

Baseline data of a longitudinal assessment of a Bachelor of Science in Health Science (BSHS) Program based on the core competencies for Interprofessional Collaborative Practice (IPCP)

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Abstract

Background: IPCP has been identified as essential to provide quality healthcare: so, IPE is being integrated to professional programs. While IPE is being researched in professional programs, not much is known about IPE at the pre-professional level. **Purpose:** Stockton's BSHS program was built based upon the Core Competencies for IPCP. The current study assessed the following IPE-related constructs: Health Science Reasoning, Ethical Decision Making for Health, Attitude Towards Health Care Teams, and Readiness for IP Learning. **Description:** A cohort of students was recruited during the introductory course to the program. The following measures were administered at baseline: Health Science Reasoning Test (HSRT), Ethical Decision Making (EDM) Measure for Health Science, The Attitudes Toward Health Care Teams Scale (ATHCTS), Readiness for Interprofessional Learning (RIPLS) and demographic questions. **Results:** A cohort ($N = 483$) of students was recruited; $N = 464$ participated of the baseline. Results of main measures are: HSRT ($M = 17.2, SD = 4.7$), EDM ($M = 2.18, SD = 0.20$), ATHCTS ($M = 4.1, SD = 0.47$), RIPLS ($M = 3.68, SD = 0.91$). Results for subscales and demographic data will be included in the presentation. **Conclusions:** Results from EDM, ATHCTS and RIPLS suggest undergraduate pre-professional students' Ethicality is at expected levels, they have positive attitudes toward healthcare teams and are prepared to receive IPE. However, the sample performed significantly below the expected level of critical thinking. **Relevance:** This suggests that students in an undergraduate health science program can receive interprofessional education, at least at the attitudinal and awareness level. IPE at this level can effectively foster positive attitudes towards working interprofessionally.

Significance

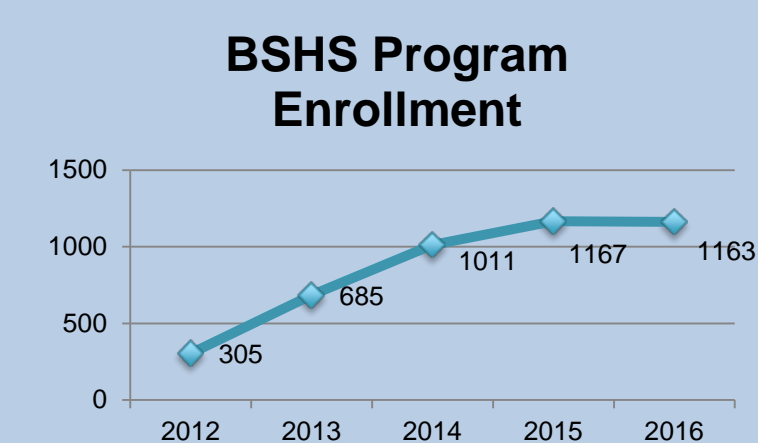
- The Interprofessional Education (IPE) and Interprofessional Collaborative Practice (IPCP) are believed to increase effectiveness, reduce human error, reduce cost, and reduce redundancy of treatment PEC (2011).
- Most research done looking at the readiness of students for IPE has been done in professional programs at the graduate and undergraduate level (McFadyen et al., 2005; Parsell & Bligh, 1999; Williams et al., 2012).
- However, Williams et al. (2012) suggests undergraduate students may be prepared to be introduced to interprofessional learning.

Purpose

The parent study is a longitudinal evaluation of the Bachelor of Science in Health Science. The purpose of the study being presented here is to assess the students as they enter the program (baseline assessment).

Description of the Bachelor of Science in Health Science (BSHS)

- Stockton University is a mid-size public institution in southern New Jersey; it offers 32 undergraduate programs and 14 graduate programs.
- The BSHS prepares students for graduate level professional health science programs and entry level positions in the health care system.
- The program was established in 2012. It has 1163 current students and offers 4 concentrations: General, Pre-Communication Disorders, Pre-Physical Therapy, Pre-Occupational Therapy.



- The program is underpinned by the Core Competencies for Interprofessional Collaborative Practice (IPEC, 2011); the program also incorporates System Theory, Critical Thinking and Wellness throughout the curriculum.

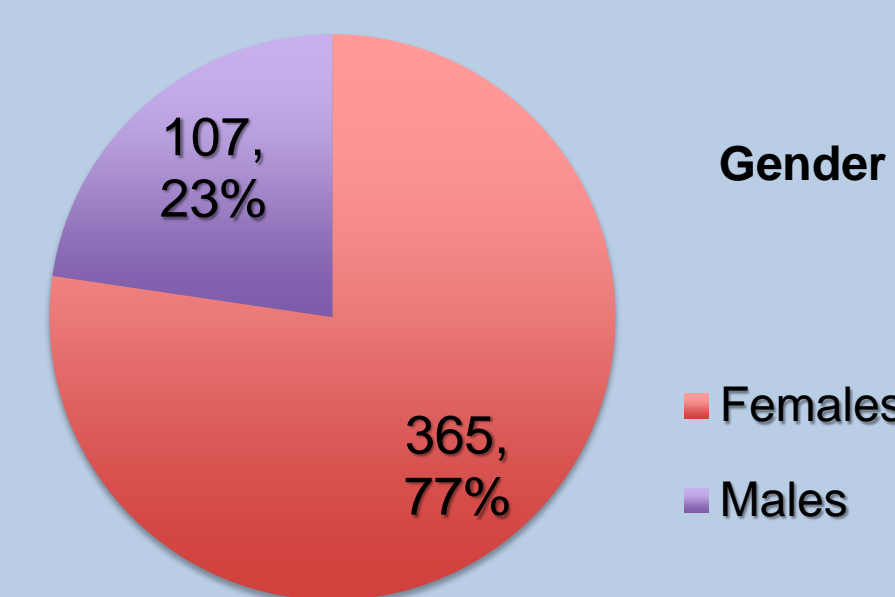
Method

- A cohort of students was recruited in the academic year 2014-15; all students taking the first core course (Intro to Health Science) were automatically enrolled in the cohort ($n = 497$).
- Eight constructs were identified for the assessment: Critical Thinking, Interprofessional Communication, Roles & Responsibilities, Teams and Teamwork, Values and Ethics in Healthcare, Wellness, Readiness for IPE, and Systems Theory.
- Students were measured at the *attitude* and *knowledge* level, using CIHC (2012) levels of outcome measurement.
- Four suitable measures were identified using CIHC (2012) criteria:
 - Readiness for Interprofessional Education (IPE): *Readiness for Interprofessional Learning Scale* (RIPLS) [Parsell & Bligh, 1999]. The scale has 19 items and includes three subscales: *Teamwork and Collaboration*, *Professional Identity*, and *Roles and Responsibilities*. The scale has a range from 1 to 5.
 - Values and Ethics in Healthcare: *Ethical Decision-Making for Health Science* (EDM-Health) [Mumford et al., 2006]. Situational judgement type test with 5 Scenarios, 25 questions, 8 choices (Choose best 2). Range is 1 to 3.
 - Teams and Teamwork: *Attitude Towards Health Care Teams* (ATHCT) [Heinemann et al., 1994]; 21 items measured in a 6-point Likert scale; 3 subscales: Team Value, Team Efficiency, and Shared Leadership.
 - Critical Thinking: Health Science Reasoning Test (HSRT) [Insight Assessment, (2012). HSRT consists of 34 multiple-choice questions based on brief scenarios. Each item includes 4 to 5 responses; 50 min to complete.
- $n = 472$ participated of the baseline assessment at the beginning of Intro to Health Science.

Results

Demographics

Racial Distribution		
Race/Ethnicity	N	Percent
African American/Black	29	6.7
Hispanic/Latino	44	10.2
White/Caucasian	311	72.3
East Asian	15	3.5
South Asian	15	3.5
Pacific Islander	3	0.7
Native American	2	0.5
Other	11	2.6



Year in College		
Year	N	Percent
Freshmen	180	41.6
Sophomores	129	29.8
Juniors	112	25.9
Seniors	12	2.8

Incoming Status		
Transfer	N	Percent
Freshmen	267	61.7
Transfer	165	38.1

- The average **Age** of the sample was 20.6 ($SD = 3.7$) years, 16.5% admitted to be **employed** in the health care system, and 51.7% had some **volunteer experience** in the health care system.

Readiness for Interprofessional Education (IPE)

Name	M	SD	Eigenvalue	Cronbach's Alpha
RIPLS	3.68	0.91	--	0.94
Teamwork and Collaboration	3.88	1.20	11.10	0.97
Professional Identity	3.81	1.05	1.08	0.91
Roles and Responsibilities	2.74	0.79	0.31	0.33

Values and Ethics in Healthcare

Dimension	Valid	Miss	Pass	Fail	Mean	SD	Cutoff
Ethicality	443	4	413	30	2.18	0.20	1.83
Data Management	443	4	394	49	2.20	0.20	1.94
Study conduct	432	15	400	32	2.33	0.55	1.50
Professional Practices	443	4	394	49	2.04	0.15	1.88
Business Practices	443	4	360	83	2.18	0.28	2.00

Teams and Teamwork

Scale/Subscale	M	SD	Eigenvalue	Cronbach's Alpha
ATHCTS	4.1	0.47	--	0.69
Team Value	4.6	0.76	4.32	0.79
Team Efficiency	4.1	0.82	1.71	0.69
Shared Leadership	3.1	0.79	0.81	0.53

Critical Thinking

Scale/Subscale	N	M	SD	Mean Percentile
Overall Reasoning	474	17.3	4.7	34.25
Induction	474	5.9	1.9	-
Deduction	474	4.8	2.1	-
Analysis	474	3.4	1.4	-
Inference	474	3.7	1.2	-
Evaluation	474	3.5	1.5	-
Completeness	474	98.0	8.6	-

- A single-sample *t*-test showed our students are scoring significantly lower than the test's norm: $t(N = 477) = -12.81, p < .0001$

Discussion

- The demographic composition of the sample is similar to the composition of the University and the rest of the Program.
- Students seem to be fairly ready for Interprofessional education as their scores in RIPLS are slightly above the mean (3) of the measure; the eigenvalue of the subscale *Roles and Responsibilities* suggests it may not be valid in this sample of undergraduate, pre-professional students.
- Most students' ethical decision-making is at the medium level (2) and very few of the students failed the test.
- Students have fairly positive attitudes toward health care teams. The means scores of the sample are slightly above the mean (3.5) of the measure. The eigenvalue of the subscale *Shared Leadership* suggests it may not be valid in this sample of undergraduate, pre-professional students.
- The average critical thinking of the students is significantly below of the sample used to norm the test. However, it is worth noting that the norm sample include professional students (e.g., nurses) and all years (i.e., freshman, sophomore, juniors, and seniors).

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