma researchers^{7,8} regard as the national standard for assessing asthma management .

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NAEPP Guidelines

According to the NAEPP (2008)^{5,6} asthma management should include the following items:

- ☞ Identified staff person to coordinate the program;
- ☞ A confidential list of students who have asthma;
- ☞ School policies and procedures for administering medications, including protocols for emergency response to a severe asthma episode;
- ☞ Specific actions for staff members in the asthma management program;
- ☞ Asthma education for staff and students;
- ☞ A written asthma action plan on file for every student with asthma
- ☞ A strong family-physician-school partnership.

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Methods

- ☞ Descriptive cross-sectional study;
- ☞ Sample: four-year colleges in NY State with at least 1,000 undergraduate students;
- ☞ Respondents: campus health center directors;
- ☞ Survey instrument: MACCS (developed for this study);
- ☞ Administration: phone interview.

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NAEPP: Effective Asthma Management

According to the NAEPP⁵, effective asthma management has four components:

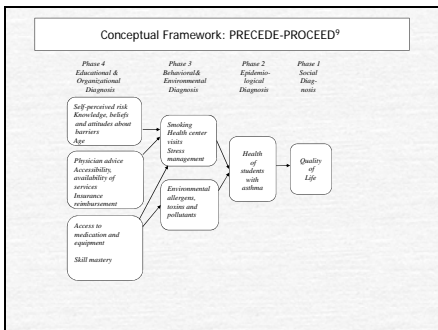
- Assessment and monitoring
- Education
- Environmental control
- Medication using a stepwise approach

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Participants

Four-year colleges in New York State with a minimum of 1,000 full-time undergraduate students

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Data Collection

- ☞ Demographic data: college websites
- ☞ Asthma management data: phone administration of survey

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Data Categories

- Quantitative data (school profile, staffing pattern, allergy capability, asthma action plans, protocol, and information);
- Qualitative data (asthma attitudes and perceptions).

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Results: Quantitative Data

- 82.1% had a health center on campus;
- Statistically significant association for size and health center ($p < .05$);
- Statistically significant association for affiliation and health center ($p < .005$);
- Statistically significant association for location and health center ($p < .005$).

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Data Analysis

- Quantitative data analyzed using descriptive statistics and regression analysis;
- Qualitative data analyzed using NVivo.

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Results: Quantitative Data

- 84% of HC directors were female;
- 33.3% were NPs, 25.8% RNs, 20.4% MDs;
- 69.8% of HCs had an MD on staff.

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Results: Response Rate and Demographics

- Response rate: 85.5% (100 out of 117 colleges had complete data);
- Size: 38 small (<2,000), 38 medium (2,000-4,999), 41 large (5,000 and up);
- Affiliation: 36 public, 81 private;
- Location: 78 urban, 39 nonurban.

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Results: Quantitative Data

- 13-Item Asthma Scorecard Total Score (ASTS);
- Use of the Delphi Technique;
- On a scale of 0-25, the weighted ASTSs for the 100 colleges had a range of 0-24.75, mean of 14.23, a median of 16.25, and a standard deviation of 8.35;
- Linear regression model was significant at $p < .001$ ($F=7.328$, $df 4$) for size, affiliation, and location.

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Results: Qualitative Data

- ✔ Satisfaction with asthma services offered;
- ✔ Recommended improvements for asthma services;
- ✔ Leading causes of asthma related visits;
- ✔ Barriers to seeking treatment;
- ✔ What else students do.

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Implications for Practice

- ✔ Creative solutions in a difficult economy;
- ✔ Resource sharing through campus and community partnerships;
- ✔ Surveillance and preventive care;
- ✔ Age-appropriate educational materials and use of media.

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Results: Qualitative Data

- ✔ Suggestions for influencing students to use health center:
 - expand asthma education--research has shown how vital this is to a successful outcome^{10,11,12};
 - partner with other departments, campus safety and residence life;
 - interact with primary care provider and parents;
 - improve accessibility;
 - maintain chronic illness database; and
 - motivate students.

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Recommendations

- ✔ Chronic disease database;
- ✔ Standardization of asthma plans and protocols;
- ✔ Education on chronic disease management;
- ✔ Community partnerships with pharmacies;
- ✔ Better communication with asthma "team";
- ✔ Advocacy.

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Limitations

- ✔ Causality cannot be inferred from cross-sectional research;
- ✔ Sample was relatively small and limited to New York State, may not be generalizable to other populations;

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Conclusions

- ✔ Size and location have a significant association with asthma management;
- ✔ Significant barriers exist: lack of understanding, money, accessibility, apathy and noncompliance; limited resources;
- ✔ With a mean ASTS of 14.23 out of 25, it appears that, on average, there is not adequate asthma education and management in New York State colleges.

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