OHSU Board of Directors Meeting

Friday, September 27, 2019
1:30 – 3:05 pm

Rood Family Pavilion
3410 SW Bond Ave. Port., OR 97239
Conference Rooms B/C

OREGON HEALTH & SCIENCE UNIVERSITY
BOARD OF DIRECTORS MEETING
Public Agenda

Friday, September 27, 2019
1:30 - 3:05 pm
Rood Family Pavilion,
Conf. Rooms B and C combined

1:30 pm	Call to Order/ Chairman's Comments	Wayne Monfries
	President's Comments	Danny Jacobs, MD
	Approval of Minutes June 27 **(ACTION)**	Wayne Monfries
1:40 pm	Rood Family Pavilion Overview	Dana Braner, MD
1:45 pm	FY19 Unaudited Financial Results	Lawrence Furnstahl
2:05 pm	Annual Education Assessment Update	Constance Tucker, PhD David Robinson, PhD
2:25 pm	FY19 Indicators Final Report	Elena Andresen, PhD Dana Director, PhD John Hunter, MD Greg Moawad
2:45 pm	School of Nursing Initiatives	Susan Bakewell-Sachs, PhD, RN
3:05 pm	Meeting adjourned	

Oregon Health & Science University
Board of Directors Meeting
June 27, 2019
Robertson Life Sciences Building, Room 3A001

Following due notice to the public, the regular meeting of the Board of Directors of Oregon Health & Science University (OHSU) was held at 1:30 p.m. in the RLSB Conference Room 3A001, 2730 SW Moody, Portland, OR 97201.

A transcript of the audio recording was made of these proceedings. The recording and transcript are both available by contacting the Secretary of the Board at 3181 SW Sam Jackson Park Road, Mail Code L101, Portland, Oregon 97239. The following written minutes constitute a summary of the proceedings.

Attendance

Board members in attendance were, Danny Jacobs, Wayne Monfries, Chad Paulson, Amy Tykeson, Lubna Khan, Steve Zika, Stacy Chamberlain and Prashant Dubey. OHSU staff members presenting materials on the agenda were Lawrence Furnstahl, Dan Forbes, Karen Eden, Carmem Pfeifer, Phillip Marucha, Elena Andresen, Peter Barr Gillespie and John Hunter. Connie Seeley, Secretary of the Board, and Alice Cuprill-Comas, Assistant Secretary of the Board, were in attendance as well as other OHSU staff members and members of the public.

Call to Order

Wayne Monfries

Wayne Monfries, Chair of the OHSU Board of Directors, called the public meeting to order at 1:30 p.m. and welcomed all those in attendance.

Chairman's Comments

Wayne Monfries

Mr. Monfries opened the meeting by expressing gratitude to the OHSU community for the support he and his family received regarding their recent family loss. He announced board meetings do not take public testimony and provided ways for individuals to provide public feedback to the board members. He went on to welcome the newest board member, OHSU medical student Lubna Khan. He spoke about the opening of the CHH2 building, The Rood Family Pavilion and the beam placement at The Elks Children's Eye Clinic. He also commented on his sense of pride for all of the talented learners at the OHSU convocation ceremony that he attended earlier that month.

President's Comments

Danny Jacobs, M.D.

Dr. Jacobs expressed his inspiration at participating in his first OHSU convocation ceremony expressing the most important duty is educating the next generation of leaders. He went on to announce the vision for OHSU 2025 was nearly complete. He reviewed the statistics and thanked everyone for their participation. He acknowledged several of OHSU's newest accolades which included, the naming of Doernbecher among the nation's best children's hospital for the 10th consecutive year and OHSU receiving a grant with UC Davis. He closed with comments on the announcement for a joint center in biomedical data analytics with OHSU and University of Oregon.

Approval of Minutes

Wayne Monfries

Mr. Monfries asked for approval of the minutes from the April 11, 2019 OHSU Public Board meeting. Upon motion duly made by Amy Tykeson and seconded by Stacy Chamberlain, the minutes were approved by all Board members in attendance.

Financial and Academic Tuition and Fee Book Update

Lawrence Furnstahl

Mr. Monfries recognized Lawrence Furnstahl, Executive Vice President and Chief Financial Officer.

Mr. Furnstahl provided a detailed overview of OHSU's FY19 Year to date results and FY20 Budget and Fee Book. He stated the budget was designed to support the goals and initiatives under the OHSU 2025 strategic plan and are prioritized in terms of sequence. He also discussed performance, Medicaid, and operating income.

Board members asked Mr. Furnstahl for additional information on the OCNE program, salary and benefits, Accelerate OHSU and the growth rate in revenue.

Faculty Response

Karen Eden, PhD

Mr. Monfries recognized Karen Eden, PhD, Faculty Senate President.

Dr. Eden shared a presentation on the senate priorities and the faculty response to the budget including, pay equity and the Oregon Equal Pay Act, financial security, faculty wellbeing, and faculty resources and governance. She summarized asking for continued support to provide transparent equitable and stable funding for the faculty and asked that the budget address themes that come out of the faculty survey and 2025 strategic planning process.

Approval of Budget and Academic Fees

Mr. Monfries presented OHSU Board Resolution 2019-06-03 to approve the FY20 Budget and Fee Book.

> **OHSU Board Resolution 2019-06-03, Approval of Budget and Academic Fees**
> Mr. Monfries asked for a motion to adopt Resolution 2019-06-03. Lubna Khan moved to approve the motion. Chad Paulson seconded the motion and it was approved by all OHSU Board members in attendance.

Update on FY19 Indicators and Proposed FY20 Indicators

Dan Forbes, John Hunter, MD, Elena Andresen, PhD, Peter Barr-Gillespie, PhD

Mr. Monfries recognized Dan Forbes, VP Human Resources, John Hunter, MD, EVP, CEO OHSU Health Systems, Elena Andresen, PhD, EVP, Provost and Peter Barr Gillespie, PhD, EVP, Chief Research Officer.

Mr. Forbes began with a discussion regarding the FY19 Indicators and its five main categories including people, healthcare, research, education and finance. He touched on Diversity and Inclusion, flexible work environment, commuting and employee engagement. Dr. Hunter discussed the ambulatory experience, access and mortality rates. Dr. Andresen spoke about underrepresented minority student recruitment and retention, the education committee and indebtedness, and Dr. Barr Gillespie followed with updates on grants, publication targets and turnaround time.

Board members asked the team for additional information on unconscious bias training, strategic planning timing, denominators, publications, tracking percentages and missions compared to the industry

School of Dentistry Research

Phillip Marucha, DMD, PhD, Carmem Pfeifer, DDS, PhD

Mr. Monfries recognized Phillip Marucha, DMD, PhD and Carmem Pfeifer, DDS, PhD.

Dr. Marucha discussed areas of research in the last 5 years including periodontal disease, protection of the oral cavity and what happens when that goes awry. He also spoke of tissue regeneration and development of materials of the future. He mentioned funding had tripled over the last 5 years providing the development of new DMD and PhD programs. Dr. Pfeifer focused on a new nanoparticle they created for dental restorations that would last a patient's lifetime. She explained the research, the materials, and the operatory technique.

Board members asked for additional information on the R35's programs, the improvement of public health and how to get the word out to the rest of the world about this great work.

Resolution 2019-06-04

Appointment to IPOC Board Committee

Mr. Monfries presented OHSU Board Resolution 2019-06-04, Appointment of board member Lubna Khan to the IPOC Board Committee.

OHSU Board Resolution 2019-06-04, Appointment to IPOC Board Committee

> Mr. Monfries asked for a motion to adopt Resolution 2019-06-04. Prashant Dubey moved to approve the motion. Danny Jacobs seconded the motion and it was approved by all OHSU Board members in attendance.

Adjournment

Wayne Monfries

Hearing no further business for discussion, Mr. Monfries thanked all of the Board members and presenters for their participation. The meeting was adjourned at 3:30pm.

Respectfully submitted,

Connie Seeley
Secretary of the Board

FY19 Unaudited Financial Results

OHSU Board of Directors / September 27, 2019

FY19 June YTD Financial Results

- Unaudited financial results for FY19 show operating income of $175 million. This is $60 million above budget: $150 million more revenue supported by $90 million more expense.
- Adjusting for the $18 million accounting change to record pharmacy inventory, this is $7 million better than we estimated in June, largely due to more equipment capitalized from grants.
- FY19 performance represents a 12% EBITDA margin on nearly 10% year-over-year revenue growth to $3.25 billion. This compares to a 10.7% margin in the prior year.
- Cash and investments held at OHSU are up $162 million during the fiscal year, this result of strong earnings, fixed-income investment returns, and slower initial spending on the hospital expansion project.
- Consolidated net worth rose $252 million or 7.5%, from operations and investments as well as State grant and Knight gift funds applied to complete the Knight Cancer Research Building, net of PERS pension accruals under GASB 68 accounting rules.
- Since June 2010, OHSU's net worth has increased by 113%, an 8.8% compounded annual return on equity over nine years, from operations, philanthropy and investment returns.
- In short, many things broke our way last year, while core operations (beyond one-time gains) were well managed to budget.
- June results are subject to some change as KPMG completes its audit. They will report to the Finance & Audit Committee and full Board in October.

OHSU

FY19 Operating Income $60M > Budget

June YTD (12 months) (millions)	FY18 Actual	FY19 Budget	FY19 Actual	FY19 - Budget	FY19 / FY18
Net patient revenue (less tax)	$2,050	$2,151	$2,235	$84	9%
Medical contracts	38	96	104	8	171%
Medicaid R&E IGT	98	112	116	4	19%
Grants & contracts	423	412	451	39	7%
Gifts applied	94	106	94	(12)	0%
Tuition & fees	74	77	78	1	6%
State appropriations	37	37	37	0	1%
Other revenue	152	114	139	24	-9%
Operating revenues	2,966	3,105	3,254	150	10%
Salaries & benefits	1,759	1,834	1,885	51	7%
Services & supplies	891	955	977	22	10%
Depreciation	151	170	187	17	24%
Interest	29	31	31	0	10%
Operating expenses	2,829	2,990	3,079	90	9%
Oper. income (budget basis)	$137	$115	$175	$60	28%
State grant to KCC for KCRB	116		8		
Gift funding for KCRB	4		22		
Total oper. income (pre-GASB 68)	$257		$205		

Note: Medical contracts for faculty services at partner sites were partially included in other revenue lines in FY18.

OHSU

$60M Budget Gain Broad-Based Across OHSU

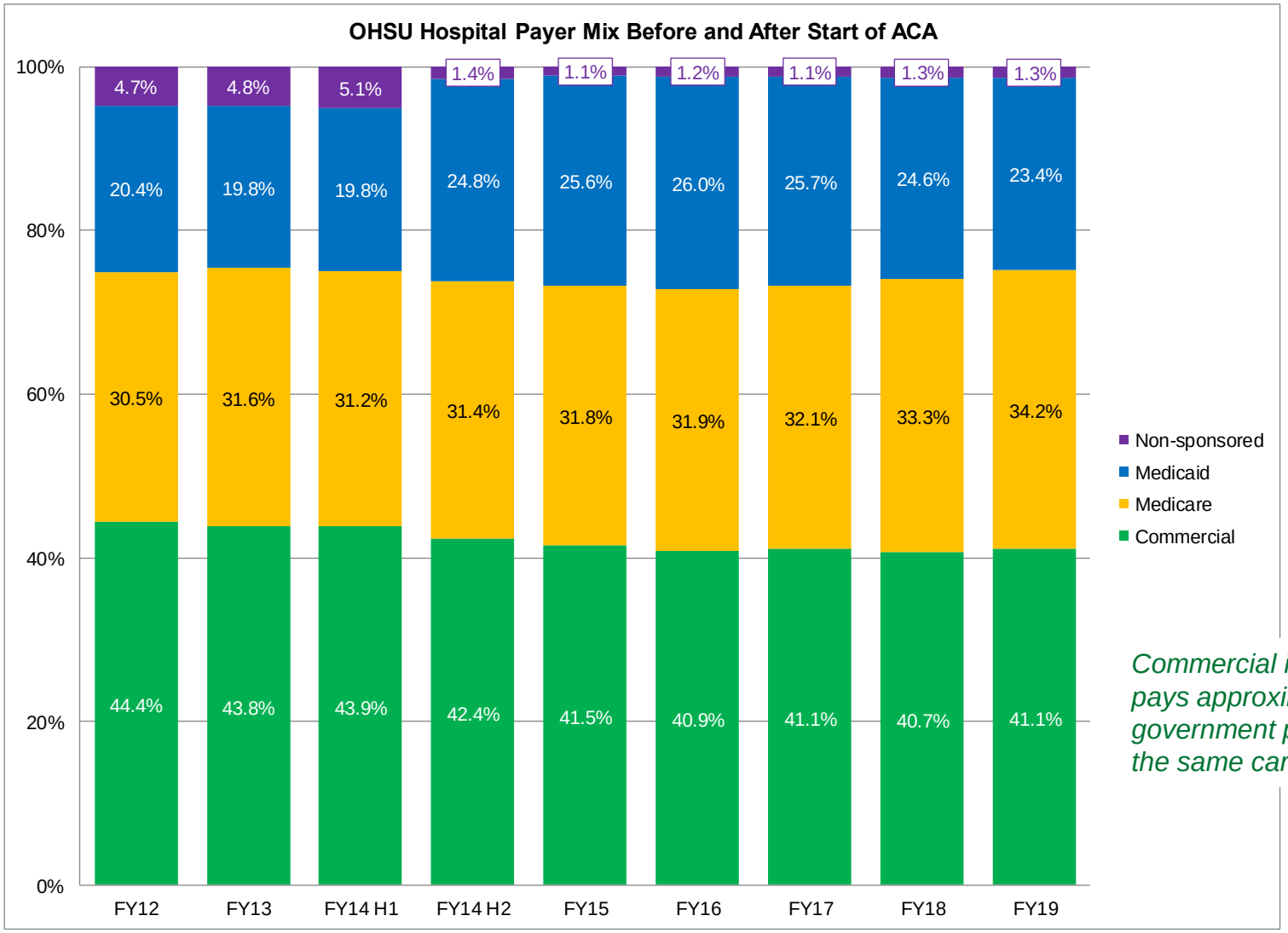
- Major operating units across OHSU ended the year very close to budget.
- The total $60 million improvement in operating income includes $32 million of one-time items, $26 million in centrally-booked costs, and a $2 million net positive variance in operating units:

FY19 Budget Variance	(millions)
Medicaid IGT funds above budget	$4
Non-union PTO impact above budget	5
CHH-2 startup costs less than budget	4
More capital spent from grants (Cryo EM & Primate Center)	12
Correction to prior-year A/P accrual for hemophilia factor	6
Accounting change to record pharmacy inventory	18
Accounting change to increase capital equipment threshold	(17)
Subtotal - one-time items	32
Slower spending on institutional commitments & contingency	9
Lower insurance & benefit costs	8
Lower depreciation & capital-related expense	5
Better management of overhead (fixed costs held fixed)	4
Subtotal – centrally-booked items	26
Operating units better than budget (net)	2
Total – FY19 operating income above budget	$60

O/P Visits, Surgery & Casemix Drive 5% Growth

OHSU Patient Activity June YTD (12 months)	FY18 Actual	FY19 Budget	FY19 Actual	Actual / Budget	Actual / Last Year
Inpatient admissions	29,213	29,640	29,174	-1.6%	-0.1%
Average length of stay	5.94	5.90	6.12	3.7%	3.0%
Average daily census	464	464	476	2.5%	2.7%
Day/observation patients	40,378	40,628	42,320	4.2%	4.8%
Emergency visits	48,461	50,553	47,856	-5.3%	-1.2%
Ambulatory visits	955,857	982,601	987,024	0.5%	3.3%
Surgical cases	35,560	36,982	37,080	0.3%	4.3%
Casemix index	2.18	2.20	2.26	2.7%	3.7%
Outpatient share of activity	51.5%	51.2%	52.3%	2.1%	1.6%
CMI/OP adjusted admissions	131,210	133,742	137,995	3.2%	5.2%

Commercial Share Stable Since FY16



Commercial insurance pays approximately 2x government payers for the same care.

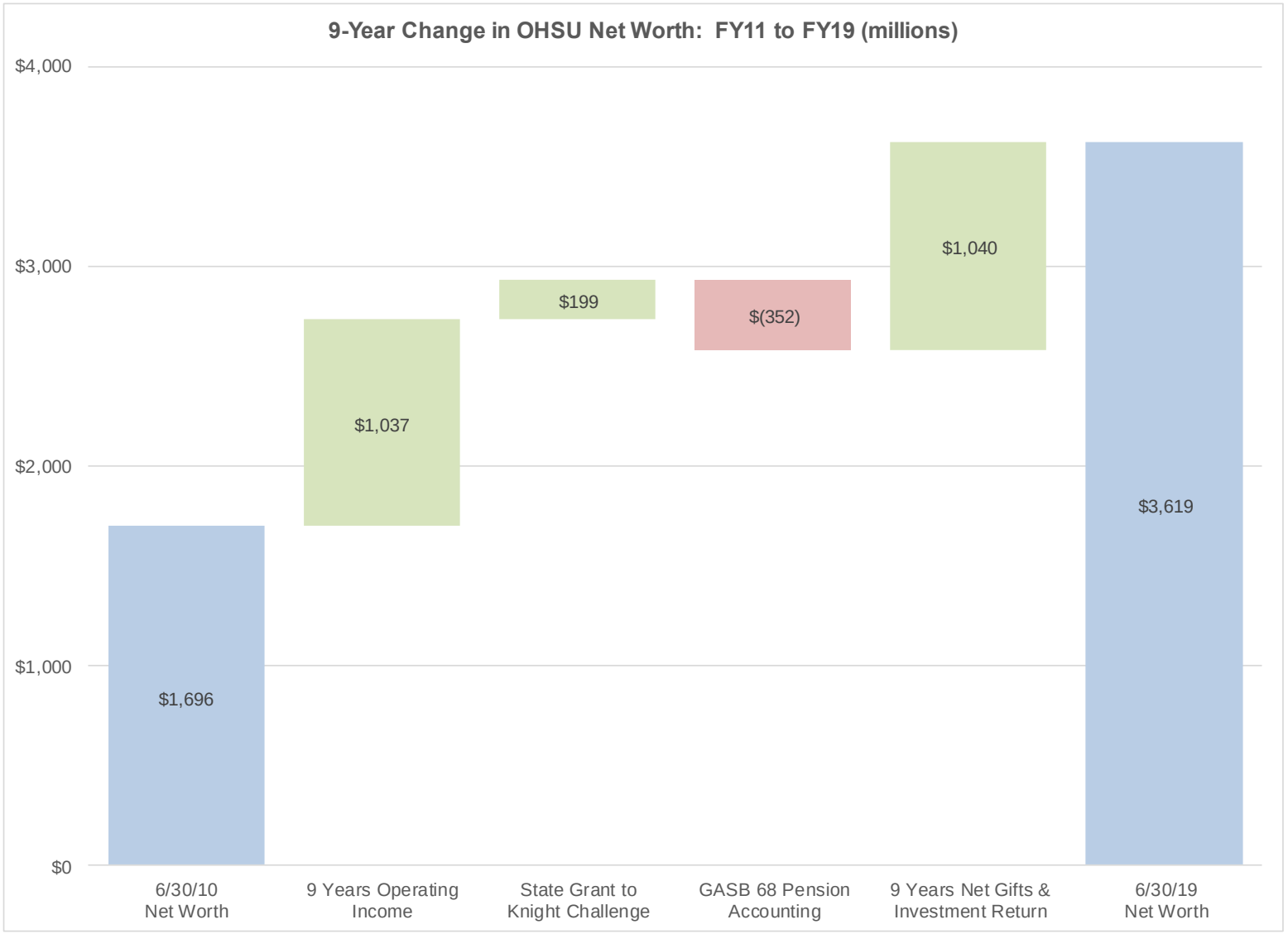
FY19 Cash Up $162M with Net Worth Up $252M

Balance Sheet (millions)	6/30/18	6/30/19	Change
Operating cash & investments	$926	$1,083	$157
Quasi-endowment funds	94	99	5
Moda surplus note, net	34	34	0
OHSU cash & investments	1,054	1,216	162
Trustee-held bond funds	61	46	(15)
SoPH trustee-held funds	1	10	10
Total cash & investments	1,115	1,271	156
Net physical plant	2,009	2,073	64
Interest in Foundations	1,388	1,363	(24)
Long-term debt	(1,002)	(979)	22
GASB 68 pension items, net	(327)	(351)	(24)
Working capital & other, net	184	242	59
OHSU net worth	3,367	3,619	252

Oper. income (budget basis)	175
State grant to KCC for KCRB	8
Gift funding for KCRB	22
OHSU investment return	79
Change in Foundations net worth	(24)
Other gift & grant funded capital	31
Accrual accounting for pension	(34)
Reserve on Tuality capital investment	(8)
Other non-operating items	3
Total change in net worth	$252

FY19 Cash Flow (millions)	June YTD
Oper. income (budget basis)	$175
State grant to KCC for KCRB	8
Gift Funding for KCRB	22
CHH-2 bond funds applied	11
Other gift & grant funded capital	31
Depreciation	187
OHSU investment return	79
Sources of OHSU cash	513
Regular principal repaid	(22)
Capital spending	(250)
School of Public Health funding	(10)
A/R & other working capital, net	(69)
Uses of OHSU cash	(351)
Sources less uses of cash	162
6/30/18 balance	1,054
6/30/19 balance	1,216

Net Worth Growth from Operations + Philanthropy



FY20 August Operating Income $10M > Budget

August operating income is $22 million, $10 million better than budget, largely due to a slower pace of strategic initiative spending and new hiring. Compared to last year, expense growth is outpacing revenue, due to pharmaceutical costs and the new buildings opened in mid-FY19. July and August results tends to be volatile, but the fiscal year is off to a decent start.

August FY20 YTD (2 month) (millions)	FY19 Actual	FY20 Budget	FY20 Actual	FY20 - Budget	FY20 / FY19
Net patient revenue (less tax)	$368	$393	$390	$(3)	6%
Medical Contracts	20	19	17	(3)	-14%
Medicaid R&E IGT	19	23	23	0	21%
Grants & contracts	65	72	74	3	14%
Gifts applied	13	14	13	(1)	-3%
Tuition & fees	12	12	12	0	4%
State appropriations	6	6	7	0	6%
Other revenue	24	26	33	7	37%
Operating revenues	527	565	569	4	8%
Salaries & benefits	310	338	335	(3)	8%
Services & supplies	155	179	176	(3)	14%
Depreciation	27	29	29	(0)	10%
Interest	6	6	6	0	11%
Operating expenses	497	552	546	(6)	10%
Oper. income (budget basis)	$30	$13	$22	$10	-27%

OHSU

Date: September 17, 2019

To: OHSU Board of Directors

From: Office of the Provost

RE: Assessment Update

Memo:

WHAT:
Assessment for Student Learning is "what we want our students to know and be able to do and how we know they got it?". This presentation is to make the OHSU Board aware of our institutional assessment activities.

The OHSU assessment process was established in 2011 through the Office of the Provost. The process focuses on local faculty-driven improvements that are documented and well aligned to the institutional core competencies. The OHSU Assessment Council then uses an institutional rubric to annually evaluate each program's assessment activity plan and report and provide feedback for continuous improvement. This rigorous process continues to redefine and improve our current understanding of our institutional learning outcomes.

WHY:
This presentation is to make the OHSU Board aware of our institutional activities. Annual review of institutional assessment activities by the board is an expectation of our regional accreditors.

Assessment of Student Learning:
A Continuous Improvement Process

OHSU Board

September 27, 2019

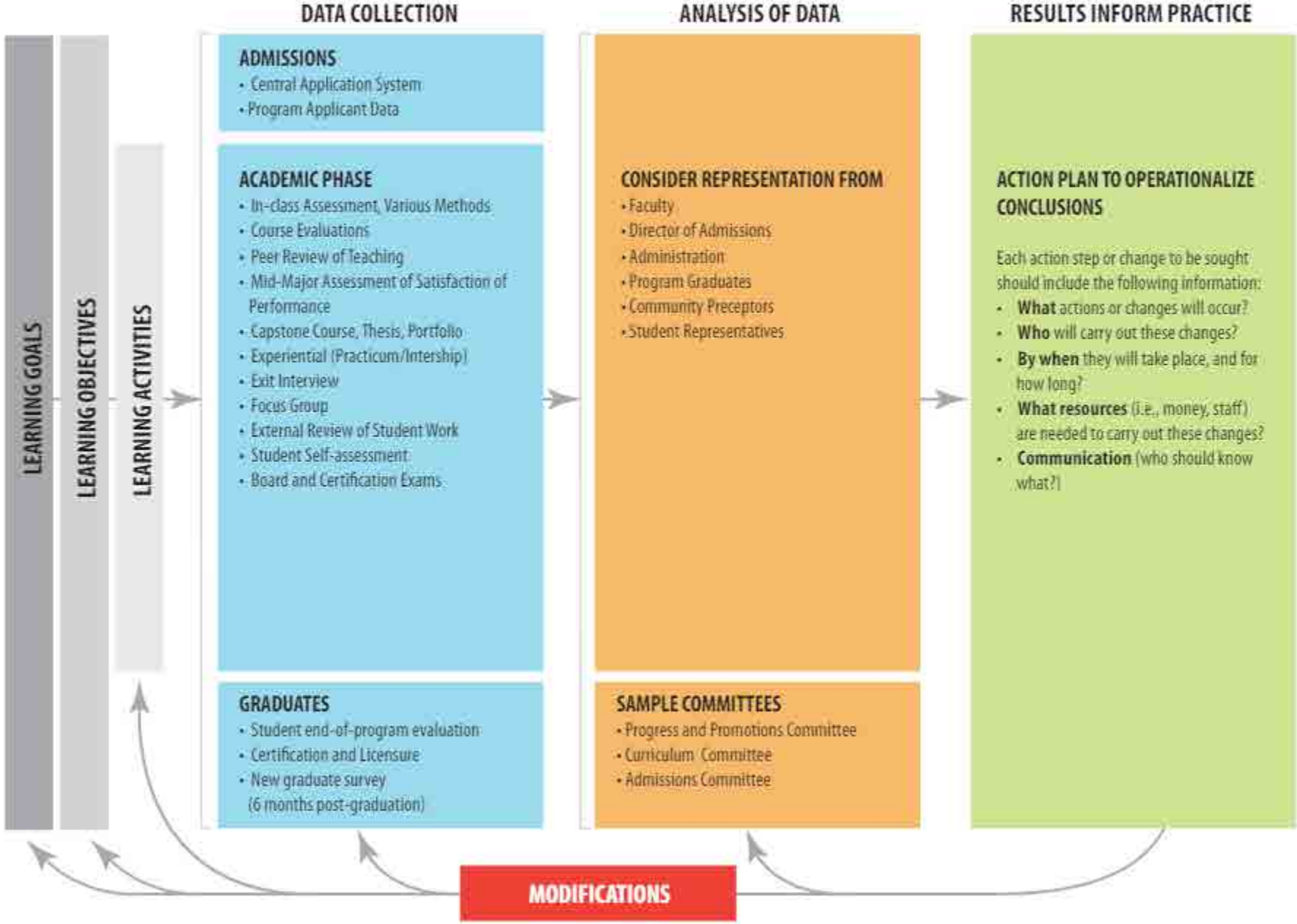
Assessment for Student Learning

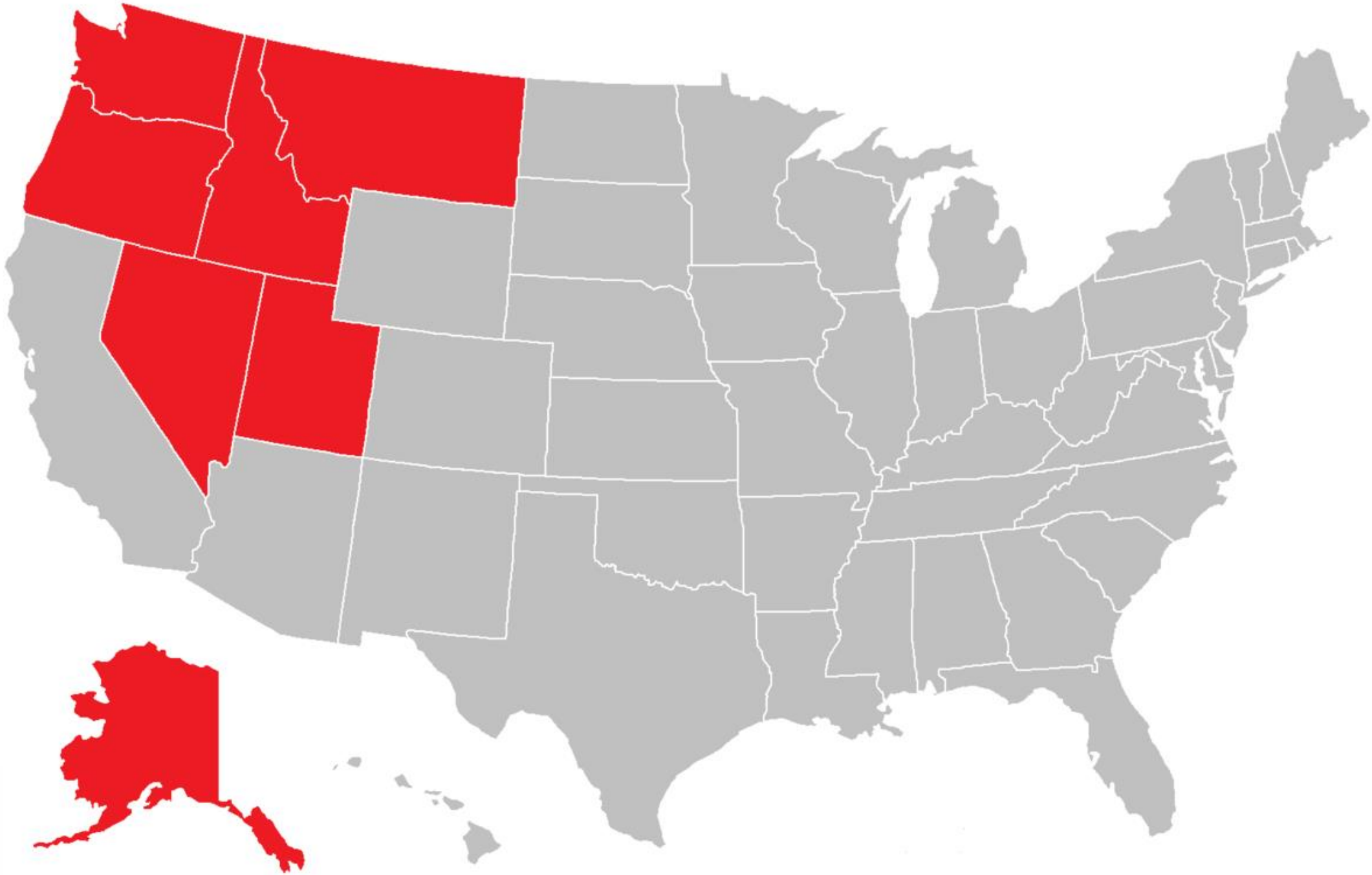
What do you want your students to know and be able to do and how do you know they got it?

Why Assessment Matters:

1. Provide equitable student experiences
2. Document quality
3. Ensure alignment
4. Differentiate ourselves regionally and nationally

Assessing Student Learning





Northwest Commission on Colleges and Universities
NWCCU

Year Seven *Mission Fulfillment and Sustainability* Evaluation
Fall 2015
Oregon Health & Science University
Recommendations

1. While the evaluation committee recognizes that the institution in recent years has made substantial progress toward developing an infrastructure that supports assessment of student learning, the committee recommends that the institution take steps necessary to ensure comprehensive assessment of student learning outcomes and use the resulting information to strengthen academic programs (Standard 4.A.3 and 4.B.2).

Nov 17, 2017
2016-17 Report
2017 Plan
Assessment Council Feedback
April 2018

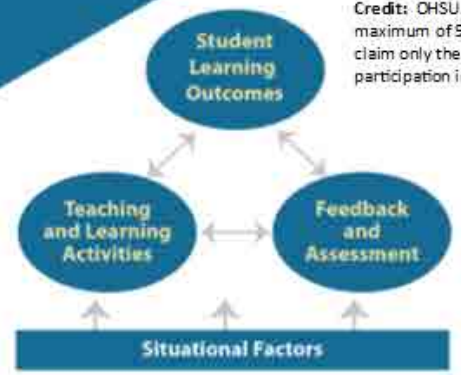
July 1, 2018
2017-18 Report
2018-19 Plan

NWCCU
Fall 2018 Site Visit
Assessment Council Feedback
April 2019

Nov 1, 2019
2018-19 Report
2019-20 Plan
Assessment Council Feedback
April 2020

Nov 1, 2020
2019-20 Report
2020-21 Assessment Plan
Assessment Council Feedback
April 2021

2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21



Credit: OHSU School of Medicine designates this live activity for a maximum of 9.0 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

OHSU

Assessment Academy Series

The OHSU Assessment Academy Series workshops are intended to provide opportunities for participants to improve practice-based skills through participation in effective educational activities that promote life-long learning.

Learning Outcome: Workshop participants will demonstrate an increase in their knowledge of assessment, improvement in their practice and strategies in educational pedagogy, and effective utilization of data to improve student learning and program effectiveness. Please contact Janet Wheeler at wheeljan@ohsu.edu or 503-346-3550 for more information.

SESSION TITLES	DATE	TIME	LOCATION	FACILITATOR(S)	AUDIENCE
One-on-one consultation (no CME credit for this activity)	Ongoing	By app't only	Baird 1036A	Constance Tucker, Ph.D.	All
Orientation to Assessment of Student Learning: Four Questions Every Academic Program Should Answer	9/20/2017	2—3pm	CLSB 1A007	Lisa Hatfield, Ed.D. Judy Bowen, M.D.	Faculty
Assessment Planning Working Brown Bag	09/26/2017 10/26/2017 11/29/2017	11—Noon 11—Noon 11—Noon	KPV 14000D KPV 14000D BRB 381	Constance Tucker, Ph.D. Janet Wheeler, M.Ed.	Directors and Faculty
Test Item Writing Workshop	10/17/2017 12/5/2017	Noon—1pm Noon—1pm	KPV 14000D KPV 14000D	Sarah Jacobs, M.Ed. Pat Kenney-Moore, Ed.D.	Faculty
Helping Your Department Advance and Implement Effective Assessment Plans: A Workshop for Administrative Coordinators	10/19/2017 11/16/2017	Noon—1pm Noon—1pm	MAC 1115 CLSB 1A007	Constance Tucker, Ph.D. Janet Wheeler, M.Ed.	Administrative Coordinators
Mapping Your Curriculum	10/25/2017	Noon—1pm	BRB 381	Janet Wheeler, M.Ed. Lisa Hatfield, Ed.D.	Directors and Faculty
Revising and Improving Your Overall Assessment Plan	11/9/2017	Noon—1pm	MAC 1115	Patty Carney, Ph.D.	Administrators and Faculty
Using Xitracs: Tricks to Help Departments Track and Report on Assessment of Student Learning	10/16/2017	Noon—1pm	BICC 120 Computer Lab	TBD	Directors
Developing Program Mission and Student Learning Outcomes/Meaningful Assessments	11/28/2017	Noon—1pm	CLSB 1A005	Janet Wheeler, M.Ed.	Directors and Faculty
Planning Assessment with Publication in Mind	12/4/2017	Noon—1pm	CLSB 25012	Patty Carney, Ph.D.	Faculty

Accreditation: Oregon Health & Science University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

O2

Welcome back, Constance Tucker

Bookmark this page : A-Z Index : Smart Web : Text Resize: A A A

Search the Intranet

Intranet Quick Links

OREGON HEALTH & SCIENCE UNIVERSITY

Educational Improvement and Innovation

Home | Assessment of Student Learning | Faculty Development | Teaching and Learning Center | Contact us

Search Educational Improvement

In an effort to stimulate the spirit of inquiry, initiative, and cooperation in teaching and learning, the central mission of Educational Improvement and Learning Innovation is to promote and advance the reflective, scholarly and innovative endeavor of teaching and learning at OHSU and beyond.

The mission of Educational Improvement and Innovation is to:
- Develop and sustain a cadre of competent educators committed to engaging in educational innovation in the health professions;
- Establish an educational culture that recognizes, promotes, and celebrates excellence in education;
- Cultivate the potential of faculty to contribute to the growing body of scholarship in health professions education;
- Create learning and teaching environments that advances inter-disciplinary collaboration; and
- Ensure that the faculty is prepared to meet NWCCU accreditation standards for educational excellence.

Upcoming events

Assessment Academy
In this series, you will learn how to prepare your assessment plans to meet the December 1 deadline. More information to come!

Begins fall 2017

Educational Improvement and Innovation

Through interprofessional faculty development, student learning assessment and quality educational services, we promote and advance the reflective, scholarly and innovative endeavor of teaching and learning at OHSU and beyond.

A message from Constance Tucker

At OHSU, we strive for excellence in education. In an effort to accomplish our mission, Educational Improvement and Innovation endeavors to support and strengthen institutional faculty development initiatives, the Teaching and Learning center and quality assessment of student learning.

If we can support your professional growth as a developing scholar of teaching and learning, please don't hesitate to connect with us.

Constance Tucker, Ph.D., M.A.
Vice Provost, Educational Improvement and Innovation

tuckeco@ohsu.edu

FAQs

- What's the difference between accreditation and assessment?
- Does assessment take a lot of (extra) time?
- What are the benefits of assessment?
- What's the difference between assessment and evaluation?
- How often do we need to assess?
- Are we out of compliance with our assessment plans?
- How will I know when it's time to develop an assessment plan and when to submit

With this intentional infrastructure, the institution is on track to provide data on assessment activities and student achievement of program learning goals and institutional core competencies, based on several cycles of student learning outcomes assessment, by the time of their Year Seven Report.

Thus, OHSU appears to be on track to meet the NWCCU standards for student learning outcome assessment. Equally important, OHSU appears prepared to maintain the trajectory toward a "culture of assessment" that it has established in this regard.

NWCCU Membership Approves 2020 Eligibility Requirements and Standards for Accreditation

Aug. 22, 2019 · Categories: NWCCU, Policies, Standards, USDE

August 22, 2019 – Redmond, WA – The chief executive officers of 158 eligible member institutions were availed the opportunity to vote on adoption of the Northwest Commission on Colleges and Universities' 2020 Eligibility Requirements and Standards for Accreditation. Of the 134 who voted, 129 voted Yes to adopt the new ERs, and Standards, four voted No not to adopt, and one Abstained. The 2020 ERs and Standards will take effect on January 1, 2020.

"The revised Eligibility Requirements and Standards reflect the iterative and concerted efforts of thousands of our stakeholders, commissioners, and staff," said Sonny Ramaswamy, president of NWCCU. "We look forward to instituting these new Eligibility Requirements and Standards to promote student success at our member institutions."

NWCCU Staff will hold a series of online and in-person training sessions throughout fall 2020 to answer questions and provide resources. Additionally, the 2020 Handbook of Accreditation will provide explanations, models, templates, and rubrics to institutions and Evaluation Teams. All resources will be made available on the Tools and Resources pages on the NWCCU website (https://www.nwccu.org/tools-resources/).

"The Commission is pleased with the degree to which member institutions engaged in the intensive process of reviewing the Standards and Eligibility Requirements. We believe that the outcome will result in streamlined processes and a distinctive focus on student success," said Thayne McCulloh, president of Gonzaga University and Chair of the Commission.

The NWCCU is grateful to the thousands of stakeholders who participated in the year-long process and who helped create a model for the Commission's future work that places Student Success at the center of every conversation.

Institutional Effectiveness

Student Learning

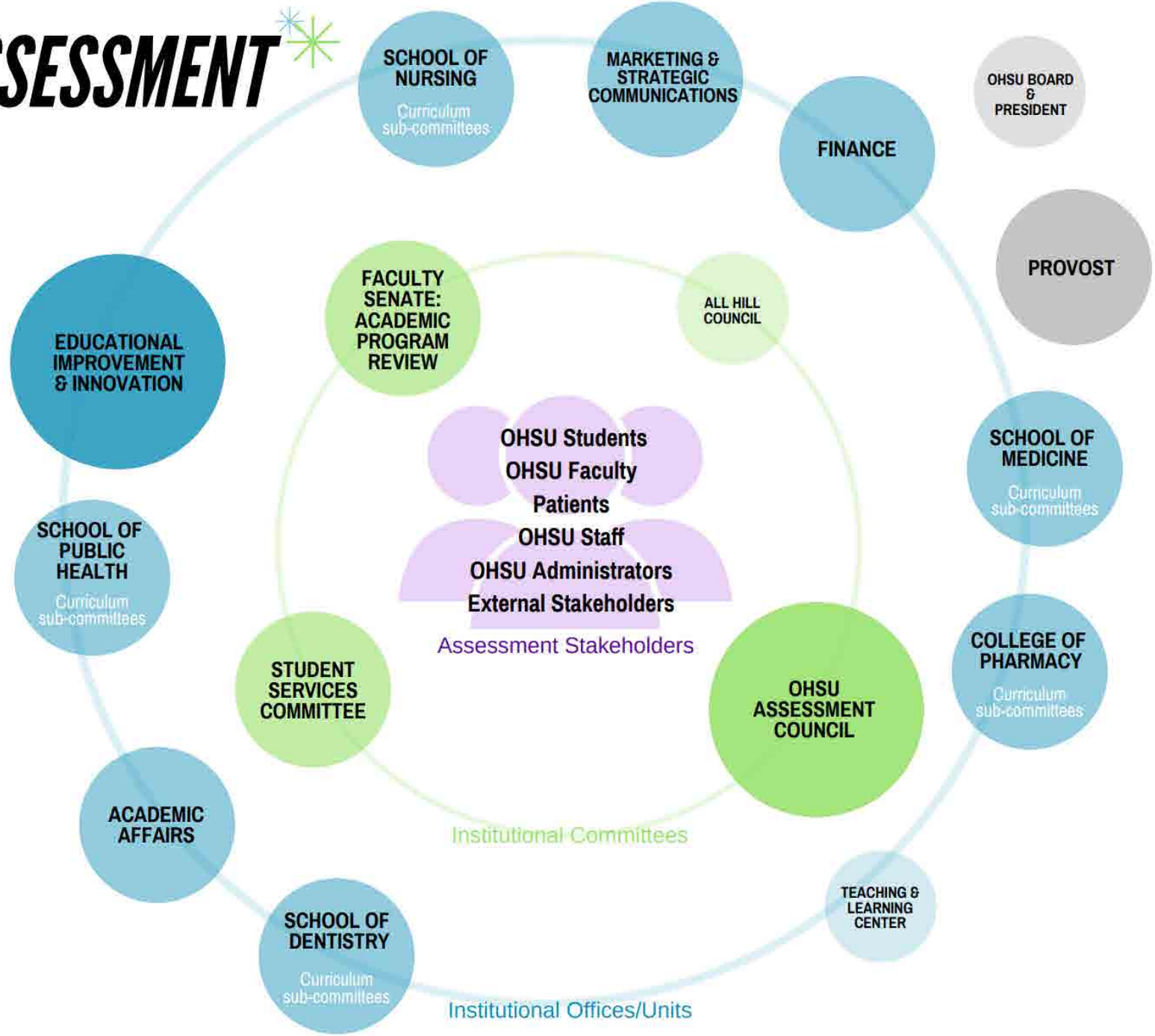
Student Achievement

Student Support Services

What next?

- **Engagement of our 104 academic programs** in assessment planning and reporting
- **Transparency** of information on public facing webpages
- **Align OHSU 2025** with accreditation and assessment activities
- **Use of data** to inform curricular and strategic change

OHSU ASSESSMENT



PERFORMANCE INDICATORS

Fiscal Year 2019

OHSU

PEOPLE

FLEXIBLE WORK	ENGAGEMENT	UNCONSCIOUS BIAS	RESPECTFUL BEHAVIOR
✓ 16,000+ (5%)	✓ 75.3% (5%)	4,530 (4.85%)	✓ 17,646 (6.25%)
Add 16,000 hours offsite	75% of managers engaged, 2 broad initiatives	4,600 members trained with focus on faculty/students	13,000 members trained

HEALTHCARE

ACCESS	MORTALITY	ADULT PATIENT EXPERIENCE	PEDIATRIC PATIENT EXPERIENCE	AMBULATORY EXPERIENCE	TRANSFERS
64% (3.9%)	✓ 0.832 (5.39%)	73.6 (1.29%)	✓ 81.2 (1.88%)	✓ 80.3 (1.72%)	✓ 98.6 (5.31%)
72% improved	0.868 or lower	74.6	80	80	99.9

RESEARCH

GRANTS SUBMITTED	GRANT $	PUBLICATIONS	TURNAROUND TIME
1,701 (4.82%)	✓ $456,120,105 (6.25%)	✓ 3,370 (6.25%)	✓ 53.8 (6.25%)
1,704	$444,834,836	3,110	83 days

EDUCATION

URM STUDENT RECRUITMENT AND RETENTION	DEGREES AND CERTIFICATES AWARDED	FIRST TIME PASS RATES	LIMIT AVERAGE INDEBTEDNESS
✓ 557 (6.25%)	✓ 1,231 (5.54%)	✓ Exceeded all 3 (5.73%)	Varies (2.08%)
496	1,225	Varies by degree	Varies by degree

FINANCE

EBITDA	PATIENT REVENUE GROWTH	RESEARCH AND EDUCATION REVENUE	DAILY CASH ON HAND
✓ 12.07% (6.25%)	✓ 9% (6.25%)	✓ 5.45% (6.25%)	✓ 231 (6.25%)
10%	5%	3.5%	200

a On or above target

a Improved, not at target

FY19 achieved (% of target achieved)

Target

FY 2019 OHSU Performance Indicators

These performance indicators reflect organization-wide priorities that leadership will focus on during the coming year. Progress will be reported quarterly. Incentive programs for executive management and senior leaders in central services and health care will be aligned directly to these indicators.

PEOPLE	**Promote and improve the flexible work environment at OHSU.** Measure: Implement programs that will increase the number of days staff are not on site by 2,000 days in FY19.	**Improve employee engagement. Implement action plan(s).** Measure: 75% of managers included in survey will receive results and template to discuss with staff by October 1st.	**Increase number of members trained in unconscious bias.** Measure: 4,600 members trained.	**Increase members' understanding of respectful behavior in the workplace.** Measure: 13,000 members will complete the Respect at the University training module by April 30, 2019.
HEALTH CARE	**Improve access to OHSU clinics.** Measure: Improve clinic access from FY18.	**Improve observed to expected mortality rate.** Measure: Observed to expected mortality rate at .868 or lower.	**Improve patient experience.** Measure: Baseline NPS performance for the adult hospital, pediatric hospital, and ambulatory clinics will be collected during Q1 FY19.	**Improve appropriate transfer acceptance rate.** Measure: Increase the number and percentage of accepted transfers with ultimate target of 99.9 percent.
RESEARCH	**Increase the number of grants submitted.** Measure: Increase grants submitted from FY18.	**Increase in award dollars.** Measure: Increase total award dollars.	**Increase in number of publications.** Measure: Increase the number of publications.	**Improve turnaround time for industry-sponsored clinical trials.** Measure: Reduce turnaround time.
EDUCATION	**Increase success of underrepresented minority (URM) student recruitment and retention.** Measure: Increase the number of underrepresented students enrolled.	**Maintain or increase the number of degrees and certificates awarded.** Measure: Increase total number of degrees and certificates awarded.	**Maintain or increase first time pass rates for credentialing exams in targeted publicly supported degree programs.** Measure: Maintain or improve rates.	**Reduce overall indebtedness as measured by the combined average indebtedness at graduation for targeted publicly supported degree programs.** Measure: The combined average indebtedness at graduation for the DMD, MD and the Undergraduate Nursing OCNE.
FINANCES	**Sustain EBITDA margin.** Measure: 10.0 percent margin at budget close.	**Increase patient care revenue.** Measure: Increase revenue by 5.0 percent over FY18.	**Increase revenue for research and education.** Measure: Increase revenue by 3.5 percent over FY18.	**Maintain or grow cash on hand.** Measure: Maintain 200 days of cash on hand in FY19.

Date: September 17, 2019

To: OHSU Board of Directors

From: Susan Bakewell-Sachs, PhD, RN, FAAN

RE: Executive Summary SON Initiatives to BOD September 27, 2019

I am delighted to present an overview of School of Nursing (SON) initiatives to the Board of Directors. The SON has a unique state-wide mission in meeting workforce needs for baccalaureate and higher degree prepared nurses in healthcare, education, and research. We are a leader in overcoming geographic barriers to create value for rural, suburban, and urban Oregonians. The SON engages in the tri-partite missions of education, research, and practice. We offer the only in-state master's degrees in nursing education and administration and PhD in nursing. As the university partner for the Oregon Consortium for Nursing Education (OCNE), OHSU collaborates with 11 community colleges to offer a nationally recognized common, seamless curriculum and affordable path to the bachelor's degree. We have six specialty advanced practice programs for the Doctor of Nursing Practice, including nurse midwifery and anesthesia, and nurse practitioner programs for adult-gerontology acute care, family, pediatric, and psychiatric-mental health.

The school has a long record of federal research and program funding. Signature science areas include health disparities and integrative bio-behavioral research. The school has a robust history as research intensive, including T32 programs and NIH ranking. The Blue Ridge Academic Group ranked the SON #34 out of 70 schools for 2018, with $1,543,617 in NIH funding. The national nurse faculty shortage is presenting challenges in recruiting mid-career and senior scientists and we currently have two research active faculty positions in search. The recent recruitment of Sr. Associate Dean for Research, Dr. Hector Olvera Alvarez will bolster our efforts to invest in our research mission, seeking to re-establish greater external research and training funding.

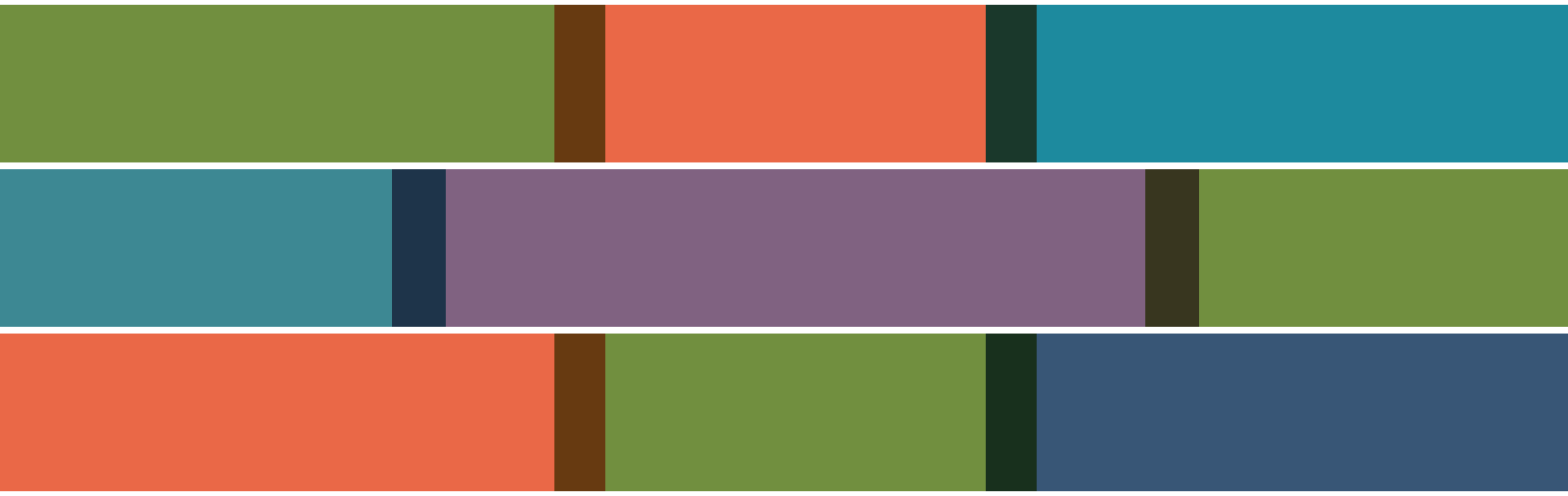
U.S. Health Resources and Services Administration (HRSA) funding has supported program development including OCNE, the Interprofessional Care Access Network (I-CAN), Nursing Workforce Diversity grants, Preparing RNs for primary care roles, and Nurse Practitioners for rural and telehealth. I-CAN offers students population health experiences, addressing upstream social determinants of health to improve health and reduce unnecessary healthcare costs. The RWJ Foundation and Center to Champion Nursing in America recognized our program in March 2019 as one of six schools of nursing with promising education models in population health.

Current strategic areas of focus include optimizing access for baccalaureate and higher degree nursing education and advancing diversity. Three current HRSA grants and collaboration with clinical and academic partners throughout the state, innovation and commitment to excellence, are helping us realize these priorities, which I will share in my presentation. We are also expanding our midwifery practice to Tuality in early 2020 and seeking to enable more SON faculty to engage in practice. I am including articles for background and possible interest.

Slides will be presented at the Board of Directors Meeting

Optional Reading Material

NURSING EDUCATION AND THE PATH TO POPULATION HEALTH IMPROVEMENT



FUTURE OF NURSING™
Campaign for Action
AT THE CENTER TO CHAMPION NURSING IN AMERICA

Robert Wood Johnson Foundation
AARP Foundation

Contents

Executive Summary

INTRODUCTION

The United States outspends every country on health care, yet its residents have shorter lives and poorer health (IOM, 2013; Sawyer and Gonzalez, 2017; Commonwealth Fund, 2015). Further investigation of this phenomenon demonstrates that it is related, in large part, to a lack of universal access to care and a lack of attention to the social determinants of health—those conditions affecting health where people live, learn, work, and play (WHO, 2008). The Robert Wood Johnson Foundation (RWJF) recognized this and began to address it with its Culture of Health Action Framework, to move the nation toward health, equity, and well-being (RWJF, n.d.). The framework calls for making health a shared value, fostering cross-sector collaborations, creating healthier, more equitable communities, and strengthening integration of health services and systems, all leading to improved population health outcomes.

The nation's nurses are key players in moving the nation to a Culture of Health. Nursing is the largest and most trusted health profession, one that is historically embedded in every part of the health care system and community. Nurses are in schools, workplaces, homes, prisons, hospitals, assisted living facilities, and other community spaces. They practice where people live, work, and learn and where people attain, regain, and maintain their health. They are poised to lead efforts to improve the health and well-being of individuals, families, communities, and the population now and in the 21st century.

In 2017, RWJF brought together a group of thought leaders to explore the key roles that nurses play in improving the health of the U.S. population. These explorations resulted in the report *Catalysts for Change: Harnessing the Power of Nurses to Build Population Health in the 21st Century (Storfjell et al., 2017).* The *Catalysts* report recommended that nursing and health care move beyond the individualistic, downstream focus of traditional medical care, and rather view individuals and families in the context of their environment to assess "how their community affects them."

Using the report as a springboard, RWJF commissioned a two-phase project, Population Health in Nursing, or PHIN, to explore promising models of nursing education and practice related to improving population health. The goal of the first phase, PHIN 1, was to describe promising educational models to prepare nurses, across all levels of professional practice, for population health practice and leadership. The second phase, PHIN 2, will describe current and emerging nursing roles in population health practice and how nurses should be prepared for these roles.

PHIN 1 has been completed. A brief synthesis of the methods, findings and implications follow. Detailed information on PHIN 1 methods, findings and implications are included in the full report. PHIN 2, describing current and emerging nursing roles in population health practice and how nurses should be prepared for these roles, will begin in February 2019.

POPULATION HEALTH IN NURSING (PHIN): PHASE 1

PHIN 1 utilized several methods to identify promising educational models to prepare nurses across all levels of professional practice, for population health practice and leadership. These included: 1) an online survey (26 questions) of a convenience sample of faculty and leaders in nursing, public health and social work education; 2) in-depth telephone interviews with 26 nursing and public health leaders recommended in the survey results; and 3) site visits to six nursing education programs with promising educational models in population health, as identified by survey respondents and interviewees.

FINDINGS

In the survey and interviews, respondents were asked to identify core content and competencies, teaching methods, and benefits and challenges of including population health content in the curriculum. These areas were also explored at the site visits. Although many nursing programs identified population health content in their curriculum, few incorporated substantial content areas or used the teaching methods that had been identified as important.

Core Content and Competencies: Population health content should be required for all students, threaded throughout the curriculum so that students are able to build on their knowledge and apply it across settings of care. In addition to competence in the basic concepts of population health, respondents emphasized the importance of developing skills in assessing the social determinants of health early in the education progression and infusing it at all levels. In addition to leadership skills, respondents specifically recommended these seven areas:

- Policy and its impact on health outcomes.
- Epidemiology/biostatistics.
- A basic understanding of the social determinants of health and illness across populations and how to assess and intervene to improve health and well-being.
- Health equity as an overall goal of health care.
- Interprofessional team-building as a key mechanism to improve population health.
- Economics of health care, including an understanding of basic payment models for health care and their impact on services delivered and outcomes achieved.
- Systems thinking, including the ability to understand complex demands, develop solutions and manage change on a micro and macro system level.

Teaching Methods: Several teaching methods are used to develop student's knowledge, skills, and attitudes toward improving population health. A recurrent theme was the importance of active and experiential learning with opportunities for partnering with nontraditional agencies to look at health promotion and disease prevention where people live, work and play. Many schools use:

- Case studies and simulation as important mechanisms to practice problem-solving.
- Intentional and structured academic-practice partnerships with communities and practice sites that are mutually beneficial to the sites as well as the students.
- Interprofessional education (IPE) experiences with other health professionals and social service providers.
- Service learning, defined as the integration of community service with instruction and reflection, which can help create long- standing intentional partnerships and meaningful experiential learning opportunities.

Benefits and Challenges: While there are many benefits (to students, organizations, and the health of the population) to including population health in

nursing education curricula, there are also significant challenges. Faculty practice and student clinical models that are embedded in the community have the potential to benefit both students and the population. However, there is little experience in measuring student learning outcomes. In addition, little work has been done measuring the impact of student and faculty efforts on population health outcomes. Also, many faculty members are not prepared in population health (practice and/or education), so they are not able to conceptualize population health and then integrate it into curricula.

CONCLUSIONS

Respondents to the survey and interviews with leadership and faculty at the site visits all recommended that population health be threaded through all levels of nursing education. While several schools are using creative teaching methods, integration of population health into nursing curricula cannot be accomplished without intentional, structured, mutually beneficial academic-practice partnerships; significant faculty development in population health practice and education; and the development of metrics to assess student competence in population health and their impact on population health outcomes. Enhancing students' competence in population health is an important first step in strengthening the capacity of the nursing workforce to build a Culture of Health.

NEXT STEPS

To build on PHIN 1 findings, next steps include

- Discussing with professional nursing education organizations ways to encourage curricular change.
- Exploring measures of population health competency that can be used across all nursing programs, based on level of nursing education.
- Continuing to explore successful IPE models as they relate to population health competencies.
- Identifying PHIN 1 lessons learned to inform PHIN 2 goals and methods.
- Bringing together thought leaders in nursing and health professional practice and education to 1) reflect on PHIN 1 findings and implications for nursing education; 2) advise on goals, methods, and key informants for PHIN 2 focus on nursing practice in population health; and 3) discuss strategies for preparing all health professionals to improve population health and thus build a vibrant Culture of Health in America.

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Nursing Education and the Path to Population Health Improvement

INTRODUCTION

The United States outspends every country on health care, yet its residents have shorter lives and poorer health (IOM, 2013; Sawyer and Gonzalez, 2017; Commonwealth Fund, 2015). Further investigation of this phenomenon demonstrates that it is related, in large part, to a lack of universal access to care and a lack of attention to the social determinants of health—those conditions that have an impact on people's health where they live, work, and play (WHO, 2008). The Robert Wood Johnson Foundation (RWJF) recognized this and began to address it with its Culture of Health Action Framework, to move the nation toward health equity and well-being (RWJF, n.d.). This framework calls for making health a shared value; fostering cross-sector collaboration; creating healthier, more equitable communities; and strengthening integration of health services and systems, all leading to improved population health, well-being, and equity.

Key players in moving America to a Culture of Health will be the nation's nurses. Nursing is the largest and most trusted health profession, one that is historically embedded in every part of the health care system and community. Nurses are in schools, workplaces, homes, prisons, hospitals, assisted living facilities, and other community spaces. They practice where people live, work, and play; where people attain, regain, and maintain their health. They are where the needs are greatest for a population-focused system of health and wellness.

In response to the need to improve the health of our nation by creating a Culture of Health, and reflecting the importance of nursing in the health care system and in community health, the Robert Wood Johnson Foundation produced the paper *Catalysts for Change: Harnessing the Power of Nurses to Build Population Health in the 21st Century.* That 2017 report (Storfjell et al., 2017) asked: How can nurses best help our nation reverse course on the declining health of its residents and promote the health of the U.S. population in the 21st century?

The *Catalysts* paper contended that nursing must move beyond the individualistic, downstream approach of traditional medical care, to rather view individuals and families in the context of their environment and assess "how their community affects them." Using the *Catalysts* report as a springboard, RWJF commissioned a study to identify best practices in educating nurses in basic population health knowledge and skills across levels of professional practice, to prepare them to be key players in creating a Culture of Health. The study is called Population Health in Nursing (PHIN).

METHODS

The first phase of the PHIN study, PHIN 1, was conducted using the following methods. The first method was a survey of a convenience sample of practice leaders and faculty in nursing, public health, and social work. The second method included in-depth interviews with 26 nursing and public health leaders recommended in the survey results. The third method consisted of site visits to

six schools of nursing with exemplary educational programs in population health, as identified by survey respondents and interviewees.

1: THE SURVEY

In April 2018, AARP Research conducted an online quantitative survey to explore the inclusion of population health components in nursing curricula. Participants were asked questions designed by the PHIN study team to help define the key components of successful educational models that offer the potential to prepare nurses for practice, education, and leadership in population health.

The survey was designed to address the following questions:

- What are the core concepts and skills in public and population health (e.g., epidemiology basics) for nursing across levels of practice and education?
- What are the most effective methods for teaching population health knowledge and skills to nurses?
- What are the most significant benefits and challenges to teaching population health concepts and skills to nurses?
- What are measures for assessing nursing competency in population health?

The survey was designed by the PHIN study team and implemented by AARP Research. The resulting instrument contained 26 questions and was estimated to take approximately 15 minutes to complete (Appendix A). The convenience sample to be surveyed, representing leaders in practice in public health, medicine, nursing, and allied health professions, as well as nursing educators, was developed by the study team with input from AARP and RWJF leadership. Requests to participate were sent to 113 people, with an invitation email from Susan B. Hassmiller, PhD, RN, FAAN, senior adviser for nursing at RWJF and Susan C. Reinhard, PhD, RN, FAAN, senior vice president and director, AARP Public Policy Institute and chief strategist, Center to Champion Nursing in America. The survey was sent on April 10, 2018, and three reminders were sent to non-respondents. The survey closed on April 30, 2018, with 66 respondents, for a response rate of 58 percent.

2: IN-DEPTH INTERVIEWS

Based on survey recommendations and responses, the PHIN study team selected 26 leaders in nursing and public and population health for in-depth interviews to further explore the core content and skills, measures of educational outcomes, and challenges and benefits to including population health in nursing education. In May 2018, AARP, working in partnership with RWJF, engaged Alan Newman Research to conduct a qualitative study to explore the inclusion of population health components in nursing curricula.

The interview guide was developed by Alan Newman Research in collaboration with the PHIN study team (Appendix B). Interviews were designed to be conducted by phone and take approximately 60 minutes. Interviewees were selected from a list of 31 leaders and educators developed by the PHIN study team, and included survey respondents who were particularly knowledgeable, as well as others recommended by survey respondents or leaders at AARP and RWJF. Potential participants were sent an email from Reinhard and Hassmiller, with follow-up phone calls and emails to schedule the interview. If those contacted were unavailable and recommended another potential participant, those names were sent to the PHIN study team for approval. Each interviewee received $200 as an

incentive for their participation. Interviews were conducted between May 17 and June 1, 2018. Afterward, Alan Newman Research provided transcripts, a summary, and an analysis to the PHIN study team.

The interviews were tailored to solicit perspectives of educators and health care leaders on what nurses needed to know in population health and how it could best be taught. The interviews addressed the following content areas:

- Level(s) of students to include in an ideal program (associate degree—ADN; baccalaureate degree—BSN; master's degree—MSN; clinical doctorate in nursing practice—DNP; advanced public health nursing—APHN; advanced practice registered nurse—APRN).
- Intended goals or outcomes of population health education.
- Benefits of population health education, i.e., ways in which it would contribute to improved health outcomes, as well as benefits to nursing students and to the school.
- Key content and areas of focus, specific subject matter, skills, and core courses to include.
- Teaching methods, clinical experiences and learning activities, interactions with other health professionals, and other health professions students that should be included.
- Faculty qualifications for teaching population health.
- Evaluation methods to assess nursing students' knowledge and skills in population health.
- Educators' satisfaction with their current population health program/content.
- Challenges and barriers to offering a population health program.
- Suggestions to enhance effectiveness in teaching population health to nursing students.
- Real-world strategies that are effective in applying population health concepts.

3: SITE VISITS

The PHIN study team selected six programs that had been identified by the nursing and population health leaders via the survey or in-depth interviews as exemplar nursing education programs in population health. The team then scheduled one-and-a-half-day site visits with each program to collect additional data on curricular initiatives, practice experiences, administrative support for the educational initiatives, as well as student perspectives on the curricula. (See Appendix C for a typical site visit schedule.) Each school was contacted with a request to participate in a site visit, and visits were scheduled between July and October 2018. Each school was visited by at least two team members.

FINDINGS

The findings from each phase in the study are presented below. Similar questions and topic areas were explored during all three phases of the study. The study was designed to increase—with each method of data collection—the depth and complexity of the responses.

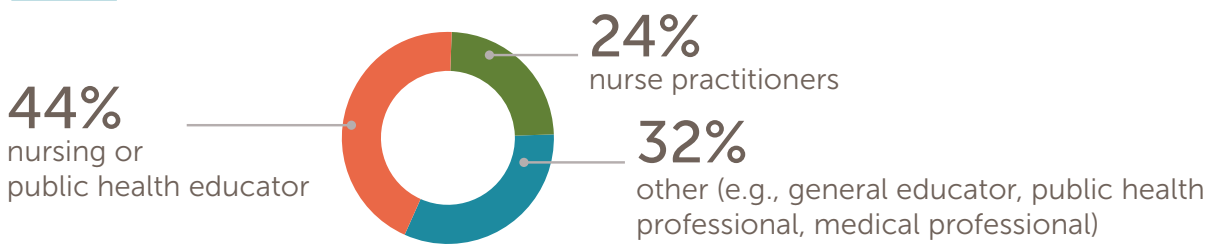
The findings are divided into the following organizing themes: 1) Key content including core concepts and skills for population health; 2) teaching methods; 3) benefits and challenges to incorporating population health in nursing curricula; and 4) identification and measurement of student competencies.

1: SURVEY

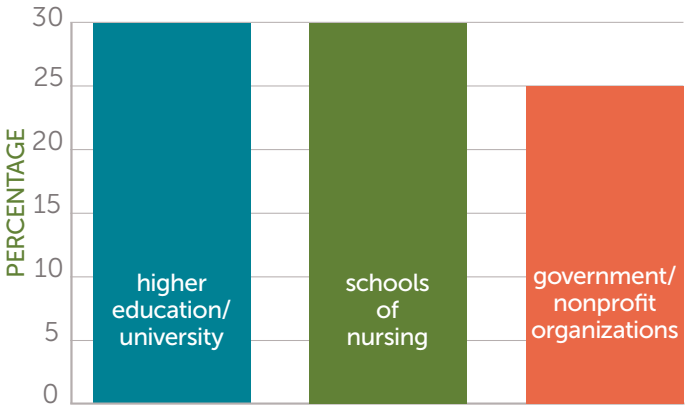
The 66 respondents provided a broad overview of current key concepts and practices in public and population health. For non-nurse respondents, the survey questions did not include details about the degrees earned and the level of nursing education. Rather, those outside the profession were asked to identify the importance of core content in population health for a generalist professional nurse (BSN). AARP Research conducted data analysis and results were shared with the PHIN study team.

Respondent Characteristics

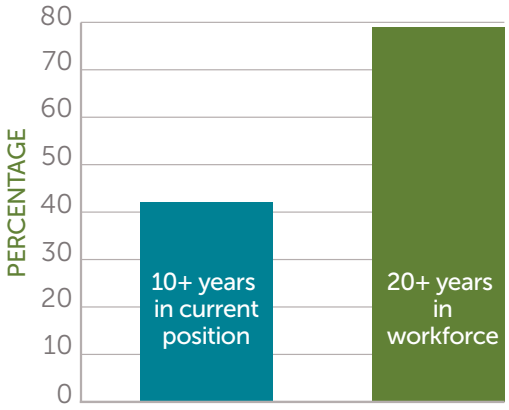
PRIMARY PROFESSIONAL AFFILIATION



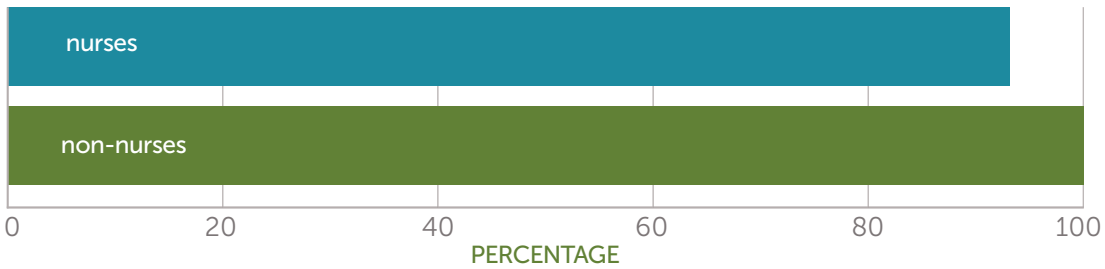
INDUSTRY/ ORGANIZATION PRIMARILY EMPLOYED



YEARS OF PROFESSIONAL EXPERIENCE



FAMILIARITY WITH THE CONCEPT OF POPULATION HEALTH



Key Content

Each of the respondents was surveyed about content areas in population health that were important to nurses using the rating of 1 to 3, with 1 being not important at all, 2 being moderately important, and 3 being very important. Table 1 provides the nurse respondents' perspectives on the importance of content topics for nurses across varying levels of education.

The content areas thought to be less important for associate degree nurses (ADN) were epidemiology, biostatistics, economics of health care, advocacy, and broad community assessment skills.

The respondents rated the importance of each content area higher for each degree level, culminating in a "very important" rating for all content areas for a DNP, especially for those with an advanced public health nursing (APHN)/public/population health focus.

TABLE 1: IMPORTANCE OF SPECIFIC CONTENT IN NURSING CURRICULUM ACROSS LEVELS OF EDUCATION: NURSE RESPONDENTS (1-3: LOW TO HIGH IMPORTANCE)

CONTENT	ADN	BSN	MSN	DNP/APRN	DNP/APHN
Epidemiology basics (ability to use basic terms to describe health and illness across a population)	1.98	2.6	2.88	2.91	3.00
Biostatistics (understand use of rates and appropriate comparisons across populations)	1.55	2.36	2.81	2.88	3.00
Ability to use evidence-supported methods to engage with clients	2.51	2.91	2.93	2.93	3.00
Ability to use evidence-supported methods to engage with communities/populations	2.0	2.74	2.88	2.86	2.95
Assess individuals/families for social determinants of health (SDOH)	2.59	2.86	2.95	2.95	2.98
Refer/intervene to address SDOH with significant health impacts for individuals and families	2.44	2.84	2.88	2.95	3.00
Identify and use evidence-based health promotion/disease prevention interventions for individuals and families	2.41	2.91	2.93	2.98	2.95
Assess individuals'/families' health literacy level	2.54	2.93	2.95	2.98	2.93
Assess communities/population for health literacy level	1.97	2.65	2.81	2.81	3.00
Use evidence-based practice to modify interventions for individuals/families to be appropriate to health literacy levels	2.23	2.81	2.93	2.98	2.98

CONTENT	ADN	BSN	MSN	DNP/APRN	DNP/APHN
Develop population-focused health promotion/ disease prevention interventions based on current evidence and targeted to relevant health literacy levels and cultural factors	1.76	2.44	2.81	2.81	3.00
Basic understanding of public health system functions	2.36	2.79	2.86	2.93	3.00
Describe cost effectiveness for interventions	1.67	2.16	2.76	2.90	3.00
Conduct capacity-building assistance for population interventions	1.16	1.74	2.45	2.60	3.00
Understand the impact of health policy on nursing practice and health outcomes	2.08	2.67	2.91	2.95	3.00
Identify avenues for policy activism to impact nursing practice or health outcomes	1.79	2.42	2.81	2.91	3.00
Develop a program budget for a health promotion intervention at the population level	1.11	1.81	2.56	2.63	3.00

Other concepts respondents named include: demonstrate public health nursing competence in practice; Identify gaps in evidence for successful programs; Institute of Medicine occupational and environmental health competencies for nursing; networking/social skills; partner with communities/populations to improve health; see themselves as leaders in population health; understand precepts of building a Culture of Health; understand the impact of health system financing; utilize community-based participatory methods for assessment, implementation, and evaluation

Table 2 presents survey findings from the perspective of non-nurses on the importance of specific content topics for nursing education. Non-nurse respondents were asked their views on population health knowledge and skills of most importance for nursing practice at the level of the generalist professional nurse (BSN).

TABLE 2: IMPORTANCE OF SPECIFIC CONTENT IN NURSING CURRICULUM AT BSN LEVEL: NON-NURSE RESPONDENTS (1–3: LOW TO HIGH IMPORTANCE)

CONTENT	NON-NURSES
Refer/intervene to address social determinants of health (SDOH) with significant health impacts for individuals and families	3.00
Understand the impact of health policy on nursing practice and health outcomes	3.00
Ability to use evidence supported methods to engage with communities/populations	3.00
Assess individuals/families for SDOH	2.95

CONTENT	NON-NURSES
Ability to use evidence-supported methods to engage with clients	2.95
Use evidence-based practice to modify interventions for individuals/families to be appropriate to health literacy levels	2.90
Identify and use evidence-based health promotion/disease prevention interventions for individuals and families	2.90
Assess individuals'/families' health literacy level	2.90
Develop population-focused health promotion/disease prevention interventions based on current evidence and targeted to relevant health literacy levels and cultural factors	2.86
Epidemiology basics (ability to use basic terms to describe health and illness across a population)	2.81
Basic understanding of public health system functions	2.71
Assess communities/population for health literacy level	2.67
Identify avenues for policy activism to impact nursing practice or health outcomes	2.67
Describe cost effectiveness for interventions	2.52
Biostatistics (understand use of rates and appropriate comparisons across populations)	2.48
Conduct capacity-building assistance for population interventions	2.25
Develop a program budget for a health promotion intervention at the population level	2.19

Other concepts respondents named include: ability to collaborate and communicate with other professions and disciplines; lead collaborative community partnerships; participate in community health needs assessments; impact of primary care on population health outcomes; understand public health nurse (PHN) competencies

Teaching Methods

Survey respondents shared their top three recommended methods for teaching population health to nursing students (Table 3). The overwhelming top choice of 85.9 percent of respondents was innovative community clinical experiences. Interprofessional education experiences was chosen by 51.6 percent. Case studies (46.9 percent) and academic practice partnerships (45.3 percent) were the third and fourth choices as top methods for teaching population health concepts.

TABLE 3: TOP THREE METHODS FOR TEACHING POPULATION HEALTH

METHOD	PERCENTAGE OF RESPONDENTS
Innovative community clinical experiences	85.9 percent
Interprofessional education experiences	51.6 percent
Case studies	46.9 percent
Academic-practice partnerships	45.3 percent
Simulation	23.4 percent
Expert presentations	18.8 percent
Role-playing exercises	14.1 percent
Web-based exercises	7.8 percent

Other concepts respondents named include: academic health departments; experiential project focused learning; Interactive Projects in the community/using data sets of population health; service learning in home communities

Benefits and Challenges

Table 4 documents respondents' perspectives on the top three benefits to teaching nursing students about population health. The key benefit was identified as meeting the health care system requirements (95.3 percent). The relevance to job opportunities for graduates was identified as important by 60.9 percent of respondents. Additional benefits were identified as helping to focus efforts on health rather than illness care and staying ahead of the changes in health care.

TABLE 4: TOP 3 BENEFITS TO NURSING EDUCATION IN POPULATION HEALTH

BENEFIT	PERCENTAGE OF RESPONDENTS
Meeting health care system requirements	95.3 percent
Relevant job opportunities	60.9 percent

BENEFIT	PERCENTAGE OF RESPONDENTS
Student interest	29.7 percent
Accreditation requirements	18.8 percent
Licensure expectations	10.9 percent

Other concepts respondents named include: develop change agents, empower nurses to improve communities, create a Culture of Health; help focus efforts on health rather than illness care; improve patient/population health outcomes; answer need to address health disparities and SDOH; once students understand population health concepts and skills, they apply this lens to the care they provide wherever they work, to the benefit of patients; promote impact of primary intervention on health care outcomes; relevant to quality of care; stay ahead of the changes in health care

Table 5 documents respondents' perspectives on the top challenges to teaching nursing students about population health. The top challenge identified by 65.6 percent of respondents was faculty expertise. Respondents also named as challenges the availability of appropriate clinical experiences (50 percent) and support of current faculty (42.2 percent). Additional challenges that individual respondents identified were lack of resources; lack of clear outcomes; burdensome institutional standards; and lack of National Council Licensure Examination-RN (NCLEX) content.

TABLE 5: THREE TOP CHALLENGES TO EDUCATION IN POPULATION HEALTH

CHALLENGES	PERCENTAGE OF RESPONDENTS
Faculty expertise	65.6 percent
Availability of appropriate clinical experiences	50 percent
Faculty support	42.2 percent
Licensure expectations	29.7 percent
Lack of time	25 percent
Student interest	17.2 percent
Relevant job opportunities	12.5 percent
Accreditation requirements	10.9 percent
There are no challenges	3.1 percent

Other concepts respondents named include: available resources; lack of clear outcomes; curriculum is already too "stuffed"; faculty experience; increased need for institutional requirements beyond the standard fingerprints, immunizations, etc., for students; lack of accreditation requirements; lack of support for and interest in population health across the curriculum (not seen as important); NCLEX; nursing culture (in practice and in academic settings) values acute care and specialization over public health; prioritizing medical model over health for all; APRNs with limited vision; social and cultural divisions between nurse students and relevant communities

Student Competencies

Respondents were asked to identify ways to measure nursing student competency/knowledge in population health, on a scale of 1 to 5. The results are outlined in Table 6. Note: For this, the lower the number, the *higher* the importance of the measure (1 is "very important"). The most important measure of student competency was "valid and reliable end-of-program population health competency assessment." Case studies with multiple choice or essay responses; course grades in relevant courses; and clinical preceptor evaluation of student performance were identified as slightly less important. Skills checklist was identified as the least important measure.

TABLE 6: IMPORTANCE OF SUGGESTED MEASURES OF NURSING COMPETENCY IN POPULATION HEALTH (1–5: HIGH-TO-LOW IMPORTANCE)

SUGGESTED MEASURES	IMPORTANCE
Valid and reliable end of program population health competency assessment	1.66
Valid and reliable population health case studies—multiple choice or essay responses	2.51
Course grades in relevant courses (e.g., epidemiology, biostatistics, public health nursing, health policy, etc.)	2.83
Clinical preceptor evaluation of student performance	2.98
NCLEX completion	3.00
Role playing with observational assessment	3.24
Employer assessment	3.83
Skills checklist	3.84

Other concepts respondents named include: faculty evaluation of population health clinical projects; if hospitals and health systems integrated SDOH screening and intervention by nursing, nursing colleges/schools would teach those concepts; population health included in NCLEX; portfolio of community and population change projects

2: IN-DEPTH INTERVIEWS

The in-depth interviews focused on gaining more information on the same topics included in the survey from respondents with more knowledge in population health. The findings from these interviews are provided using the same four organizing themes described in the survey findings above.

Respondent Characteristics

Interviewees included 15 leaders (six nursing, four public health, two population health, one medicine, and two public health nursing) and 11 nurse educators. They represented a variety of organizations—including national nursing associations and councils; large health care systems; the Centers for

Disease Control and Prevention; a national accreditation board; universities; and medical schools.

Key Content

Interviewees agreed that population health content and related skills should be taught at both the graduate and undergraduate levels. Participants also agreed that nursing curricula related to population health would contribute to improved health outcomes for both the community at large and for individual patients, and be beneficial to schools and their nursing students.

Key content areas identified by respondents in teaching population health included the social determinants of health; systems thinking; data competency; development of interventions to address population problems; and collaboration and partnership across interdisciplinary health care teams and with community partners. Within these broad areas of focus, participants identified a long list of specific topics and skills.

The extent and depth of educators' population health programs varied by school and by degree/level of student. At all schools, population health content was interwoven throughout the curriculum. A number of schools, particularly those with graduate level programs, also offered specific courses related to population health (e.g., population health, epidemiology, leadership).

In an ideal population health nursing program, faculty would have a population health mindset and approach, as well as real-world experience with community health, population health, public health, or working in some way with the social determinants of health. They would also have leadership skills, "boundary-spanning ability," and strong data analytic skills.

Teaching Methods

According to participants, both classroom and experiential/community-based learning should be used to teach population health concepts. Even in the classroom, learning should be active rather than passive and students should be actively engaged through small group discussion, role-playing, tabletop exercises, case studies, etc. Experiential learning is a critically important component of a population health program. Students learn by doing, and must go into the community to apply the population health concepts they learn in the classroom to real-life situations. Participants emphasized that it is necessary to be flexible and creative when identifying appropriate sites for clinical experiences, and they suggested a variety of types of sites and community settings, beyond hospitals.

Ideally, nursing students would have the opportunity to interact regularly with other health care professionals, as well as non-health care professionals whose roles or occupations relate to population health or the SDOH (e.g., policymakers, lawyers, clergy, educators, health insurers). Interprofessional education, in which nursing students regularly interact with other health professions students, was also considered desirable and valuable.

Benefits and Challenges

Educators were at least fairly satisfied with their school's population health program and/or content. Some cited as reasons for satisfaction strong faculty and leadership and positive student learning outcomes. Others described their program as "a work in progress" or, in the case of community colleges, wished that they had more room in their crowded curriculum for additional population health content.

According to participants, there are a number of potential challenges related to offering a population health nursing program. In general, perceived challenges related to an overall lack of awareness, understanding, and prioritization of population health in general—as well as to the logistics of offering a population health program. Specifically, participants mentioned:

- Difficulty changing the status quo as it relates to teaching nursing (i.e., the focus on acute setting and individual patient care).
- Competing priorities and lack of awareness, understanding, and prioritization of population health content by administrators, faculty, and students.
- Lack of qualified faculty to teach population health and requirement that nursing faculty be nurses themselves.
- Difficulty finding appropriate sites for clinical placements and restrictive related rules and licensing requirements.
- Already crowded nursing curricula.
- Lack of/limited inclusion of population health content on the NCLEX (which contributes to de-prioritization).
- Logistical challenges related to interprofessional education.

Participants offered a number of suggestions to overcome these challenges and enhance effectiveness in teaching population health to nursing students:

- Provide professional development to existing faculty—webinars, expert presentations, roundtable discussions.
- Develop resources, materials, and a toolkit to help educators develop or expand their population health curriculum—include suggested curriculum and core content; ways to embed content in existing courses; specific assignments; examples of clinical sites; best practices and advice.
- Offer online forums, bulletin boards, or other convenient means to interact with nurse faculty or administrators teaching population health across the country.
- Broaden the definition of approved sites for clinical rotations and what counts as clinical hours.
- Add or expand population health-related questions on the NCLEX.
- Provide population health-related professional development opportunities and additional schooling to licensed, practicing nurses.
- Ensure nurses at all levels, including ADN, are exposed to population health content.
- Begin teaching population health concepts early in the nursing curriculum, addressing basic population health concepts and skills.
- Expand opportunities for experiential learning and interprofessional education and interaction.
- Develop communications initiatives regarding the importance and relevance of population health, targeted to faculty and administrators of nursing schools, students, and employers.
- Create expanded national awareness of the key role of nurses (not just physicians) in population health.
- Offer grants, monetary incentives, or start-up money to nursing schools that offer a graduate program in population health.
- Provide grants to students studying population health to help offset tuition costs.

Leaders identified some real-world strategies that are effective in the application of population health concepts.

- Technology-related strategies include use of electronic health records in various ways to identify populations and communicate with them; text reminders to patients; wearable health monitors; telehealth; e-visits with physicians and pharmacists; and geomapping and use of other data sets.
- Participants currently work in partnership with a variety of community organizations to address a number of issues. Examples include public health departments; local government; business organizations; nonprofits; citizen coalitions; law enforcement; churches; and insurers.

- Community resources that are utilized include websites and searchable databases to find community partners and resources for patients as well as grant money for interventions and studies.

Student Competencies

Nursing knowledge in population health is evaluated in a number of ways, depending on the course objectives and level of students. Measurement of student outcomes and competencies was identified as a particularly challenging task. Regardless of the specific method used, students' ability to understand and apply the concepts must be assessed.

3: SITE VISITS

A data summary table for all site visits categorized by the organizing themes is provided below (Tables 7–10). In addition, a brief summary of the most notable findings from each site visit is included.

Sites Chosen

Based on the responses from the surveys and in-depth interviews, six nursing educational programs were selected for site visits, to provide the opportunity to look at teaching content and methods currently being implemented, discuss challenges and lessons learned, and see how students respond to curricula in population health. Schools selected included:

- Oregon Health & Science University
- Rush University
- Rutgers University
- Thomas Jefferson University
- University of North Carolina
- University of Washington

Key Content

The key content and courses, including core concepts and skills for population health identified in the site visits are outlined in Table 7 below. The findings at the site visits reinforced the importance of the content areas of epidemiology, population health, and SDOH and illustrated different strategies for incorporating this content.

TABLE 7: KEY CONTENT AREAS/COURSES AT SITE VISIT PROGRAMS

SCHOOL	KEY CONTENT AREAS, TOOLS	KEY COURSES
Oregon Health & Science University	■ Population health ■ SDOH ■ Epidemiology ■ Mentorship ■ Resource management ■ Quality improvement ■ One of 10 competencies	Population health is threaded throughout as one of the key competencies in the entire curriculum.

SCHOOL	KEY CONTENT AREAS, TOOLS	KEY COURSES
Rush	Public health ■ Population health ■ Viewing public health system as one mechanism to achieve population health ■ Clinical academic partnerships	■ Epidemiology, biostatistics ■ Health promotion ■ SDOH ■ Cultural competence is threaded throughout
Rutgers	■ County health rankings ■ Mapping ■ Primary care task force ■ Human capital	■ Epidemiology ■ Population health ■ Simulation threaded throughout courses with unfolding case studies
Thomas Jefferson	■ Concept-based ■ Health promotion ■ SDOH ■ Ethics ■ Cultural awareness ■ Epidemiology ■ Care coordination ■ Quality and safety ■ Civic and social responsibility ■ Cooperative practice ■ Big data ■ Care models ■ Wraparound services Four themes in prelicensure program: ■ Population health ■ Interprofessional collaboration ■ Innovation ■ Practice excellence	1. health promotion 2. population health 3. social determinants of health, serve the underserved BSN level (each has 14 experiential hours attached): ■ care coordination and care transitions; ■ population health and health disparities. MSN level: ■ Epidemiology for health professions DNP level: ■ Clinical prevention and population health (40 hours practicum)
UNC Chapel Hill	Interprofessional education (IPE) course medicine, nursing, dentistry, pharmacy, physical therapy, occupational therapy, social work, public health, Rural Inter-Professional Health Initiative	Curriculum did not have population health written in explicitly, but students were able to describe IPE and population health integration in courses

SCHOOL	KEY CONTENT AREAS, TOOLS	KEY COURSES
University of Washington	Core content all tracks includes ■ Policy and SDOH ■ Healthy equity ■ Social justice ■ Diversity ■ Community assessment (MSN) ■ Program planning (MSN) ■ SDOH ■ Communication ■ Lifespan approach (Seattle BSN program) ■ SDOH ■ Healthy aging ■ Global to local nursing ■ Diversity ■ Equity and inclusion Mandatory clinical in ambulatory/community/ public health. DNP in UW Seattle: track in population health slight revisions on their APHN track; still working on population health across all DNP tracks.	■ Diversity and health equity course ■ Community assessment (MSN) ■ Program planning and Evaluation (MSN) UW Seattle has dual degree DNP in population health and MPH program-focus on global health

Teaching Methods

Table 8 documents teaching methods described in each site visit. IPE opportunities were identified as essential to teaching population health effectively. The most common teaching methods identified were experiential sites, expert faculty to coordinate and oversee community clinical, IPE, and community partnerships.

TABLE 8: ACHING METHODS FOR POPULATION HEALTH AT SITE VISITS TO SCHOOLS

SCHOOL	EXPERIENTIAL SITES	IPE OPPORTUNITIES
Oregon Health & Science University	Rural-focused experiences, simulation center shared across disciplines.	University-wide IPE experiences mandatory for all professions. It was difficult to ascertain during the site visit the actual numbers of undergraduate students directly involved in these IPE experiences.

SCHOOL	EXPERIENTIAL SITES	IPE OPPORTUNITIES
Rush	School-based programs integrated into the fabric of the school and throughout Chicago. The school's office of community engagement coordinates across health professions with focus on more evidence-based services. Goal is to provide what communities need and evaluate whether the need is met.	No substantial opportunities.
Rutgers	School nurses in the community, mental health literacy focus, faculty and student support of an onsite federally qualified health center, mayor's health directive, primary care settings, population-based practice sites health systems quality assurance, long-term care, rehab VNA, simulation courses.	Challenge collaborating with medicine, behavioral health included social work, and pharmacy, care coordination pharmacy and dental, behavioral health.
Thomas Jefferson	Large variety of service to the community through clinical experiences. This included such sites as soup kitchens, homeless shelters, community screening sites, and long-term care sites. These were presented as separate experiences and lacked a coordinating framework within the curriculum.	Strong IPE initiative that serves all professions but less integrated with nursing than anticipated. A multitude of IPE options, mostly volunteer, structured through IPE office on campus, include hotspotting.
UNC Chapel Hill	Home-based care, long-term care, school nurses, acute care, emergency room, dental clinic.	Extensive aspect of IPE and a clear commitment from the university from the provost down including the five main schools — medicine, dentistry, nursing, pharmacy and social work.
University of Washington	Work with variety of community partners. Includes the required 100 clinical hours for RN-to-BSN program (state requirement) into community/population clinical. Student help with community health needs assessment process; data collection; screening; key informant interviews; pulling together final report with data; implementing small grant projects (boots for children to play outdoors to increase physical activity).	Little discussion of IPE; university-wide initiative in population health still rolling out.

Benefits and Challenges

The benefits and challenges of incorporating population health in nursing curricula are outlined below in Table 9 for each site. The main benefit identified was that the community realizes positive impact when the faculty practice model supports student activities. The main challenges were faculty expertise, changing from an illness model, and differentiating public health models from population health models.

TABLE 9: BENEFITS AND CHALLENGES TO TEACHING POPULATION HEALTH TO NURSES AS IDENTIFIED BY SITE VISITS TO SCHOOLS

SCHOOL NAME	BENEFITS	CHALLENGES
Oregon Health & Science University	Communities reap economic benefit from faculty practice model and student involvement.	Keeping focus, measuring outcomes, improving based on data. Students continue to accept acute care jobs as their first job in 90 percent of cases.
Rush	Students were impressive in their thinking and application of key concepts, seldom mentioned population health as a theme but clearly understood public health and community.	Strong public health component and faculty is both a strength and a potential weakness when defining new terms and differentiating the concepts.
Rutgers	Importance of strong academic practice partnerships, students empowered to look to the next step.	Recent merger accelerated work that needed to be done, IPE and college of medicine positioned for better collaboration although not yet.
Thomas Jefferson	Anecdotal evidence of students in new positions and meeting employers' needs more readily. Students know the themes of population health and identify it as a strength. Students see importance of transitions of care and SDOH.	Though population health seems to be ingrained into the culture of the university and is clearly supported by administration, the acquisition of more hospitals and universities into the system is changing the mission and may create a challenge. Although the concepts are in the culture, each profession seems to have implemented its curricula separately without full integration and faculty development.
UNC Chapel Hill	Learning roles and perspectives from other students, "walking a mile in their shoes," students with working careers were learning to implement principles of IPE in their day jobs.	Faculty engagement in nursing, one class in population health across disciplines, may not have been threaded throughout entire curriculum.
University of Washington	Students saw the importance of keeping people from falling through the cracks of the system; looking at systems inequalities; reasons for health inequities; partnerships; SDOH and understanding where patients came from before entering the clinical system and where they will go on discharge. For faculty, use of Boyer's model of scholarship and application is recognized for promotion and tenure.	Challenges include: need for faculty investment to help students process experiences; shared technology; leadership changes at community level; locations of sites for students. Students also expressed powerlessness in the face of complex systems and discouragement with working as staff nurse due to not being heard.

Student Competencies

The final variable of interest was identification and measurement of student competencies. The findings in Table 10 show measurement of student outcomes that are not unique to population health. However, interprofessional education collaborative and quality and safety education for nurses frameworks were helpful to some programs as they measured outcomes and determined competencies. Faculty, students and administrators noted the particularly challenging aspect of identifying unique core competencies and strategies to measure student competencies.

TABLE 10: MEASURING STUDENT OUTCOMES/COMPETENCIES IN POPULATION HEALTH AS IDENTIFIED BY SITE VISITS

SCHOOL NAME	OUTCOME MEASURES
Oregon Health & Science University	OHSU's measurement of the impact of its clinical model (described below) on community health is impressive.
Rush	Individual students must show outcomes in their projects but no aggregation of these outcomes yet. Chicago Public School system require data to assess student impact but this is not available to individual universities.
Rutgers	Population health simulation, cultural competency, self-report of meeting goals, critical thinking, and knowledge; two published articles.
Thomas Jefferson	Student outcomes and clinical experiences evaluated individually but hard to see there is aggregate outcomes evaluation except at the university level. Uses Interprofessional Education Collaborative (IPEC), Quality and Safety Education for Nurses, (QSEN), etc. for outcome assessment; challenge trying to refine to core outcomes; extensive process and outcome measures; outcomes related to population health theme are all related to SDOH and cultural sensitivity and advocacy. NCLEX rates have stayed stable; no outcome data yet on graduate employment choices or employer satisfaction survey.
UNC Chapel Hill	Biggest challenges are measuring population health and IPE outcomes. These are goals of the new IPE office.
University of Washington	Poster session; community-based outcomes. Students write final essay about their work and provide evidence of meeting the core program objectives (categories: diversity, communication, nursing therapeutics, critical thinking). Using Quad Council competencies at MSN level, and Tier 2 competencies at DNP level in Seattle.

Summary of Key Findings at Each Site

Oregon Health & Science University (OHSU): OHSU, the only academic health center in Oregon, is known for its statewide nursing curriculum in partnership with 12 community college associate degree programs. All nursing students study population health, as it was considered a competency in the original Oregon Consortium for Nursing Education curriculum in 2004. One of OHSU's innovative clinical models, the Interprofessional Care Access Network (I-CAN), is housed at the School of Nursing, providing care coordination under supervision of a nurse faculty-in-residence for 12 months, serving in a community faculty practice role when the university is in session. Through I-CAN, more than 1,000 nursing, medicine, dentistry, public health, and the college of pharmacy students learn while serving communities. Outcomes since 2013 show a positive impact on at least three critical indicators: reduced emergency department visits, EMS calls, and hospitalizations.

Rush University, Chicago: The University has a strong focus on public health. Population health content is infused throughout all programs, including all graduate-level courses and the pre-licensure master's entry program. Faculty members describe the public health system, at the national and local levels, as one mechanism to achieve population health. Rush sees clinical academic partnerships as key, and uses a variety of social service and health sites for pre-licensure and doctoral-level clinical experiences. One of Rush's largest partners is the Chicago Public Schools, with whom it has three school-based health centers; at two other schools, pre-licensure students teach sex education twice yearly. The Rush University Medical Center's Office of Community Engagement coordinates across health professions with a focus on evidence-based services. The goal is to provide what the community needs and evaluate if the need is met.

Rutgers, The State University of New Jersey: Population health content is threaded through the curriculum, from the upper-division undergraduate nursing courses to the PhD program. At the undergraduate level, population health is taught through case studies and based on what Rutgers calls a "flipped classroom model," in which lessons are delivered largely outside of class using online platforms, then the lessons reinforced in class. For example, students watch videos that depict hypothetical case studies of patients and their families. Afterward, in class, the health situation is re-enacted through simulations that might include role-playing. Within the graduate program, one particularly creative model is a federally qualified health center run by Rutgers School of Nursing, which provides primary care nurse practitioner experiences in a clinic with guidance by faculty members. All doctor of nursing practice programs include epidemiology and social determinants of health courses, followed by a focus on population health projects.

Thomas Jefferson University, Philadelphia: Strong clinical partnerships are enhanced by a university-wide clinical site database. The database helps make effective use of clinical sites across academic programs, thus improving learning experiences and better helping the community. The university also has a School of Population Health,

which provides ongoing access to population health leaders and scholars. There is also a strong interprofessional component, with the university organizing volunteer opportunities for students across disciplines.

University of North Carolina, Chapel Hill: The Rural Interprofessional Population Health Initiative, a joint effort of the health professions schools at UNC, works to ensure rural interprofessional health for the state of North Carolina. This true interprofessional learning model consists of six modules presenting papers, didactic content, and videos. The students discuss teaching and evaluation methods that not only engage their peers but also assess knowledge, attitude and skills changes in interprofessional population health management. Students from nursing, pharmacy, medicine, social work and public health (nutrition and health behavior) participate in independent study coordinated by faculty representatives from nursing, social work, public health, medicine, and dentistry.

University of Washington: This program has strong clinical partnerships at the bachelor's, master's, and doctoral levels at all three campuses. For example, nursing students worked with community health departments, child care centers, senior wellness centers, and managed care organizations. It helps that deans and directors of schools and programs of nursing across the state had made a commitment to enhancing nursing education in population health. Indeed, the University of Washington has made a commitment to include population health education across *all* programs and majors in the university system. This support from the state and university system strengthens all curricular efforts in nursing, and other disciplines, now and in the future.

SUMMARY OF FINDINGS

KEY CONTENT

Population health can be a core course required for all students; however, it needs to be threaded throughout the curriculum, so that students are able to build on their knowledge and apply it across settings of care. In addition to leadership skills, relevant content to be addressed includes:

- Policy: How health policy in this country affects health care and health outcomes.
- Epidemiology/biostatistics: Basic understanding of the distribution and determinants of health and illness across populations.
- Social determinants of health: Identification of SDOH, and understanding of interventions and referrals needed to address them.
- Health equity: Using the social determinants of health as a framework, health equity—as a focus of health care—should be discussed throughout the curriculum.
- Interprofessional team-building and skills: Students need to understand the role of health and social service professionals in working together with individuals, families, and communities to improve health.
- Economics of health care: Students need to understand basic payment models for health care and how they affect services delivered and outcomes achieved.
- Systems thinking: Students need to have the ability to understand complex demands, on a large scale, and to develop solutions. They need to know systems theory and systemwide development strategy, and have the skills to manage change.

TEACHING METHODS

- Active learning strategies: A recurrent theme was the importance of active learning and experiential learning for students—with opportunities for partnering with nontraditional agencies to look at health promotion and disease prevention where people live, work, and play.
- Case studies: These were mentioned as an important mechanism for helping students practice problem-solving.
- Simulation: Identified as another mechanism for practicing problem-solving and looking at nontraditional partnerships to promote health.
- Intentional academic-practice partnerships: Findings reflected the importance of meaningful partnerships with communities and practice sites so that students learned and partner sites benefited as well. This requires intentional partnering with goal-setting to create a partnership of mutual benefit to all partners.
- Integration of population health across care settings: While the focus is often on nontraditional settings for experiential learning, findings also supported looking at ways to integrate population health knowledge and skills across the health care system, from acute care to community health.
- IPE experiences: Partnering with other health professionals and social service providers was discussed as an important learning activity for students.
- Service learning: Service learning is one mechanism for creating intentional partnerships and meaningful experiential learning opportunities.

BENEFITS AND CHALLENGES

- Metrics for populations: Programs should establish measurements to determine whether the population's needs are being met, in conjunction with student learning activities.
- Faculty development: Faculty must receive education and support to instill concepts systemwide, across all programs and throughout the institution.
- Population benefits: The faculty practice models and student clinical models most sustainable—those that last longest and become a part of the community—are those that benefit both the students and the populations served in measurable ways.

STUDENT COMPETENCIES

- Social determinants of health: The skill of assessing the social determinants of health should be introduced early in the education and infused at all levels.
- Metrics for students: Programs should establish valid and reliable measures to determine appropriate student learning outcomes.

Conclusions

Respondents to the survey and interviews with leadership and faculty at the site visits all recommended that population health be threaded through all levels of nursing education. While several schools are using creative teaching methods, integration of population health into nursing curricula cannot be accomplished without intentional, structured, mutually beneficial academic-practice partnerships; significant faculty development in population health practice and education; and the development of metrics to assess student competence in population health and their impact on population health outcomes. Enhancing students' competence in population health is an important first step in strengthening the capacity of the nursing workforce to build a Culture of Health.

Integrating population health principles throughout the nursing school curriculum, including clinical experiences, is imperative for 21st-century nursing

education. Best practices for this integration include using active and experiential learning in interprofessional teams, and with clinical partners across the continuum of care and in nontraditional settings where people live, work and play. Critical issues identified included the need for faculty development in teaching population health; the need for measures of student competency in population health knowledge and skills; and the need for development of intentional, mutually beneficial academic practice partnerships, where student learning and population health outcomes are both enhanced. Such models provide students with a strong sense of population health needs and mechanisms for addressing them in a new and rapidly transforming health care system; enhance nursing's work with community partners and stakeholders; and most important, clearly benefit patients, communities, and the American public as a whole.

Potential Next Steps

This PHIN 1 report, comprising the first phase of the study, has provided clear direction for future work in enhancing the ability of the nursing workforce to create a Culture of Health and improve population health outcomes. Potential next steps based on PHIN 1 findings are below.

Work with leaders in nursing education to:

- Encourage and incentivize curricular change.
- Develop and support mechanisms for widespread faculty development for understanding and teaching population health to nurses across care settings.
- Expand threading of population health content and skills throughout curricula across the levels of nursing education.
- Explore and develop measures of competency in population health that can be used across all nursing programs, based on level of nursing education.
- Continue to explore and develop successful IPE models as they relate to population health competencies.

Work with leaders in nursing practice to:

- Identify successful academic-practice partnerships across care settings.
- Promote population health experiential learning experiences in ambulatory/primary, acute, and long-term care.
- Examine elements of existing community health clinical education models for population health content.
- Further explore employability/roles for new graduates.

Build on PHIN 1 findings to conduct PHIN 2:

- Explore measures of competency in population health that can be used across all nursing programs, based on level of nursing education;
- Continue to explore successful IPE models as they relate to population health competencies;
- Identify phase one lessons learned to inform phase two goals and methods;
- Bring together thought leaders in nursing and health professional practice and education to 1) reflect on PHIN 1 findings and implications for nursing education; 2) advise on goals, methods, and key informants for PHIN 2 focus on nursing practice in population health; and 3) discuss strategies for preparing all health professionals to improve population health and thus build a vibrant Culture of Health in America.

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Appendix A: Sample Survey

Default Question Block

Q1.

Thank you for your interest in participating in this important work.

The Robert Wood Johnson Foundation (RWJF), in collaboration with the Center to Champion Nursing in America (CCNA) at AARP, is working to identify and disseminate promising models that incorporate and strengthen population health into nursing curricula.

Because of your expertise in nursing, public or population health, we are asking for your help to define the key components of successful educational models with the potential to prepare nurses for practice, education, and leadership in population health. You are invited to participate in this initiative by completing this survey.

This survey should take no more than 15 minutes to complete.

Please select the "Next" button to continue. Caution, do not use your browser's "back button" which will cause the survey to terminate. If this occurs, use the survey link to access the site again and continue where you left off.

Introduction Questions

Q2. How familiar are you with the concept of public or population health?

- ○ Very familiar
- ○ Somewhat familiar
- ○ Not too familiar

- ○ Not at all familiar

Q3. How important do you think it is to include a public or population health component to nursing curricula?

- ○ Very important
- ○ Somewhat important
- ○ Not too important
- ○ Not at all important

Q4. What percent of the current nursing curricula do you think incorporates public or population health content and skills?

- ○ 0%
- ○ 1% to 5%
- ○ 6% to 10%
- ○ 11% to 15%
- ○ 16% to 20%
- ○ 21% or more

Demographics

Q5. In this section we ask a few demographic questions to ensure you are directed to the most relevant questions.

Q6. Which is the primary discipline you most closely identify with?

- ○ Administrator-Nursing Program
- ○ Educator/faculty-medicine
- ○ Educator/Faculty-nursing
- ○ Educator/faculty-public health
- ○ Medical Doctor
- ○ Nurse, APRN
- ○ Nurse, RN

- ○ Nursing - Education
- ○ Nursing – Higher Education
- ○ Nursing-General Practice
- ○ Nurse, Other advanced practice role
- ○ Professor
- ○ Program Manager
- ○ Public Health Professional
- ○ Social Worker
- ○ Other (Specify) _____

Q7. Which of the following best describes the type of industry/organization you primarily work in?

- ○ Community College
- ○ Federal Government
- ○ Other Government (not Federal)
- ○ For profit/Private Sector
- ○ Higher Education/University
- ○ Nonprofit
- ○ Nursing School/School of Nursing
- ○ School of Medicine
- ○ School of Public Health
- ○ School of Social Work
- ○ Other (specify) _____

Q8. How long have you been in your current position?

- ○ Less than a year
- ○ 1 to less than 3 years
- ○ 3 to less than 5 years
- ○ 5 to less than 10 years
- ○ 10 to less than 20 years
- ○ 20+ years

Appendix B: Sample Interview Guide of In-Depth Interviews

Suite 401 | Richmond, Virginia 23225 | Phone 804.272.6100 | Fax 804. 272.7145

AARP Population Health IDIs – Practitioners and Leaders
Moderator's Guide
DRAFT 5-11-2018

I. Introduction (5 minutes)

A. Purpose: Thank you for agreeing to take part in this interview. AARP, in conjunction with the Robert Wood Johnson Foundation, (RWJF) is currently engaged in a project to explore the inclusion of population health components in nursing curricula. They have hired my company, ANR, to conduct interviews with health care professionals and education administrators about this topic. We would like your help in defining the key components of successful educational models with the potential to prepare nurses for practice, education, and leadership in population health.

Our discussion will last between 45 to 60 minutes.

B. Disclosure

- Audio recording
- Confidentiality assured

C. Ground Rules

- Be candid; moderator has no vested interest in research outcome

D. Participants

- Name
- Organizational affiliation – description, location
- Position/title and overall responsibilities
- Length of time in current role

II. Current Population Health Educational Program (30-45 minutes)

A. Were you able to review the definition of Population Health that we sent you? If not, please read:

Definition: Population Health is broadly used to describe collaborative activities for the improvement of a population's health status. The purpose of these collaborative activities, including interventions and policies, is to reduce inequities that influence the social determinants of health

(SDOH). Accountability for outcomes is shared, since outcomes arise from the multiple upstream factors that influence the health of a group or community. Population health requires systems thinking. It means doing business differently, including clinical and community prevention and working across disciplines and sectors. Population management and population focused care are pathways to achieve population health (Storfjell, 2017).

B. I'd like you to think about what an ideal nursing program in **population health** would be like. **Please note that for today's discussion we are focusing specifically and only on programs related to population health, not the ideal nursing program in general.**
   - Would this ideally be at the graduate or undergraduate level or both?
   - What would be its intended goals or outcomes? What would the ideal population health program be trying to accomplish?
   - How could it contribute to improved health outcomes overall?

C. Detailed program description: content, skills, and courses. Now I want to discuss the content and components of the ideal population health educational program in detail. **(Reminder: we are only interested in content and components that relate to or are included in the ideal population health program, not the nursing curriculum as a whole.)**

   As it relates to the ideal population health curriculum, please describe:
   - Key content areas and areas of focus—Listen for content such as the following, and may probe as time permits:
     - Epidemiology – ability to use basic terms to describe health and illness across a population
     - Biostatistics – understand use of rates and appropriate comparisons across populations
     - Social determinants of health – understand, identify, refer/intervene to address SDOH
     - Evidence-Based Practice (EBP)
     - Population Health
   - Key skills that should be emphasized and taught as part of the population health curriculum. Listen for skills such as the following and may probe a few, as time permits:
     - Assess individuals/families' health literacy level
     - Basic understanding of public health system functions
     - Identify and use evidence based health promotion/disease prevention interventions for individuals and families
     - Conduct Capacity Building Assistance (CBA) for population interventions
     - Develop a program budget for a health promotion intervention at the population level
     - Identify avenues for policy activism to impact nursing practice or health outcomes
     - Understand the impact of health policy on nursing practice and health outcomes
     - Describe cost effectiveness for interventions
   - Core courses to include in the ideal population health program

D. Methods, clinical experiences, and interactions. **As it relates to the ideal population health nursing curriculum, please describe:**
   - Any specific methods that should be used when teaching population health? (e.g., online education/classes, simulations, case studies, expert presentations, role playing exercises, flipped classroom where they learn the material on their own outside of class)

- Relevant clinical experiences that should be offered through the ideal population health program
  a. At what types of sites should these clinical experiences offered? Hospitals/inpatient setting only or outpatient/clinics/community based practices?
  b. What types of learning activities for students should be included in these clinical experiences?
- Would students in the ideal community health program regularly interact with other health professionals? With what types of health professionals? In class or in clinicals? If so, please describe ideal interactions. (Examples might include Pharmacy, Social Work, Medical, Public Health, other)
- Would students in the ideal program regularly interact with other health professions students? If so, please describe ideal interactions. Students in what other health professions? (Examples might include students in Pharmacy, Social Work, Medical, Public Health, other)

E. Faculty. How should you select faculty to teach this program? What credentials would you look for or qualifications would you require?
- Educational background
- Practical experience
- Board certification
- Other

F. How would you measure nursing knowledge and skills in population health in this ideal program? Listen for things such as:
- Population health case studies with multiple choice or essay responses
- Evaluation of student's performance in supervised clinical experiences
- Competency assessment at end of program
- Skills checklist
- Grades in relevant courses (e.g., bio stats, epidemiology, etc.)
- Role playing with observational assessment
- Employer assessment
- Successful NCLEX (National Council Licensure Examination) completion

G. Now, taking a step back, what are the top 3 things that need to be done to enhance effectiveness in teaching population health concepts to today's nursing students and nurses?

H. What strategies have you observed as effective in the application of population health concepts in the real world? Ask unaided first, then probe on strategies related to:
- Technology
- Community organizations – please specify specific community organizations you have worked with on population health related endeavors
- Community resources – please specify

III. Conclusion (5 minutes)

A. Is there anything else you would like to share related to teaching population health knowledge and skills to nursing students and/or nurses or about the ideal population health program?

B. Thank and dismiss participant.

Alan Newman Research
MARKET RESEARCH CONSULTANTS

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AARP Population Health IDIs – Nurse Educators
Moderator's Guide
DRAFT 5-11-2018

I. Introduction (5 minutes)

A. Purpose: Thank you for agreeing to take part in this interview. AARP, in conjunction with the Robert Wood Johnson Foundation, (RWJF) is currently engaged in a project to explore the inclusion of population health components in nursing curricula. They have hired my company, ANR, to conduct interviews with Nurse Educators like yourself, as well as healthcare professionals and education administrators, about this topic. We understand that your institution currently offers a population health program and we would like your help in defining the key components of successful educational models with the potential to prepare nurses for practice, education, and leadership in population health.

Our discussion will last between 45 to 60 minutes.

B. Disclosure

- Audio recording
- Confidentiality assured

C. Ground Rules

- Be candid; moderator has no vested interest in research outcome

D. Participants

- Name
- Educational institution – size, location
- Position/title and overall responsibilities
- Length of time in current role

II. Current Population Health Educational Program (30-45 minutes)

A. Were you able to review the definition of Population Health that we sent you? If not, please read:

Definition: Population Health is broadly used to describe collaborative activities for the improvement of a population's health status. The purpose of these collaborative activities, including interventions and policies, is to reduce inequities that influence the social determinants of health

(SDOH). Accountability for outcomes is shared, since outcomes arise from the multiple upstream factors that influence the health of a group or community. Population health requires systems thinking. It means doing business differently, including clinical and community prevention and working across disciplines and sectors. Population management and population focused care are pathways to achieve population health (Storfjell, 2017).

B. I understand that your institution currently offers a Population Health Educational Program. First, I'd like to get some basic information about the program and then we will discuss its content and components in detail.

   During this discussion, ***we will be specifically and only focusing on your population health program and curriculum, not your nursing program as a whole***

   What level(s) of students are in your population health educational program? Are they:

   - ADN – Associate's Degree, 2-year program
   - BSN – Bachelor of Science in Nursing, 4-year program
   - MSN – Master of Science in Nursing – post grad
   - DNP – Doctor of Nursing Practice, after MSN
   - Certificate – Certification programs for RNs or ARNPs (advanced registered nurse practitioner)
   - Other – please specify

C. How long have you been offering a Population Health Educational program at your school?

D. What prompted you to begin offering this type of program? How or why did you see a need for it?

E. Describe how you/your school designed the program in terms of:

   - Level of learner – how did you decide what level(s) of learners to focus on for this program?
   - Expected outcomes - What were the outcomes or goals that you were you hoping to accomplish through this program?
     - What were the anticipated benefits to the school of offering this type of program? *(e.g., health care system needs, student interest, increased enrollment, etc.)*
     - What were the anticipate benefits to the nursing students themselves? *(e.g., job opportunities, licensure expectations, accreditation requirements*)
   - Were there any challenges or barriers or issues that had to be overcome in order to offer a population health program? If so, what were they? Listen for things such as:
     - Limited relevant job opportunities
     - Lack of appropriate clinical experiences
     - Faculty expertise to teach
     - Limited resources (time, money, staff)
     - Lack of faculty/leadership support
     - Lack of student interest

F. Detailed program description: content, skills, and courses. Now I want to discuss the content and components of your population health educational program in detail. ***(Reminder: we are only interested in content and components that relate to or are included in your population health program, not the nursing curriculum as a whole.)***

As it relates to your population health curriculum, please describe:

- Key content areas and areas of focus – Listen for content such as the following, and may probe as time permits
  - Epidemiology – ability to use basic terms to describe health and illness across a population
  - Biostatistics – understand use of rates and appropriate comparisons across populations
  - Social determinants of health – understand, identify, refer/intervene to address SDOH
  - Evidence-Based Practice (EBP)
  - Population Health
- Key skills that are emphasized and taught as part of the population health curriculum. Listen for skills such as the following and may probe a few, as time permits:
  - Assess individuals/families' health literacy level
  - Basic understanding of public health system functions
  - Identify and use evidence based health promotion/disease prevention interventions for individuals and families
  - Conduct Capacity Building Assistance (CBA) for population interventions
  - Develop a program budget for a health promotion intervention at the population level
  - Identify avenues for policy activism to impact nursing practice or health outcomes
  - Understand the impact of health policy on nursing practice and health outcomes
  - Describe cost effectiveness for interventions
- Core courses in the population health program

G. Methods, clinical experiences, and interactions. **As it relates to your population health curriculum, please describe:**

- Any specific methods that your school uses that are key to teaching population health? (e.g., online education/classes, simulations, case studies, expert presentations, role playing exercises, flipped classroom where they learn the material on their own outside of class)
- Relevant clinical experiences offered through your population health program
- At what types of sites are these clinical experiences offered? Hospitals/inpatient setting only or outpatient/clinics/community-based practices?
- What types of learning activities for students are included in these clinical experiences?
- Do students in your program regularly interact with other health professionals? With what types of health professionals? In class or in clinicals? If so, please describe the interactions. *(Examples might include Pharmacy, Social Work, Medical, Public Health, other)*
- Do students in this program regularly interact with other health professions students? If so, please describe the interactions. Students in what other health professions? *(Examples might include students in Pharmacy, Social Work, Medical, Public Health, other)*

H. How does the core population health content relate to other nursing content in the nursing program as a whole?

- Interwoven, threaded in with other nursing content – How is the content integrated into the rest of the curriculum? Please provide examples.
- Sequential – How does the content build on previous content? Please provide examples of sequencing or sequential programs.

I. Faculty. How do you select faculty to teach this program? What credentials do you look for or qualifications do you require?

- Educational background
- Practical experience
- Board certification
- Other

J. How do you measure student knowledge and skills in population health? Listen for things such as:

- Population health case studies with multiple choice or essay responses
- Evaluation of student's performance in supervised clinical experiences
- Competency assessment at end of program
- Skills checklist
- Grades in relevant courses (e.g., biostats, epidemiology, etc.)
- Role playing with observational assessment
- Employer assessment
- Successful NCLEX (National Council Licensure Examination) completion

K. Evaluation of and satisfaction with your institution's population health program: Nurse Educators (Participant)

- Overall, how satisfied are you with your school's population health program? Do you think the program is successful in accomplishing it goals? Why?
- How do you define or measure success? What criteria or data do you use?
- What do you see as the programs its specific strengths?
- What is the most significant achievement(s) of this program to date? What else are you proud of?
- In what areas do you see room for improvement or opportunities for expansion? In your mind, does your program have any weaknesses? If so, what are they?
    a. What are the top 3 things you would do to enhance your program's effectiveness in teaching population health?

L. Student satisfaction. How satisfied or dissatisfied are **students** with the population health program? How do you know?

- Describe student feedback on the program.
- What specifically do students like about it? Why are they satisfied?

- What if anything, do students dislike about it? Are they dissatisfied with any specific aspects of it? With ones? What, if anything, do they wish that it included that it currently doesn't?
- Have you received any feedback from graduates of the community health program? What do they think about it, in retrospect?

III. Conclusion (5 minutes)

A. Is there anything else you would like to share related to teaching population health knowledge and skills to nursing students and/or nurses or about your school's population health program?

B. Thank and dismiss participant.

Appendix C: Typical Site Visit Schedule

POPULATION HEALTH IN NURSING SITE VISIT

AGENDA OPTION 1

DAY 1	
3:00 - 4:00pm	Welcome and Introductions
4:00 -5:00pm	Overview of Program
5:00 pm	Dinner Meeting

DAY 2	
9:00- 9:30 am	Breakfast / Welcome and Introductions
9:30- 10:30 am	Review of Curriculum
10:30-12:00 pm	Interviews with Students
12:00-1:00 pm	Lunch w/ Dean, Director and Senior Level Administrator
1:00-3:00 pm	Subject Matter Experts Review of Materials
3:00-4:00 pm	Wrap up and Review

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SHORTAGE *OR* MALDISTRIBUTION

Shifting the Conversation About Oregon's Nursing Workforce

Oregon Center for NURSING

Shortage or Maldistribution: Shifting the Conversation About Oregon's Nursing Workforce

The prospect of a nursing shortage causes great concern for health officials and healthcare industry leaders. Nursing shortages are problematic for healthcare leaders and workforce planners as there are simply not enough nurses to fill vacant positions. This creates significant effects on healthcare delivery, as nurses make up the largest sector within the healthcare industry and they provide the highest percentage of patient care (Oulton, 2006).

At the turn of the millennium, it was evident that the U.S. and other countries were experiencing a severe shortage of registered nurses (RN), especially in hospitals (Berliner & Ginzberg, 2002; Oulton, 2006; Sochalski, 2002). By the end of the decade, the situation was improving as signs of a strengthening nursing labor market emerged, younger nurses began to enter the workforce in larger numbers (Buerhaus, Staiger, & Auerbach, 2004), and older nurses delayed retirement due to the recession of 2007-2009 (Buerhaus, Auerbach, & Staiger, 2009). However, Buerhaus and his colleagues warned that despite improvements in the supply of the nurses, large shortages were expected to continue (Buerhaus, Auerbach, & Staiger, 2009).

As data availability improved, and projections of the supply and demand of RNs became available (U.S. Department of Health and Human Services, 2014), researchers began to focus on variations in the nursing workforce both regionally (Buerhaus, Auerbach, Staiger, & Muench, 2013) and by employment setting (Skillman, Palazzo, Keepnews, & Hart, 2007). These findings showed marked differences in the supply and retention of RNs across geographic and employment settings, particularly affecting rural communities and non-hospital practice settings (LaSala, 2000; Skillman, et al., 2007). As these findings surfaced, it was clear the nursing workforce was maldistributed, meaning the supply of nurses was not evenly distributed (LaSala, 2000).

Mirroring the national workforce, Oregon is struggling with a maldistribution of its nursing workforce. While the U.S. Department of Health and Human Services projects a small surplus of nurses in Oregon by 2030 (U.S. Department of Health and Human Services, 2017), there is growing evidence that geographic shortages (Bushy & Leipert, 2005; Oregon Office of Rural Health, 2016) and shortages in specific healthcare settings, such as long term care and nursing education, may be occurring (Oregon Center for Nursing, 2017c; 2018b). Compounding the problem of maldistribution, the nursing workforce faces several other challenges, including the aging of the population, increased retirements among the nation's registered nurses, a projected shortage of physicians, and the ongoing debate about healthcare reform (Buerhaus, Skinner, Auerbach, & Staiger, 2017).

After fifteen years of providing independent analysis of Oregon's nursing workforce, the Oregon Center for Nursing's (OCN) latest study examines recently released nurse licensing data (OHA, 2018) for evidence of a nursing shortage, or lack thereof, and describes the current distribution of the nursing workforce in Oregon. Additionally, these analyses aim to provide further understanding of the dynamics affecting the distribution of nurses across practice settings and geography, the relationship between current nursing workforce trends and the challenges nurses face in the coming years.

Current State of the Nursing Workforce

During 2018, about 83,500 combined nursing professionals were licensed to practice in the state of Oregon. Of these, approximately 66,000 nursing professionals were practicing in Oregon (Table 1).

Table 1: Number of Licensed and Practicing Nurse Professionals in Oregon, 2018

	Certified Nursing Assistants (CNA)	Licensed Practical Nurses (LPN)	Registered Nurses (RN)	Advanced Practice Registered Nurses (APRN)
Licensed	18,101	5,246	55,316	4,829
Practicing	15,500	4,300	42,500	3,780

Source: OHA, Public Use Nursing Workforce Data File, 2018

In Oregon, nurses renew their licenses every two years, and a demographic/workforce survey is conducted during renewal. Because of the timing of the survey, little is known about the employment setting of newly licensed nurses who obtain their first licenses and do not take the workforce survey. To understand the total supply of nurses in Oregon and take into consideration newly licensed nurses, OCN developed a method to estimate the number of practicing licensees (OCN, 2017a). The employment rate of licensees completing the survey is applied to the newly licensed individuals (and those who did not complete the survey) to estimate the number of practicing individuals. As can be seen, about 80 percent of licensed professionals practice in Oregon.

Table 2: Number of Licensed and Practicing Nurse Professionals in Oregon, 2010-2018

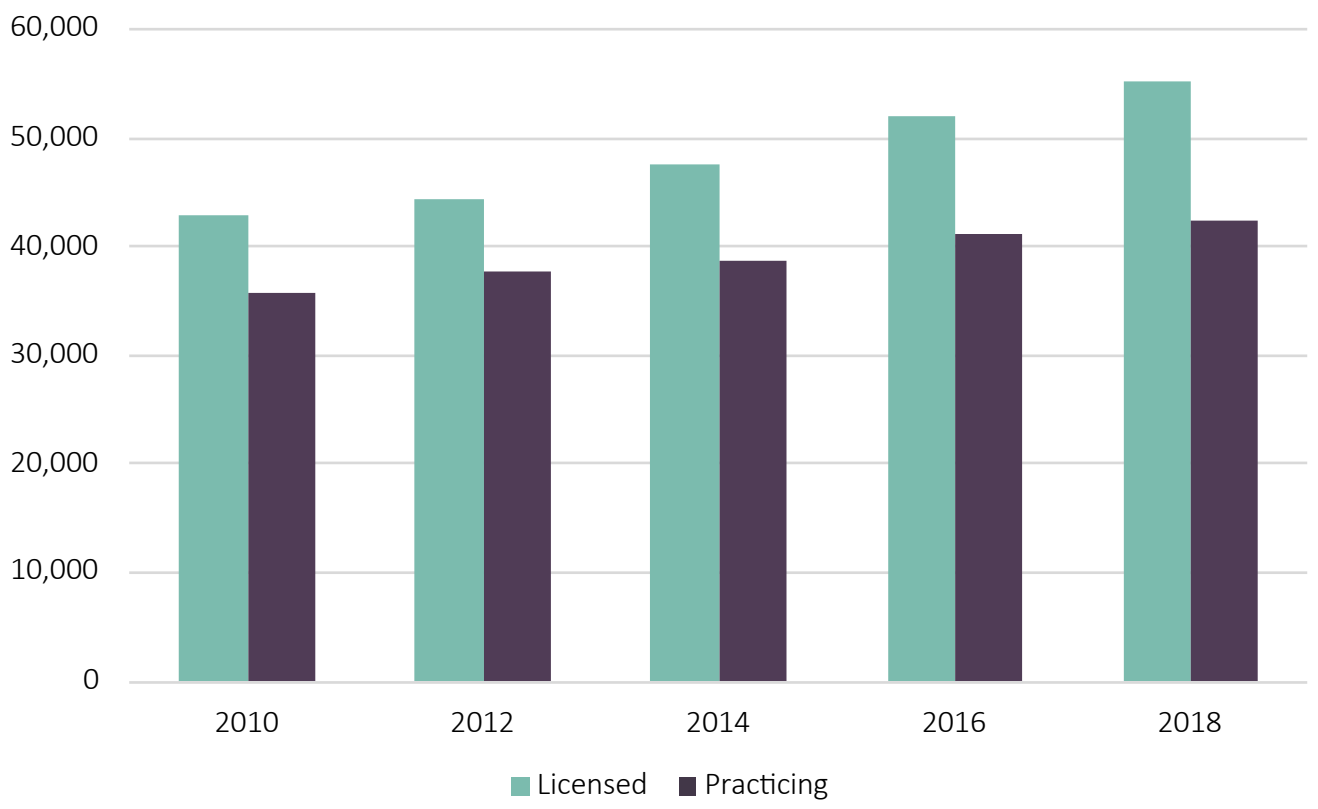
	2010	2012	2014	2016	2018	Average Annual Growth
CNA						
Licensed	18,331	18,872	18,414	18,025	18,101	-0.1%
Practicing	16,700	16,600	16,200	15,600	15,500	-0.9%
LPN						
Licensed	4,081	4,283	4,660	4,934	5,246	3.2%
Practicing	3,300	3,500	3,700	4,000	4,300	3.4%
RN						
Licensed	43,015	44,481	47,456	51,926	55,316	3.3%
Practicing	35,800	37,700	38,800	41,100	42,500	2.2%
APRN						
Licensed	2,908	3,142	3,591	4,290	4,829	6.8%
Practicing	2,410	2,720	2,950	3,490	3,780	6.0%

Source: OHA, Public Use Nursing Workforce Data File, 2010-2018

Generally, the number of licensed and practicing nurses has been growing since at least the beginning of the decade (Table 2). Except for CNAs, which have been stable over time, LPNs, RNs, and APRNs have all show marked growth since 2010. Licensed LPNs and RNs have both grown at a little over three percent each year, and the number of licensed APRNs has grown on average about seven percent each year. Observed growth for nurses practicing in Oregon follow the growth trends for licensure, except for RNs. This shows growth for practicing RNs to be about a third of that seen for licensed RNs (Figure 1). However, **growth for practicing RNs in Oregon is still twice the rate of population growth, which is projected to increase a little over one percent per year (Oregon Office of Economic Analysis, 2017).**

Oregon has witnessed a large influx of RNs obtaining their Oregon nursing license through a process called endorsement, by which a RN licensed in another state can obtain their Oregon nursing license. While all types of licensed nursing professionals may obtain an Oregon nursing license via endorsement, more than 86 percent of endorsed licensees are RNs (OCN, 2017b).

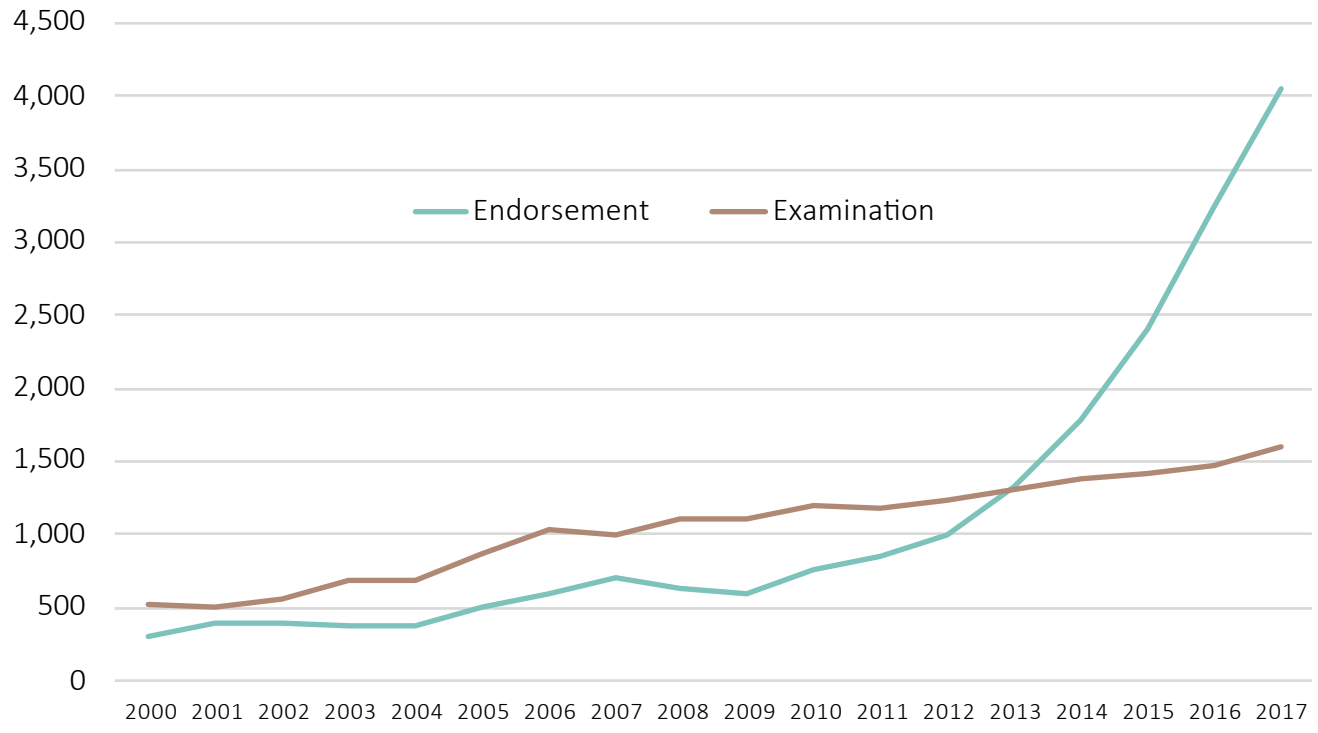
Figure 1: Trends for Licensed and Practicing RNs in Oregon, 2010-2018



Source: OHA, Public Use Nursing Workforce Data File, 2010-2018

Growth in the number of RNs endorsing into Oregon started in about 2010, but showed remarkable growth in 2013, which continues to this day (Figure 2). From 2000 to 2010, about 37 percent of all new licenses for RNs were approved via endorsement. From 2013 to present, the rate has increased to 62 percent of newly licensed RNs. Between 2013 and 2017, more than 12,820 RNs were licensed via endorsement, while only 7,190 were licensed via examination after graduating from a nursing program in Oregon. While this sounds like good news for healthcare organizations struggling to recruit and hire qualified RNs, it may not help these employers for two reasons. First, an OCN study examining this phenomenon showed that about 60 percent of endorsing RNs neither work nor live in Oregon (OCN, 2017b). In many instances, these RNs obtained their Oregon license as a requirement for employment in neighboring states or for companies/organizations with a national scope (e.g., health insurance companies, large, multi-state healthcare systems, and pharmacy benefit management firms). Secondly, the rate of growth of endorsing nurses is unsustainable over the long term, as the exponential growth observed since 2013 cannot continue unabated.

Figure 2: Number of RN Licenses Approved by Year of Licensure



Source: OCN (2017b). Licensed by endorsement: Why are nurses obtaining Oregon nursing licenses? Presentation to the Oregon State Board of Nursing. Nov 2017. Portland OR

An examination of the aging trends provides an insight into the long-term sustainability of the nursing workforce (Table 3). OCN (2017a; 2018a) reports on the 2016 RN workforce showed the workforce was younger that it had been in the past, as there were more RNs in their 20s and 30s, and fewer RNs in the mid-40s and 50s. These analyses showed more younger nurses were entering the workforce, and there were ample younger nurses to potentially replace retiring nurses.

RNs aged 25-34 and 35-44 show steady growth as a proportion of RNs over time, while RNs age 45-54 and 55-64 are steadily declining. In 2010, RNs between the ages of 25 and 44 represented about 33 percent of the RN workforce, but by 2018 RNs in this age group accounted for almost half (48 percent) of licensed RNs. Conversely, RNs aged 45-64 accounted for about 60 percent of licensed RNs in 2010. By 2018, this had fallen to about 43 percent.

Table 3: Age Distribution of RNs from 2010-2018

	2010	2012	2014	2016	2018
AGE GROUP					
<25	1.3%	1.0%	0.9%	0.8%	1.1%
25-34	14.6%	17.6%	17.4%	18.7%	20.6%
35-44	18.8%	20.9%	23.0%	23.1%	24.1%
45-54	28.0%	24.3%	22.6%	20.1%	19.9%
55-64	31.1%	30.2%	29.3%	25.0%	22.8%
65+	6.2%	6.0%	6.8%	12.2%	11.4%

Source: OHA, Public Use Nursing Workforce Data File, 2010-2018

The change in the age distribution of RNs from 2012 to 2018 can be seen in Figure 3. This clearly illustrates how younger cohorts of nurses have steadily increased over the last decade. It also suggests younger RNs have entered the workforce in sufficient numbers to potentially counterbalance mass retirements among older RNs.

Figure 3: Age Distribution of RNs for 2012-2018

Source: OHA, Public Use Nursing Workforce Data File, 2012-2018

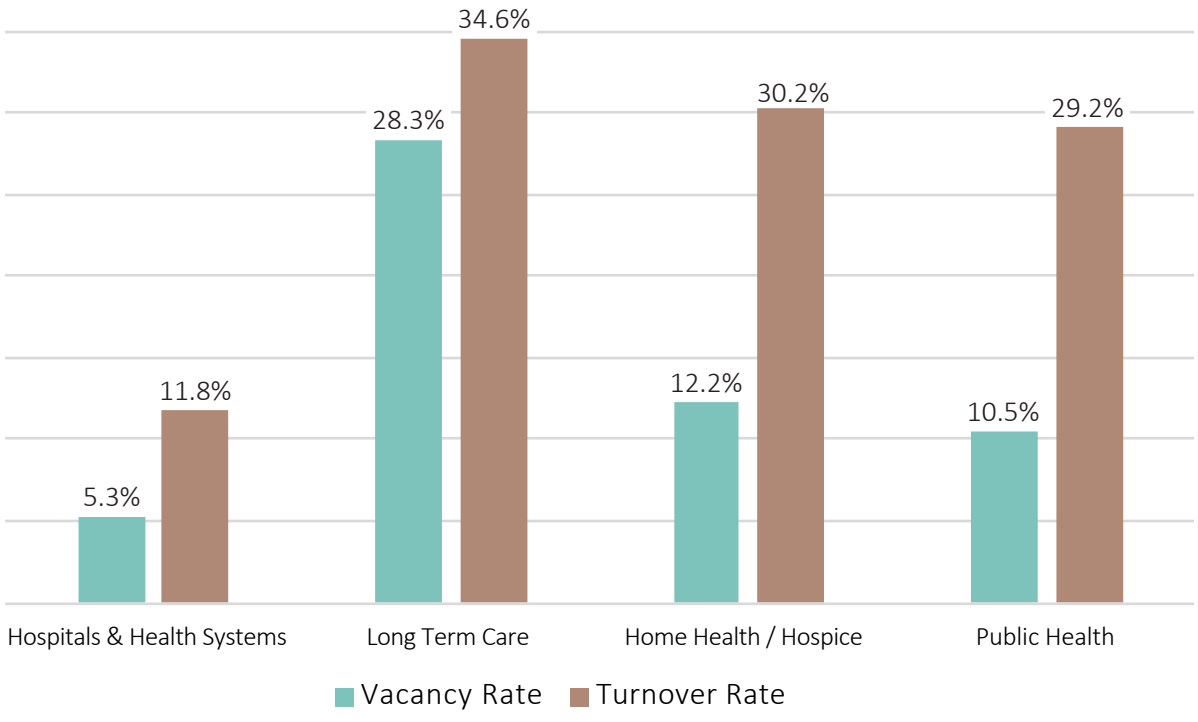
Evidence for a Maldistribution of Oregon's Nursing Workforce

Evidence presented thus far suggest worries about a statewide nursing shortage in Oregon are likely overblown. Continued, high growth among licensed and practicing nurses, coupled with data showing the continued influx of young RNs run counter to arguments of an ongoing shortage.

However, ample evidence exists that employers in some practice settings experience much more difficulty recruiting, hiring, and retaining RNs. Findings from OCN's 2018 Survey of Nurse Employers found that vacancy rates and turnover rates among RNs vary widely across practice settings (OCN, 2018b) (Figure 4).

It is clear both vacancy and turnover rates for hospitals and health systems are markedly lower than in other practice settings. Public health and home health hospice employers experienced vacancy rates twice as high as hospital and health systems. Long term care employers reported the highest vacancy rates, with more than a quarter of RN positions vacant when the survey was completed. Turnover rates in public health, home health/hospice, and long term care were about three times as high as the turnover rate in hospitals and health systems.

Figure 4: RN Vacancy and Turnover Rates by Setting



Source: OCN (2018b). The demand for nursing professionals in Oregon – 2018. Portland OR

It could be argued the high vacancy and turnover in non-hospital settings could be due to these employers attempting to recruit and retain highly specialized RNs, and the rarity of these specialists making it difficult for employers to hire. However, additional data collected by the 2018 Survey of Nurse Employers show the opposite is true. In long term care, home health/hospice, and public health, the most difficult positions to fill were staff RNs. In hospitals and health systems, the most difficult positions to fill were nurse managers and highly specialized RNs, such as labor and delivery, and intensive care. These data provide direct evidence the nursing workforce is maldistributed across practice settings in Oregon (OCN, 2018b).

Another type of maldistribution of the nursing workforce is geographic. However, unlike practice setting, where there is direct evidence of a maldistributed workforce, such direct evidence for geographic maldistribution of the nursing workforce is often lacking. Instead, most measures of geographic maldistribution are indirect, but may provide a glimpse of a workforce maldistribution at play.

One of the best examples of geographic maldistribution comes from the Health Resources and Services Administration (HRSA) with the U.S. Department of Health and Human Services (2017). HRSA researchers argue that there is and will be large variation across states in the supply of RNs and licensed practical nurses (LPN). These findings suggest that a large deficit of RNs could occur in California, Texas, New Jersey, and South Carolina, while surpluses of RNs could occur in Florida, Ohio, Virginia, and New York. They argue that these differences across states are due, in part, to current and future nursing school graduation rates, and workforce participation (U.S. Department of Health and Human Services, 2017).

Another common method of measuring geographic maldistribution is to examine local provider-to-population ratios (Bigbee, 2008). The provider-to-population ratio compares the number of providers available to serve specific populations. Bigbee (2008) found higher nurse-to-population ratios are significantly associated with better health outcomes and higher overall health rankings. Others argue the ratio can be influenced by factors that are not directly related to access to care. These factors include, but are not limited to, the presence or absence of large employers of nurses, such as a hospital or long term care facility, economic and social factors, and physical environment (University of Wisconsin, Population Health Institute, 2018).

Despite these limitations, it is common to identify geographic regions that lack an adequate number of healthcare providers. In that light, RN-to-population ratios for each county in Oregon are presented in Table 4. These data show marked variation in these ratios across counties. Generally, urban counties have lower RN-to-population ratios than rural counties, but there are exceptions. For instance, Multnomah County is the largest urban county in Oregon and it also has the lowest RN-to-population ratio of 68 persons for every RN. The second lowest ratio at 89 persons for each RN was seen for Wasco County, a large rural county in north-central Oregon. So, while the RN-to-population measure is not perfect, it does illustrate the marked variation in the number of RNs in each county and provides evidence for the existence of geographic maldistribution.

Table 4: RN-to-Population Ratios by County

COUNTY	Number of Practicing RNs	County Population	RN-to-Population Ratio	COUNTY	Number of Practicing RNs	County Population	RN-to-Population Ratio
Baker	99	15,980	161.4	*Lake*	59	7,807	132.3
Benton	883	88,249	99.9	*Lane*	3,130	363,471	116.1
Clackamas	2,589	399,962	154.5	*Lincoln*	309	47,307	153.1
Clatsop	318	38,021	119.6	*Linn*	648	121,074	186.8
Columbia	55	50,207	912.9	*Malheur*	243	30,421	125.2
Coos	639	62,921	98.5	*Marion*	3,075	330,453	107.5
Crook	87	21,717	249.6	*Morrow*	34	11,153	328.0
Curry	95	25,377	235.5	*Multnomah*	11,639	788,459	67.7
Deschutes	1,917	175,321	91.5	*Polk*	175	79,666	455.2
Douglas	793	107,576	135.7	*Sherman*	1	1,635	1,635.0
Gilliam	1	1,910	1,910.0	*Tillamook*	147	25,840	175.8
Grant	43	7,209	167.7	*Umatilla*	457	76,736	167.9
Harney	41	7,195	175.5	*Union*	208	25,810	124.1
Hood River	182	22,938	126.0	*Wallowa*	49	6,864	140.1
Jackson	2,146	212,070	98.8	*Wasco*	290	25,687	88.6
Jefferson	117	22,707	194.1	*Washington*	4,497	572,071	127.2
Josephine	535	84,514	158.0	*Wheeler*	4	1,415	353.8
Klamath	435	66,018	151.8	*Yamhill*	597	102,366	171.5

Sources: OHA, Public Use Nursing Workforce Data File, 2018; Census Bureau, American Community Survey, 5-Yr Estimates, 2017

Another indirect line of evidence comes from reports examining the healthcare workforce in rural communities. The Oregon Office of Rural Health (ORH) conducts onsite discussions with healthcare leaders in rural communities. Through these discussions, mostly with local hospital representatives, ORH attempts to document major issues constraining local employers from being able to recruit, hire, and retain enough RNs. These factors include the absence of nursing educational opportunities in rural communities, which includes insufficient faculty and scarce clinical training sites (ORH, 2016). Issues such as lack of housing and employment opportunities for the RN's spouse/partner further constrain a rural healthcare facility's ability to recruit and hire RNs.

Taken together, these lines of evidence strongly indicate that a geographic maldistribution of RNs exist. However, these data also suggest the factors leading to the observed maldistribution are complex and it is the result of many different factors and influences unique to each local community. Unfortunately, these findings do not present an obvious solution and more research is necessary to fully understand the local circumstances that trigger or enhance RN maldistribution.

Conclusions

While concerns about a statewide nursing shortage continue, current data strongly suggest that these worries will probably not come to fruition. Evidence of high growth within the nursing workforce, enough younger RNs entering the workforce to replace older nurses leaving practice, and a large influx of nurses from other states indicate that a **statewide nursing shortage in Oregon is very unlikely in the near future.**

That is not to say local areas or certain practice settings will not face difficulties in recruiting, hiring, and retaining qualified RNs. **Converging lines of evidence reveal the likely presence of maldistribution across practice settings and geographic areas.** Markedly higher vacancy and turnover rates among long term care and home health/hospice employers and substantial variation in measures of nurse density (provider-to-population ratios), and anecdotal evidence all point to the presence of potential maldistributions which may affect access to care.

Data showing maldistribution across practice settings is fairly direct and could point to specific interventions aimed to reduce observed maldistribution. This could include implementing strategies designed to increase job retention among RNs that could overcome high turnover among RNs practicing in long term care and home health organizations.

Unfortunately, findings of geographic maldistribution are much more nebulous. **While the evidence leads one to conclude that geographic maldistribution is happening, it does not clearly point to an overall strategy to reduce its impact.** Instead, it is likely that the factors impacting maldistribution in one region may not be the same as those impacting another area. The absence of major employers or educational institutions likely exert pressure on communities to the relief of communities where they are present.

The presence of multiple factors impacting geographic maldistribution is a strong indication that a single intervention in unlikely to be successful in all instances of geographic maldistribution. Instead, additional research is needed to identify local conditions that result in maldistribution so policy, programmatic, or infrastructure changes can be tailored to meet the specific needs of the community. A more complete understanding of local conditions is critical to identifying solutions to local nursing workforce needs.

Taken together, these findings indicate health officials and nurse leaders should move away from discussing a statewide nursing shortage. Instead, efforts to understand and reduce the maldistribution of RNs across practice settings and in certain geographic areas should be given serious focus and consideration. Only by eliminating or significantly reducing the impact of this maldistribution can health officials be assured that every Oregonian has access to high quality health care.

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From Start-up to Sustainability: A Decade of Collaboration to Shape the Future of Nursing

Paula Gubrud, Angela G. Spencer, and Linda Wagner

Abstract

AIM This article describes progress the Oregon Consortium for Nursing Education has made toward addressing the academic progression goals provided by the 2011 Institute of Medicine's *Future of Nursing: Leading Change, Advancing Health* report.

BACKGROUND The history of the consortium's development is described, emphasizing the creation of an efficient and sustainable organization infrastructure that supports a shared curriculum provided through a community college/university partnership.

METHOD Data and analysis describing progress and challenges related to supporting a shared curriculum and increasing access and affordability for nursing education across the state are presented.

RESULTS We identified four crucial attributes of maintaining collaborative community that have been cultivated to assure the consortium continues to make progress toward reaching the Institute of Medicine's *Future of Nursing* goals.

CONCLUSION Oregon Consortium for Nursing Education provides important lessons learned for other statewide consortiums to consider when developing plans for sustainability.

KEY WORDS Collaboration – Collaborative Leadership – Nursing Education – Organizational Change – Seamless Academic Progression

The Oregon Consortium for Nursing Education (OCNE) is a nationally recognized coalition of several public community college and university nursing programs delivering a shared, competency-based curriculum that includes pathways for academic progression for students. Faced with a predicted nursing shortage, a diverse and aging population, and new health care technology, the OCNE partnership was formed more than a decade ago through a collaborative process involving education and practice leaders throughout Oregon. The original intent of the partnership remains relevant as a means to prepare graduates that can practice in dynamic and increasingly complex environments.

The nature of health care delivery and reimbursement systems requires today's nurses to lead, advocate, and collaborate with other health care professionals, while providing patient-centered care informed by evidence-based practice standards. Within this context, OCNE created an organizational infrastructure that can adapt and leverage resources needed to maintain, revise, deliver, and systematically evaluate the shared curriculum across the state, with the goal to ensure that citizens of Oregon receive care from qualified nurses in every health care setting. This article focuses on crucial aspects of OCNE's development and organizational structure as a sustainable partnership.

BACKGROUND

In 2011, the Institute of Medicine (IOM) released the landmark *Future of Nursing* report establishing the aspirational goal of increasing the proportion of registered nurses prepared with baccalaureate degrees in nursing to 80 percent by the year 2020 (IOM, 2011). OCNE was described as a promising model in the *Future of Nursing* report and has since been recognized by multiple sources as the first statewide consortium involving community college and university partners designed to provide a common baccalaureate curriculum and prepare graduates with a broad range of competencies such as leadership, clinical reasoning and judgment, systems thinking, collaboration, patient-centered care, and teamwork (Benner, 2012; IOM, 2011; Tanner et al., 2012).

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Soon after the release of the *Future of Nursing report,* the Robert Wood Johnson Foundation (RWJF) launched Academic Progression in Nursing (APIN), an initiative funded to support statewide partnerships for seamless academic progression between community colleges and universities. APIN, in collaboration with the Center to Champion Nursing in America, identified four models for academic progression and cited OCNE as an exemplar of a statewide, shared competency-based curriculum (Close, Gorski, Scroczynski, Farmer, & Wortock, 2015).

The APIN initiative funded nine states to develop partnerships to increase the number of baccalaureate degree-prepared nurses. OCNE leaders have consulted with more than half of the states receiving funding through the APIN initiatives. The Carnegie Foundation also recognized OCNE as a leader for academic progression and nursing education reform (Benner, Sutphen, Leonard, & Day, 2011). After over a decade of collaboration, OCNE has transformed from a young partnership to an established, dynamic, and growing organization. Several OCNE faculty have participated in establishing Oregon's Action Coalition, sharing lessons learned through establishing the partnership and working with other nurse leaders in Oregon to promote academic progression using other models described by the Center to Champion Nursing in America.

In the early years of development, OCNE leveraged grant funds from public and private foundations to develop agreements for shared admissions standards, prerequisites, and curricula to be delivered on all partner campuses. Grant funding also supported a comprehensive redesign of clinical education, creation of case-based and concept-based teaching resources, faculty development, pathways from associate to baccalaureate degrees, and a comprehensive evaluation of the OCNE model. More than $6 million in funding has been awarded directly to OCNE schools from federal, state, and nonprofit organizations. In addition, OCNE provided the catalyst for several funded innovations at the university partner school, including programs targeting interprofessional community-based health care education (Wros, Mathews, Voss, & Bookman, 2015), veteran-focused health care, gerontology-focused clinical sites (Allen, Garrigues, Hall, & Cartwright, 2014), and programs to increase diversity and access to nursing education for underrepresented minorities (Noone, Wros, Cortez, Najjar, & Magdaleno, 2016).

Establishing a Partnership and a New Curriculum

The development of OCNE began in 2001 with a year of intensive work organized by the Oregon Nursing Leadership Council (Gaines & Spencer, 2013; Gubrud-Howe et al., 2003). Nurse leaders from around the state worked together to develop a vision for a new kind of nurse (Tanner et al., 2008). The vision guided the development of OCNE's curriculum, which was co-created by faculty from all participating community colleges and the university. The innovative curriculum and pedagogy, based on current research in learning science, emphasizes nursing leadership, clinical judgment, evidence-based practice, and relationship-centered care. Courses include health promotion, acute care, chronic illness care, and end-of-life care across the lifespan and among populations.

The first group of students began the OCNE curriculum on four community college and four university campuses in fall 2006 (see Table 1). OCNE continues to grow, with two community college partners joining in the past two years. The current partnership consists of 11 public community colleges and a single public university that has five physical campuses and a virtual campus, for a total of 17 nursing program partners covering a wide range of communities in rural and urban Oregon. Each year, approximately 350 students enroll on an OCNE community college campus, and approximately 150 students enroll on one of five Oregon Health & Science University (OHSU) School of Nursing campuses.

The curriculum has resulted in positive learning outcomes; high ratings for students' clinical skills; and faculty, employer, and student satisfaction, as measured by an employer satisfaction survey, a biannual faculty survey, and annual student program exit surveys (Tanner et al., 2012). OCNE partner schools have sustained high pass rates for the National Council Licensure Examination (NCLEX-RN®) throughout the implementation of the new curriculum and the addition of new partner schools (see Table 2).

Attributes of the Shared Curriculum

The curriculum was designed to improve the quality of nursing education and limit student burden by creating common prerequisites, admission standards, curricula, and policies among partner nursing programs (Tanner et al., 2008). Associate degree students in OCNE are co-admitted to their respective community college and the university. Course outcomes, course descriptions, credits, and essential course concepts and content are identical on every campus. This structure allows a community college graduate to enter the senior-year nursing curriculum at OHSU with 60 nursing credits completed, including 27 credits of upper division (300-level) coursework.

Students from Oregon's urban and rural regions earn the associate degree in nursing (ADN) and are encouraged to continue the curriculum and earn the bachelor of science degree with a major in nursing (BSN). The university partner offers a BSN completion program on the Portland campus and an online BSN completion program, with face-to-face local clinical experiences, available to students

Table 1: Initial Oregon Consortium for Nursing Education Partners

Initial community college partners	Mt. Hood Community College–Gresham, Oregon	Rogue Community College–Grants Pass, Oregon	Southwest Oregon Community College–Coos Bay, Oregon	Umpqua Community College–Roseburg, Oregon
Initial Oregon Health & Science University School of Nursing campuses	Ashland Campus, Ashland, Oregon	Klamath Falls Campus, Klammath Falls, Oregon	La Grande Campus, La Grande, Oregon	Portland Campus, Portland, Oregon

Table 2: NCLEX-RN Pass Rates for OCNE Partner Schools 2008-2016

	Baccalaureate Granting	Associate Granting										
Year	University	College 1	College 2	College 3	College 4	College 5[a]	College 6[a]	College 7[a]	College 8[a]	College 9[a]	College 10[b]	College 11[b]
2016	**90.40**	**84.00**	**100.00**	**74.29**	**86.21**	**100.00**	**98.51**	**94.12**	**95.16**	**87.50**	*87.50*	*83.33*
2015	**93.80**	**91.18**	**89.29**	**85.37**	**90.48**	**92.11**	**92.06**	**90.00**	**97.30**	*73.68*	*100.00*	*93.75*
2014	**94.84**	**92.96**	**86.84**	**84.00**	**100.00**	**91.18**	**85.71**	**84.62**	**94.83**	*72.22*	*94.12*	*100.00*
2013	**89.85**	**91.30**	**91.18**	**86.49**	**80.00**	**84.21**	**92.54**	**100.00**	**98.11**	*85.00*	*100.00*	*90.00*
2012	**94.02**	**95.08**	**100.00**	**88.14**	**100.00**	**91.43**	**97.53**	**94.44**	**97.30**	*100.00*	*100.00*	*100.00*
2011	**90.29**	**97.26**	**90.63**	**92.50**	**77.27**	**97.06**	**93.85**	*92.00*	*88.51*	*95.65*	*100.00*	*100.00*
2010	**94.97**	**87.10**	**84.38**	**92.31**	**71.88**	**90.00**	**87.88**	*83.33*	*89.41*	*80.00*	*93.75*	*83.33*
2009	**94.62**	**94.44**	**96.77**	**86.36**	**92.31**	**86.11**	**90.41**	*73.08*	*92.24*	*83.33*	*100.00*	*81.25*
2008	**94.62**	**94.37**	**96.77**	**86.67**	**92.31**	*86.84*	*90.54*	*72.00*	*91.84*	*83.33*	*100.00*	*81.25*

[a]Partner school joined after 2006. Pass rates for schools prior to implementing OCNE curriculum are italicized.
[b]Partner school has not yet graduated first OCNE cohort. Pass rates for non-OCNE curriclum are in bold.

statewide. The result is a threefold increase in the proportion of community college students who make the transition to the senior-year BSN OCNE curriculum (Munkvold, Tanner, & Herinckx, 2012).

FROM START-UP TO SUSTAINABILITY

The majority of grant funding designated to establish OCNE's infrastructure ended in 2012. The partnership transitioned from a transformational leadership model (Gaines & Spencer, 2013) to a collaborative leadership approach (Alder, Heckscher, & Prousak, 2011), thereby creating an efficient, effective, and sustainable governance structure. The OCNE organizational structure embraces four attributes intentionally used to organize the work of the consortium (Alder et al., 2011).

Embracing and Enhancing Shared Values and Common Purpose

The first and primary attribute of the collaborative organizational model focuses on embracing shared values and a common purpose. Consortium partners have defined values that originally established and continue to build a common purpose. The shared values are critical to the partnership and are consistently used to guide the participation and expectations of all participants. These shared values are described in a living document called the *OCNE Guiding Principles and Norms for OCNE Coordinating Council, Committees and Staff*. The principles are as follows: Inclusiveness, Beneficence, Collegiality, Courage/Perseverance, Healthy Conflict, and Shared Leadership.

Each OCNE meeting begins with a committee member reading the description of one guiding principle and a brief discussion describing an example or reflection related to the particular guiding principle being addressed. When conflicts or competing priorities become evident, the *OCNE Guiding Principles* are reviewed to structure the conversation and refocus participants on the common purpose consortium partners have embraced.

Organizational Infrastructure to Facilitate Collaboration

The second organizational attribute involved designing an infrastructure that encourages and cultivates contributions from all participants (Alder et al., 2011). The OCNE leadership team includes two co-directors, one from a community college and one from OHSU. The co-directors guide implementation of the strategic plan and carry out the operations of the consortium, along with a program manager and an administrative coordinator.

The Coordinating Council, with representation from the directors of every participating campus, oversees the organization's work. Three committees — Curriculum, Learning Activities, and Research and Evaluation — carry out continuous quality improvement activities. The committees are co-chaired by one faculty member from a community college and one from a university campus, and each committee has representation from every partner school. The combination of the Coordinating Council and committees provides the human resources needed to support continuous quality improvement with focused activity aimed to maintain, monitor, and revise the shared curriculum and academic agreements.

Creating an Interdependent Committee Structure

The third attribute embedded in OCNE's organizational structure involves instituting interdependent processes (Alder et al., 2011). The original funding for OCNE created the extraordinary opportunity to bring faculty from all the participating schools together for frequent face-to-face meetings to develop the shared competency-based curriculum. Once the grant funding was complete, scalable and efficient processes were developed to support adherence to academic agreements and delivery of the shared curriculum. Courses are reviewed on a defined three-year schedule. Consortium policies and agreements are reviewed every one to three years, and revisions are made using a systematic schedule and process.

The three committees work interdependently. For example, the Research and Evaluation Committee assesses a particular course prior to the year the Curriculum Committee reviews the course. The Curriculum Committee uses the data provided by the Research and Evaluation Committee to consider needed changes to a course and update the course title, outcomes, and essential concepts and content as needed. Once changes have been approved, the Learning Activities Committee reviews resources available to faculty that will support implementation of the agreed-upon curriculum changes. If there is a lack of teaching and learning resources available related to a curricular change, the Learning Activities Committee reaches out to course coordinators and faculty to encourage sharing and the development of new teaching resources, which are posted on a shared digital platform. All of this activity is monitored through fidelity agreements developed to support curriculum implementation and best practices in teaching (Herinckx, Munkvold, Winter, & Tanner, 2014; Tanner et al., 2012).

Supporting Connections With Technology

The fourth attribute of the organizational structure focuses on valuing the collaborative spirit with which the consortium was founded (Alder et al., 2011; Gaines & Spencer, 2013) by using technology to enhance connections and co-leadership. Spheres of influence between the university campuses and the partner community colleges are overlapping through the co-directorship model, assuring one faculty from a partner community college and one faculty from the university provide leadership and coordination for the Coordinating Council and three committees.

The OCNE co-directors, program manager, and administrative coordinator facilitate communication and connections among the committee co-chairs and leaders using distance technology. The partnership uses web-based resources for collaboration and information sharing among committee members and faculty throughout the state. The use of technology assures that all partner schools have access to resources and innovations that can be implemented throughout Oregon and across campuses. Connections among faculty with common teaching assignments, scholarship, and practice expertise are constantly developed and supported.

TEACHING AND LEARNING TO SUPPORT THE SHARED CURRICULUM

Beyond academic progression opportunities and curriculum content, OCNE has transformed teaching methods to align with emerging understanding of learning science. The OCNE faculty have received training from leading educational scholars on a variety of topics, including case-based teaching, concept-based learning activities, and using simulation for clinical education.

Content and teaching strategies aimed to improve population-based health care have been integrated into course delivery through sharing of faculty expertise and learning activities across campuses. The consortium has supported the implementation and acceleration

of high-fidelity simulation on all campuses to enhance students' clinical education. Supporting simulation-based clinical learning involves sharing case scenarios across campuses; developing and using best practices and standards; and providing faculty development for designing, implementing, and debriefing simulation-based learning activities.

Clinical Education Redesign

In 2006, OCNE secured grant funding to initiate the development of an innovative clinical education model in collaboration with practice partners representing health care providers from throughout the state (Benner, 2012; Gubrud & Schoessler, 2009; Gubrud-Howe & Schoessler, 2008; Nielsen, Noone, Voss, & Mathews, 2013). The goals of OCNE's clinical education redesign were to make better use of clinical sites, faculty, and staff nurse time and to better align clinical and classroom experiences.

In addition to developing new types of clinical learning activities, the consortium supported training for more than 1,000 staff nurses for the role of clinical teaching associate (CTA). CTAs fulfill the role, often referred to in other states as preceptor, during the final clinical practicum. The CTA training continues to be offered using an online format accessible to any nurse involved in performing this vital role.

The OCNE clinical education model has been replicated by Hawaii (Niederhauser, Schoessler, Gubrud-Howe, Magnussen, & Codier, 2012), and the OCNE faculty have consulted with other states and countries about the model. The OHSU hospital has adapted the OCNE clinical education model as the organizing framework for new-nurse orientation.

Annual Faculty Meeting

The consortium supports an annual face-to-face faculty meeting, which is considered an essential activity required to support the partnership infrastructure and the shared curriculum. Participants consistently report the opportunity to meet face-to-face at least annually is essential to enhancing established connections among faculty and is a critical event to mentor new consortium faculty.

The co-directors provide an annual "state-of-the-consortium" report, and committee chairs describe work accomplished throughout the academic year and summarize the work plan proposed for the following year. OCNE faculty members representing every partner campus meet in course teams to share innovations and challenges. The instructors identify changes that need to be made in courses during the next review cycle. These suggestions are summarized and provided to the committees to inform future curriculum revisions. Evaluations consistently illustrate the value the course networking meetings provide for faculty across partner schools.

Annual Faculty Development Conference

In conjunction with the annual faculty meeting, the consortium sponsors a faculty development conference. The conference typically features a keynote presenter and breakout trainings and poster sessions provided by OCNE faculty focused on an identified theme. Themes in recent years have included cultural competence, health care reform, care of older adults, clinical education, and learner-centered teaching. The OCNE Learning Activities Committee leads the planning for the annual faculty development day with support from the OCNE leadership team.

Supporting Faculty Scholarship

The OCNE partnership provides infrastructure needed to support faculty scholarship and nursing education research. Two Nursing Education Research Grants funded by the National League for Nursing involve community college and university partner schools (Docherty & Dieckmann, 2015; Sideras et al., 2013). Many faculty members have published manuscripts in peer-reviewed academic journals or have provided refereed and invited speaking engagements at national and international conferences featuring aspects of OCNE. Several OCNE faculty have completed dissertations involving elements of the OCNE curriculum (Gubrud-Howe, 2008; Lasater, 2007; Nielsen, 2016; Sideras, 2007), and doctoral students enrolled at OHSU have also explored aspects of OCNE innovations for their dissertation research (Franklin, Gubrud-Howe, Sideras, & Lee, 2015; Garrigues, Cartwright, & Bliss, 2017; Jessee, 2015; Negishi, in progress; Raber, 2013).

A Catalyst for Innovation

OCNE recently partnered with two global technology companies and is building a digital networking platform called "Connected Nursing" to support faculty engagement and the consortium infrastructure. Plans include expanding the platform to support and enhance student and practice partner engagement.

OCNE faculty can now easily connect and collaborate around developing changes to the curriculum, gather feedback and ideas on how to enhance their current offerings, and discuss relevant agenda items and important topics in advance of their in-person or web-based meetings. Learning resources are uploaded to the platform and can be searched by any OCNE partner.

This knowledge asset/management platform provides access to the collective faculty knowledge, and because smaller campuses do not have faculty with expertise in all nursing specialties, it allows OCNE faculty to share best practices, learning artifacts such as slide decks, current references, and clinical case studies. In addition, the digital platform will enable retired nurses and nurse educators to guest-teach part time, continue to mentor new faculty and students, and remain relevant in the nursing discipline. The platform creates and archives social knowledge and organizes assets that can be used to enhance faculty development and expedite onboarding through systematic faculty mentoring.

STUDENT OUTCOMES AND OPPORTUNITIES

Prior to OCNE's implementation, national data indicated that 9.6 percent of community college nursing graduates completed a BSN within five years of earning the ADN (Health Resources and Service Administration, 2010, section 9.3, p. 204). In the first three years the OCNE curriculum was offered, an average of 30 percent of partner community college students transitioned to OHSU to complete the BSN degree (Munkvold et al., 2012), a rate that continues to the present day (Figure 1). Several ADN graduates who transitioned to OHSU have since returned to partner community colleges to serve as instructors, and many OCNE students have gone on to graduate programs, including master's of science, master's in nursing education, doctor of philosophy, and nurse practitioner programs.

OCNE is providing unique leadership opportunities for students during their course of study. Students are assuming professional roles as they engage in learning activities in a variety of settings across Oregon. Moreover, students begin to affect the health of Oregonians and prepare to serve as nurse leaders during clinical courses. Recent

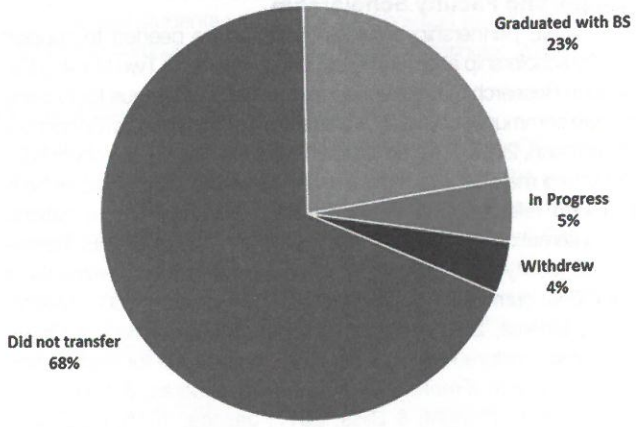

Figure 1. Transitions from ADN to BSN via shared curriculum.

examples include a student successfully applying for grant funding to establish a flu shot clinic at a homeless meal site. Another student led an interprofessional disaster preparedness effort on the southern Oregon coast.

An OCNE student became the first community college nursing student to become president of the National Student Nurses' Association in 2013-2014. This student was eligible to be president because all OCNE community college students are co-admitted to the university. The student, who completed the BSN degree at OHSU while in office, now serves on the board of directors of the American Nurses Association and is involved as a leader in promoting the RWJF Culture of Health initiative.

CHALLENGES IN PREPARING A BSN WORKFORCE

It has been about seven years since *The Future of Nursing* report was first disseminated by the IOM (2011). In 2015, RWJF asked the National Academies of Sciences, Engineering, and Medicine (The Academies, formally the IOM) to study the progress toward meeting the original recommendations and identify areas that should be emphasized over the next five years to ensure continued progress. A second report (The Academies, 2016) provides findings and recommendations relevant to OCNE's current and future state.

The 2016 report (referred to as *Assessing Progress* in the remainder of this article) found that community college/university partnerships had significantly increased access and affordability and are contributing to increasing the number of baccalaureate-prepared nurses. Moreover, the report provided recommendations indicating that partnerships between universities and community colleges should be supported where established and should be considered a viable means to increase the number of BSN-prepared nurses in all areas of the country (The Academies, 2016).

Removing Barriers to Academic Progression

OCNE successfully developed and established a shared curriculum and is a recognized leader for creating a pathway for students to progress from community college to university. However, improvements are necessary to remove barriers and facilitate BSN completion for ADN degree graduates. Munkvold et al. (2012) studied the primary factors influencing the decision to not pursue the BSN; of students earning the ADN in 2008, 2009, and 2010, 70 percent did not immediately transition to the OHSU to complete the BSN. Students cited financial factors as the most frequent reason, including the cost of tuition, the desire to earn money immediately as an RN, and concerns about adding to student loan debt. Three quarters of OCNE ADN graduates were employed as RNs within six months of degree completion, indicating that many employers did not require the BSN for employment; ADN graduates from rural campuses are in high demand and typically secure employment before graduating or shortly thereafter.

The Munkvold et al. (2012) study also found that 20 percent of students had a previous bachelor's degree in a subject other than nursing and that 7 percent had enrolled in a BSN nursing program at a non-OCNE university. The *Assessing Progress* report published similar findings on a national scale and cited many of the same barriers (The Academies, 2016).

Academic Advising and Relationships With Practice Partners

After the IOM set the goal of 80 percent of nurses having the BSN by the year 2020, options for students to complete a BSN have proliferated. Improving the seamless transition from the ADN to BSN in the OCNE curriculum includes providing students with current advising resources aimed to encourage them to complete their undergraduate nursing education at OHSU. Enhancing OCNE's relationship with clinical practice partners is another important strategy.

OCNE is engaged in renewing and improving advising for students enrolled at community college partner schools and is attempting to ensure that students understand the advantages of continuing their nursing education by enrolling in the OHSU BSN-completion program. Faculty who teach in the BSN-completion program have increased their contact with first- and second-year students from partner community colleges. University faculty are now involved with outreach to community college students to discuss attributes and experiences offered in the final year of the OCNE curriculum and provide students with the opportunity to ask questions about courses and clinical experiences. Each community college campus has appointed a faculty member who serves as OCNE transition adviser to assure students receive needed information and answer questions regarding transitioning to OHSU. OHSU faculty and staff provide information and support to the transition advisers through an annual workshop and by interacting with them and with students through webinars and campus visits.

Continued development of partnerships with clinical practice partners has been emphasized and needs to be enhanced. It is important to ensure that the potential employers are aware of the competency-based curriculum provided by OCNE to educate nurses to lead and manage change, engage as a team member, and use evidence-based practice to make accurate clinical judgments in complex situations. Education-workforce conversations have begun to explore offering tuition support and flexible scheduling for ADN graduates, strategies recommended in the *Assessing Progress* report (The Academies, 2016).

The Nursing Faculty Shortage

Nursing education programs face an ongoing challenge of faculty recruitment and retention. Nurse faculty are predicted to begin to retire in record numbers in the near future (Oregon Center for Nursing, 2015; The Academies, 2016). In Oregon, 30 percent of both master's and doctorally prepared faculty are expected to retire within five years.

Master's and doctoral programs are not producing a large enough pool to keep up with demand.

Two OCNE community college partner schools have reduced enrollment due to vacant faculty positions, and several others have considered the possibility over the next few years. Several rural campuses report significant challenges in recruiting and retaining qualified faculty. Without aggressive intervention, the nursing faculty shortage will have an impact on enrollments in some OCNE partner schools and may affect the capacity for sustaining collaborative relationships. The OCNE infrastructure includes guidelines for faculty sharing among campuses, and the shared curriculum provides a potential foundation for addressing this significant workforce challenge.

BUILDING ON A STRONG FOUNDATION FOR FUTURE INNOVATION

As a leader and provider of high-quality nursing education, the OCNE partnership is critical to the health of Oregonians, and the established strong foundation provides the opportunity to address current and future challenges. The partnership has identified the following priorities for the next phase of OCNE's maturation: 1) improve student access and affordability, 2) ensure the curriculum remains relevant in a dynamic health care environment, 3) support faculty development, and 4) provide the organizational and material structure necessary to support the partnership.

Improving Access and Affordability

The Academies' (2016) *Assessing Progress* report provides strong recommendations for improving access and affordability for BSN education and emphasizes the importance of improving the diversity of the nursing workforce. The report indicates that improving educational access and affordability for community college students is critical for improving diversity as many underrepresented groups enter nursing education through community colleges.

OCNE must continue to work to remove barriers to nursing education and academic progression while facilitating student development. The cost of higher education is a significant financial burden for many students, and it disproportionally affects rural, first-generation, and minority students. OCNE leaders and stakeholders are committed to working collaboratively to develop additional scholarship opportunities, workplace incentives, and other strategies to make university tuition more affordable for all students.

Assuring Delivery of a Relevant Curriculum

The *Assessing Progress* report acknowledges that the proliferation of options of RN to BSN completion programs has contributed to the increase in BSN-prepared nurses (The Academies, 2016). OCNE remains committed to ensuring that all partners have the resources needed to prepare competent nurse graduates and deliver the shared baccalaureate curriculum using best practices in teaching and learning.

To keep the curriculum relevant, faculty must engage with current research and practice in health care systems, pathophysiology, epidemiology, pharmacology, and the learning sciences. Additional funding is needed to fully facilitate continuous systematic evaluation and continuous revision of the curriculum. Conversations include identifying funding for three new staff positions: a curriculum coordinator, a faculty development coordinator, and a program evaluator.

Ongoing Study of the Consortium Impact

The partnership is working to implement a long-term study of graduates to learn more about how their nursing education has prepared them for the nursing profession, what professional roles they are performing, and what additional trainings or education they have pursued. Data are readily available about OCNE students while they are enrolled in partner schools, but little is known about the roles graduates are performing in the workforce or about their continued education outside of partner schools. This type of inquiry is essential to fulfill the consortium's aim to prepare a competent nursing workforce throughout the state.

CONCLUSION

Students, faculty, staff, clinical partners, and patients all have a stake in the success of OCNE. Ultimately, OCNE is a partnership centered on people and relationships (Gaines & Spencer, 2013). OCNE has grown from an early vision of nursing education reform to a robust, dynamic collaboration that has influenced thousands of nursing students, faculty, the nursing education profession, and — by extension — patients and health systems. The original vision and organizational structure informed the development of academic progression models across the nation and in several other countries. The infrastructure OCNE created provides possible sustainability plans for other statewide consortiums. More importantly, the sustainability model, created to support OCNE as a multipartner organization, builds and enhances the collaborative values and attributes critical to the relationships and partnership that created the first statewide consortium.

OCNE members remain committed to ongoing organizational improvement to ensure that the citizens of Oregon continue to benefit from the original extensive investment made to prepare a well-qualified nursing workforce. The health of Oregon's communities depends on it.

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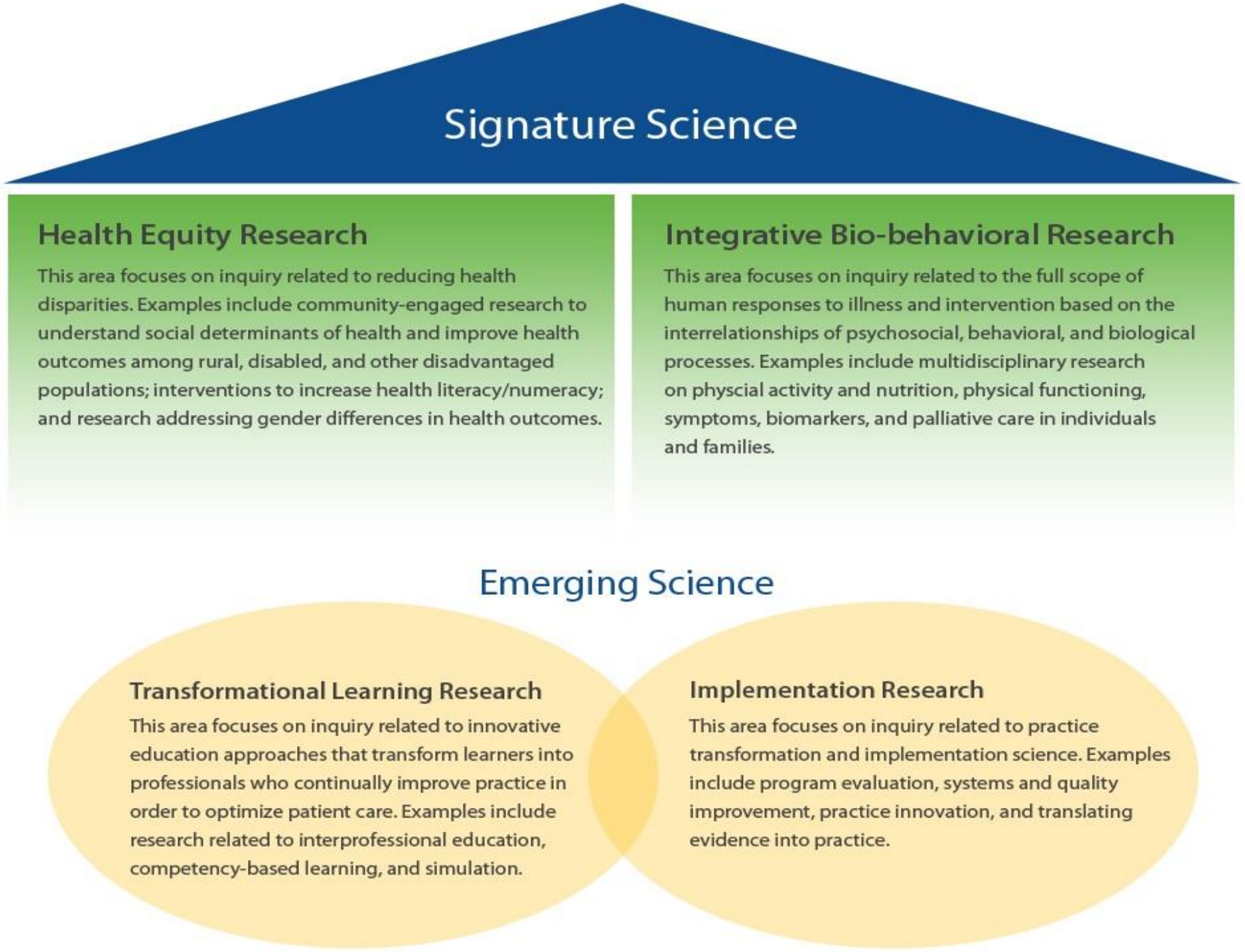
Signature Science
Health Equity Research
This area focuses on inquiry related to reducing health disparities. Examples include community-engaged research to understand social determinants of health and improve health outcomes among rural, disabled, and other disadvantaged populations; interventions to increase health literacy/numeracy; and research addressing gender differences in health outcomes.
Integrative Bio-behavioral Research
This area focuses on inquiry related to the full scope of human responses to illness and intervention based on the interrelationships of psychosocial, behavioral, and biological processes. Examples include multidisciplinary research on physcial activity and nutrition, physical functioning, symptoms, biomarkers, and palliative care in individuals and families.
Emerging Science
Transformational Learning Research
This area focuses on inquiry related to innovative education approaches that transform learners into professionals who continually improve practice in order to optimize patient care. Examples include research related to interprofessional education, competency-based learning, and simulation.
Implementation Research
This area focuses on inquiry related to practice transformation and implementation science. Examples include program evaluation, systems and quality improvement, practice innovation, and translating evidence into practice.

Glossary of Terms

A3 – Single page strategy
AAEO – Affirmative Action and Equal Opportunity
ACA - Affordable Care Act. The Patient Protection and Affordable Care Act, often shortened to the Affordable Care Act (ACA) or nicknamed Obamacare, is a United States federal statute enacted by the 111th United States Congress and signed into law by President Barack Obama on March 23, 2010
AFSCME - American Federation of State, County and Municipal Employees. A union that represents OHSU classified employees.
AH - Adventist Health.
AHC - Academic Health Center. A partnership between healthcare providers and universities focusing on research, clinical services, education and training. They are intended to ensure that medical research breakthroughs lead to direct clinical benefits for patients.
AHRQ – Agency for Healthcare Research and Quality
AI/AN - American Indian/Alaska Native
AMD - Age-Related Muscular Degeneration is a common eye condition and a leading cause of vision loss among people age 50 and older.
APP – advanced practice providers
APR - Academic Program Review: The process by which all academic programs are evaluated for quality and effectiveness by a faculty committee at least once every five years.
ARRA - American Recovery and Reinvestment Act of 2009.
A/R - Accounts Receivable. Money owed to a company by its debtors
ASF - Assignable Square Feet. The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant or specific use.
AVS – After visit summary
A&AS – Audit and Advisory Services

BRB - Biomedical Research Building. A building at OHSU.

CAGR - Compound Annual Growth Rate measures the annual growth rate of an investment for a time period greater than a year.
CAO - Chief Administrative Officer.
Capex - Capital expense
CAUTI – catheter associated urinary tract infections
C Diff – Clostridium Difficile
CEI - Casey Eye Institute. An institute with OHSU.
CFO - Chief Financial Officer.
CHH - Center for Health & Healing Building. A building at OHSU.
CHH-2 - Center for Health & Healing Building 2. A building at OHSU.
CHIO – Chief Health Information Officer
CLABSI – Central line associated bloodstream infections
CLSB - Collaborative Life Sciences Building. A building at OHSU.
CMH - Columbia Memorial Hospital. A hospital in Astoria, Oregon.
CMI - Case Mix Index. Relative value assigned to a diagnosis-related group of patients in a medical care environment.
CMS - Centers for Medicare & Medicaid Services. A federal agency within the United States Department of Health and Human Services (HHS) that administers the Medicare program and works in partnership with state governments to administer Medicaid, the Children's Health Insurance Program (CHIP), and health insurance portability standards. In addition to these programs, CMS has other responsibilities, including the administrative simplification standards from the Health Insurance Portability and Accountability Act of 1996 (HIPAA), quality standards in long-term care facilities (more commonly referred to as nursing homes) through its survey and certification process, clinical laboratory quality standards under the Clinical Laboratory Improvement Amendments, and oversight of HealthCare.gov.
CPI - Consumer Price Index measures the average prices of goods & services in the United States.
CY - Current Year.

Downstream referral activity - specialty referrals that generate a higher margin and result from the primary care activity.
Days Cash on Hand - The number of days that OHSU can continue to pay its operating expenses with the unrestricted operating cash and investments.
DCH - Doernbecher Children's Hospital. A building at OHSU.
DMD - Doctor of Dental Medicine.
DNP - Doctor of Nursing.
DNV – Det Norske Veritas

E&M – Evaluation and management
EBIT - Earnings before Interest and Taxes. A financial measure measuring a firms profit that includes all expenses except interest and income tax.
EBITDA - Earnings before Interest, Taxes, Depreciation and Amortization.
ED - Emergency Department. A department in OHSU specializing in the acute care of patients who present without prior appointment.
EHR - Electronic Health Record. A digital version of a patient's medical history.
EHRS – Environmental Health and Safety

EMR – Electronic medical record
ENT - Ear, Nose, and Throat. A surgical subspecialty known as Otorhinolaryngology.
EPIC - Epic Systems. An electronic medical records system.
ER - Emergency Room.
ERG – Electroretinography is an eye test used to detect abnormal function of the retina.
ERM - Enterprise Risk Management. Enterprise risk management in business includes the methods and processes used by organizations to manage risks and seize opportunities related to the achievement of their objectives.

FTE - Full-time equivalent is the hours worked by an employee on a full-time basis.
FY - Fiscal Year. OHSU's fiscal year is July1 – June30.

GAAP - Generally Accepted Accounting Principles. Is a collection of commonly-followed accounting rules and standards for financial reporting.
GASB - Governmental Accounting Standards Board. Is the source of generally accepted accounting principles used by state and local governments in the United States.
GDP - Gross Domestic Product is the total value of goods and services produced within a country's borders for a specified time period.
GIP - General in-patient
GME - Graduate Medical Education. Any type of formal medical education, usually hospital-sponsored or hospital-based training, pursued after receipt of the M.D. or D.O. degree in the United States This education includes internship, residency, subspecialty and fellowship programs, and leads to state licensure.
GPO –group purchasing organization

H1 – first half of fiscal year
H2 – second half of fiscal year
HCAHPS – Hospital Consumer Assessment of Healthcare Providers and Systems
HR - Human Resources.
HRBP – Human resources business partner
HSE – Harvard School of Education
HSPH – Harvard School of Public Health

IA - Internal Arrangements. The funds flow between different units or schools within OHSU.
ICU - Intensive Care Unit. A designated area of a hospital facility that is dedicated to the care of patients who are seriously ill
IGT - Intergovernmental Transfers. Are a transfer of funds from another government entity (e.g., county, city or another state agency) to the state Medicaid agency
IHI – Institute for Health Care Improvement
IP – In Patient
IPS – Information Privacy and Security
ISO – International Organization for Standardization

KCC - Knight Cancer Center. A building at OHSU.
KCRB – Knight Cancer Research Building
KPV - Kohler Pavilion. A building at OHSU.

L – Floor Level
L&D - Labor and Delivery.
LGBTQ – Lesbian, Gay, Bisexual, Transgender, Queer
LOI - Letter of Intent. Generally used before a definitive agreement to start a period of due diligence before an enduring contract is created.
LOS – Length of stay

M - Million
MA – Medicare Advantage
M and A - Merger and acquisition.
MBU - Mother-Baby Unit. A unit in a hospital for postpartum women and their newborn.
MCMC - Mid-Columbia Medical Center. A medical center in The Dalles, OR.
MD - Doctor of Medicine.
MOU—Memorandum of Understanding
MPH - Master of Public Health.

NFP - Not For Profit.
NICU - Neonatal Intensive Care Unit specializes in the care of ill or premature newborn infants.
NIH - National Institutes of Health. A part of the U.S. Department of Health and Human Services, NIH is the largest biomedical research agency in the world.
NOL - Net Operating Loss. A loss taken in a period where a company's allowable tax deductions are greater than its taxable income. When more expenses than revenues are incurred during the period, the net operating loss for the company can generally be used to recover past tax payments.

NPS: Net Promotor Score.
NWCCU - Northwest Commission on Colleges and Universities: OHSU's regional accrediting body which is recognized by the U.S. Department of Education as the authority on the educational quality of institutions in the Northwest region and which qualifies OHSU and our students with access to federal Title IV student financial aid funds.

OCA - Overhead Cost Allocation. Internal OHSU mechanism for allocating overhead expenses out to departments.
OCNE - Oregon Consortium for Nursing Education. A partnership of Oregon nursing programs.
OCT - Optical Coherence Tomography is a non-invasive imaging test.
OCTRI - Oregon Clinical & Translational Research Institute. An institute within OHSU.
OHA - Oregon Health Authority. A government agency in the state of Oregon.
O/E – observed/expected ratio
OHSU—Oregon Health & Science University
OHSUF - Oregon Health & Science University Foundation.
ONA - Oregon Nurses Association. Professional association for nurses in Oregon.
ONPRC - Oregon National Primate Research Center. One of seven federally funded National Primate Research Centers in the United States and a part of OHSU.
OP – Outpatient. If your doctor sends you to the hospital for x-rays or other diagnostic tests, or if you have same-day surgery or visit the emergency department, you are considered an outpatient, even if you spend the night in the course of getting those services. You only become an inpatient if your doctor writes orders to have you formally admitted.
OPP – OHSU Practice Plan
OPAM - Office of Proposal and Award Management is an OHSU department that supports the research community by providing pre-award and post-award services of sponsored projects and awards.
OPE - Other Payroll Expense. Employment-related expenses for benefits which the university incurs in addition to an employee's actual salary.
Opex: Operating expense
OR- Oregon
OR - Operating Room. A room in a hospital specially equipped for surgical operations.
OSU - Oregon State University.

P – Parking Floor Level
PAMC - Portland Adventist Medical Center.
PaWS – Parking and Workplace Strategy
PDT - Photodynamic Therapy is a treatment that uses special drugs and light to kill cancer cells.
PERI-OP – Perioperative. The time period describing the duration of a patient's surgical procedure; this commonly includes ward admission, anesthesia, surgery, and recovery
PERS - Public Employees Retirement System. The State of Oregon's defined benefit plan.
PET/MRI - Positron Emission Tomography and Magnetic Resonance Imaging. A hybrid imaging technology that incorporates MRI soft tissue morphological imaging and positron emission tomography PET functional imaging.
PHB – Portland Housing Bureau
PPI – physician preference items
PPO - Preferred Provider Organization. A type of health plan that contracts with medical providers, such as hospitals and doctors, to create a network of participating providers. You pay less if you use providers that belong to the plan's network.
Prgogrm – Program
PSI – patient safety intelligence
PSU - Portland State University.
PTO - Personal Time Off. For example sick and vacation time.
PV - Present Value. The current value of a future sum of money or stream of cash flows given a specified rate of return.
PY - Previous Year.

Quaternary - Extension of Tertiary care involving even more highly specialized medical procedures and treatments.

R&E - Research and Education.
RFP – Request for Proposal
RLSB: Robertson Life Sciences Building
RN - Registered Nurse.
ROI – return on investment
RPA - Robotic Process Automation. Refers to software that can be easily programmed to do basic tasks across applications just as human workers do
RPV – revenue per visit

SCB – Schnitzer Campus Block
SG&A - Selling, General and Administrative expenses. A major non-production cost presented in an income statement
SLM – Senior Leadership Meeting
SLO - Student Learning Outcomes Assessment: The process of establishing learning goals, providing learning opportunities, measuring student learning and using the results to inform curricular change. The assessment process examines whether students achieved the learning goals established for them.
SoM - School of Medicine. A school within OHSU.
SoN – School of Nursing
SOPs – Standard Operating Procedures

SPH - School of Public Health. A school within OHSU.
SPD - Sterile Processing Department. An integrated place in hospitals and other health care facilities that performs sterilization and other actions on medical devices, equipment and consumables.
SSI – surgical site infection

TBD – to be decided
Tertiary - Highly specialized medical care over extended period of time involving advanced and complex procedures and treatments.
THK – Total hip and knees
TTBD - Technology Transfer & Business Development supports advancement of OHSU research, innovation, commercialization and entrepreneurship for the benefit of society.

UBCI – Unconscious Bias Campus – wide initiative
Unfunded Actuarial Liability - Difference between actuarial values of assets and actuarial accrued liabilities of a pension plan. Represents amount owed to an employee in future years that exceed current assets and projected growth.
UO—University of Oregon
UPP - University Pension Plan. OHSU's defined benefit plan.
URM – underrepresented minority

VGTI - Vaccine and Gene Therapy Institute. An institute within OHSU.
VTE – venous thromboembolism

WACC - Weighted Average Cost of Capital is the calculation of a firm's cost of capital in which each capital category is proportionately weighted.
WMG – Wednesday Morning Group
wRVU - Work Relative Value Unit. A measure of value used in the United States Medicare reimbursement formula for physician services

YoY - Year over year.
YTD - Year to date.