



WORKFORCE INVESTMENT BOARD OF VENTURA COUNTY

HEALTHCARE COMMITTEE MEETING

Friday, November 14, 2014
8:00 a.m.-9:30 a.m.

Ventura County Community Foundation (VCCF) Nonprofit Center
4001 Mission Oaks Blvd., Community Room, Camarillo, CA

AGENDA

8:00 a.m.	1.0 Call to Order and Agenda Review	Martel Fraser
8:02 a.m.	2.0 Public Comments <u>Procedure:</u> The public is welcome to comment. All comments not related to items on the agenda may be made at the beginning of the meeting only.	Martel Fraser
8:05 a.m.	3.0 Approval of Minutes: September 12, 2014	Martel Fraser
	4.0 Ventura County Regional Strategic Workforce Development Plan	
8:10 a.m.	• Clinical Lab Science Field Experience Update	Dawn Neuman
8:15 a.m.	• Healthcare Work Readiness Skills Categories	Greg Barnes/ Paul Matakiewicz
8:30 a.m.	• Health and Science/Medical Technology Pathways Standards: Industry Advisory and Steering Committee Discussion <ul style="list-style-type: none">– Biotechnology Pathway– Patient Care Pathway– Administrative Services Pathway	Cheryl Moore
9:25 am	5.0 Committee Member Comments	Committee Members
9:30 a.m.	6.0 Adjournment <u>Next Meeting</u> January 9, 2014 (8:00 a.m.-9:30 a.m.) VCCF Nonprofit Center (Board Room) 4001 Mission Oaks Blvd., Camarillo	Martel Fraser



WIB Healthcare Committee Meeting **September 12, 2014**

MINUTES

Meeting Attendees

Committee Members

Greg Barnes* (Acting Chair)
Martel Fraser*
Teresa Johnson*
Cindy Jordan
Paul Matakiewicz*
Sandra Melton
Dawn Neuman

WIB Staff

Patricia Duffy
Cheryl Moore

Guest

Wendy Trafton (Ventura County Office of
Education, Grant Coordinator)

**WIB Member*

1.0 Call to Order and Agenda Review

Acting Chair Greg Barnes called the meeting to order at 8:10 a.m. No changes were made to the agenda.

2.0 Public Comments

No comments

3.0 Approval of Minutes: July 11, 2014

Motion to approve: Teresa Johnson
Second: Paul Matakiewicz
Motion carried

4.0 Ventura County Regional Strategic Workforce Development Plan

- Clinical Lab Scientist (CLS) Field Experience Program: Dawn Newman reported on the need for all participating hospitals to have the paper work submitted to her by October 15, 2014. The goal is to have local CLS labs certified in mid-2015 to enable faculty at California State University, Channel Islands to plan for students in the Fall 2015 semester.
- MLT and CLS Cross-Regional Industry and Educational Advisory Meeting: Patricia Duffy gave an update, on behalf of John Cordova, on the second regional advisory meeting held in Los Angeles on September 10, 2014. The meeting brought representatives from community colleges, California State Universities, and hospital and community laboratories together to discuss the roles of Medical Lab Technicians (MLT) and how MLTs can be leveraged to support the work of the Clinical Lab Scientists. The group decided to continue the regional meetings under the name of the Southern California Clinical Laboratory Advisory Board, to be hosted by the Health Workforce Initiative and chaired by an industry member.
- Career Pathways: In support of the business-related information gathering activities of the two Career Pathways grants (Ventura County Innovates and Tri-Cities Career College and Career Pathways Consortium), Cheryl Moore announced that the WIB industry sector

committees would provide a neutral forum to facilitate periodic discussions with educators and employers on program and curriculum development. The previous work of the committees (e.g., labor market data analyses, employer engagement and input, and identification of entry-level job skills), which had been referenced in both Career Pathways grant applications, would serve as a foundation on which to build. Other employers and educational representatives with related programs (e.g., adult education, community colleges, and universities) also would be welcome to participate in the discussions.

Prior to the WIB sector committee meetings, educators from different entities would collaborate on an aligned and targeted approach to the feedback sought. Educators and others who attended the meetings as members of the public would be invited to participate in a facilitated discussion with WIB committee members during the agenda item. For the first round of discussions, WIB staff would schedule time on the WIB sector committee meeting agendas in November and December 2014.

The Healthcare Committee was supportive of the idea, and members indicated that they looked forward to the coordinated approach to connecting business and education.

- Healthcare Work Readiness Skills Categories: The Committee received a sample of the Clean/Green Infrastructure Work Readiness Skills Categories chart which had been developed by the WIB Clean/Green Committee and was in use as a reference by educators. There was a discussion on how the WIB Healthcare Committee could develop a similar readiness skills reference document for healthcare. Committee members volunteered to form a workgroup that will develop a draft Healthcare Work Readiness Skills Categories chart for discussion and editing at the Committee meeting in November 2014.
- Workforce Innovation and Opportunity Act (WIOA): The Committee reviewed a copy of the "Highlights of WIOA Reforms to the Public Workforce System." "WIOA will be effective as of July 1, 2015, and the Department of Labor will issue initial guidelines in January 2015.

5.0 Committee Member Comments

No comments

6.0 Adjournment

The Committee adjourned the meeting by acclamation at 9:40 a.m.

Next Meeting

November 14, 2014

Ventura County Community Foundation (VCCF) Nonprofit Center
4001 Mission Oaks Blvd., (Community Room), Camarillo, CA

Ventura County Occupational Employment Data Growth Projections

HEALTHCARE

SOC Code*	Occupations	2013 Education and Training Level***	2010 VENTURA COUNTY Median Annual Wages**	2020 CALIFORNIA Employment Growth Projection	CALIFORNIA Average Annual Job Openings****	2020 VENTURA COUNTY Employment Growth Projection	VENTURA COUNTY Average Annual Job Replacement Openings	VENTURA COUNTY Average Annual Job Openings****	2010 CALIFORNIA Average Annual Employment	2010 VENTURA COUNTY Average Annual Employment
31-1011	Home Health Aides	Less Than H.S.	\$21,712	52.4	3,990	62.8	15	86	61,100	1,130
29-2051	Dietetic Technicians	H.S. Diploma	\$35,032	15.8	60	N/A	N/A	N/A	1,900	N/A
31-9799*	Healthcare Support Workers, All Other	H.S. Diploma	\$36,308	15.6	710	16.7	7	15	23,100	480
31-9093	Medical Equipment Preparers	H.S. Diploma	\$32,449	12.7	200	12.5	1	2	7,100	80
29-2081	Opticians, Dispensing	H.S. Diploma	\$37,615	17.7	240	30.0	4	10	6,200	200
31-9095	Pharmacy Aides	H.S. Diploma	\$24,158	32.1	380	N/A	N/A	N/A	8,100	N/A
29-2052	Pharmacy Technicians	H.S. Diploma	\$38,285	33.1	1,460	27.1	8	21	29,000	480
31-2022	Physical Therapist Aides	H.S. Diploma	\$26,165	29.7	300	50.0	4	15	6,400	240
31-1013	Psychiatric Aides	H.S. Diploma	\$26,444	19.2	70	N/A	N/A	N/A	2,600	N/A
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	H.S. Diploma	\$25,173	1.2	130	N/A	N/A	N/A	8,100	N/A
31-9091	Dental Assistants	Vocational / OJT	\$35,516	12.1	1,450	24.5	20	43	43,700	940
29-2041	Emergency Medical Technicians and Paramedics	Vocational / OJT	\$31,578	42.1	990	30.4	4	12	15,900	230
29-2799	Health Technologists and Technicians, All Other	Vocational / OJT	\$41,211	25.3	680	28.1	6	15	15,000	320
29-2061	Licensed Practical and Licensed Vocational Nurses	Vocational / OJT	\$51,760	22.5	3,170	27.3	29	59	64,500	1,100
31-9011	Massage Therapists	Vocational / OJT	\$34,422	14.1	730	20.0	3	7	24,100	200
31-9092	Medical Assistants	Vocational / OJT	\$31,586	22.4	3,050	23.5	31	78	80,900	2,000
29-2071	Medical Records and Health Information Technicians	Vocational / OJT	\$37,923	19.0	680	13.3	6	10	17,400	300
31-9094	Medical Transcriptionists	Vocational / OJT	\$43,045	1.7	100	-20.0	1	1	6,000	50
31-1012	Nursing Aides, Orderlies, and Attendants	Vocational / OJT	\$27,898	22.5	3,880	17.9	20	49	109,500	1,560
29-2053	Psychiatric Technicians	Vocational / OJT	\$53,623	21.3	340	0.0	2	3	8,900	120
29-2055	Surgical Technologists	Vocational / OJT	\$50,710	14.6	290	8.3	2	3	8,900	120
29-2031	Cardiovascular Technologists and Technicians	Associate's Degree	\$57,631	25.0	150	N/A	N/A	N/A	3,600	N/A
29-2021	Dental Hygienists	Associate's Degree	\$96,317	17.1	750	30.2	13	32	19,900	630
29-2032	Diagnostic Medical Sonographers	Associate's Degree	\$83,540	37.7	280	N/A	N/A	N/A	5,300	N/A
19-4099	Life, Physical, and Social Science Technicians	Associate's Degree	\$46,349	14.1	440	6.3	2	36	7,800	950

Ventura County Occupational Employment Data Growth Projections

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29-2012	Medical and Clinical Laboratory Technicians	Associate's Degree	\$40,799	14.8	580	0.0	2	2	16,900	120
29-2033	Nuclear Medicine Technologists	Associate's Degree	\$93,357	12.5	50	N/A	N/A	N/A	1,600	N/A
31-2011	Occupational Therapy Assistants	Associate's Degree	\$63,459	35.0	100	46.2	6	24	2,000	390
31-2021	Physical Therapist Assistants	Associate's Degree	\$58,643	30.4	210	40.0	2	6	4,600	100
29-1124	Radiation Therapists	Associate's Degree	\$95,808	12.5	50	N/A	N/A	N/A	1,600	N/A
29-2037	Radiologic Technologists and Technicians	Associate's Degree	\$69,409	23.8	680	21.1	6	14	17,200	380
29-1111	Registered Nurses	Associate's Degree	\$89,577	21.6	9,980	21.7	68	150	251,800	3,780
29-1126	Respiratory Therapists	Associate's Degree	\$70,318	26.1	630	19.0	4	8	14,200	210
29-2056	Veterinary Technologists and Technicians	Associate's Degree	\$34,876	31.0	410	N/A	N/A	N/A	8,400	N/A
29-9091	Athletic Trainers	Bachelor's Degree	\$45,972	30.0	60	N/A	N/A	N/A	1,000	N/A
19-4021	Biological Technicians	Bachelor's Degree	\$44,607	16.7	570	9.1	0	3	11,400	110
29-1031	Dietitians and Nutritionists	Bachelor's Degree	\$68,621	20.0	390	9.1	4	6	7,000	110
29-9799	Healthcare Practitioners and Technical Workers	Bachelor's Degree	\$67,897	19.3	450	25.0	4	7	8,300	120
29-2011	Medical and Clinical Laboratory Technologists	Bachelor's Degree	\$81,068	11.9	370	0.0	2	2	11,800	110
11-9111	Medical and Health Services Managers	Bachelor's Degree	\$101,695	18.7	1,210	19.6	12	22	27,800	510
21-1023	Mental Health and Substance Abuse Social Workers	Bachelor's Degree	\$44,668	17.9	440	25.0	5	10	10,600	200
19-1022	Microbiologists	Bachelor's Degree	\$77,332	22.2	160	N/A	N/A	N/A	3,600	N/A
29-9011	Occupational Health and Safety Specialists	Bachelor's Degree	\$80,890	14.3	310	7.7	5	6	6,300	130
29-1125	Recreational Therapists	Bachelor's Degree	\$60,879	10.0	50	N/A	N/A	N/A	1,000	N/A
11-9151	Social and Community Service Managers	Bachelor's Degree	\$64,750	20.5	660	15.7	11	19	15,600	510
19-3099	Social Scientists and Related Workers	Bachelor's Degree	\$78,465	22.5	260	N/A	N/A	N/A	4,000	N/A
21-1029	Social Workers	Bachelor's Degree	\$63,971	13.1	490	5.9	12	16	13,000	510
29-1199	Health Diagnosing and Treating Practitioners	Master's Degree	\$68,448	20.0	180	N/A	N/A	N/A	4,500	N/A
21-1022	Healthcare Social Workers	Master's Degree	\$60,777	31.0	690	26.5	14	17	12,600	340
29-1122	Occupational Therapists	Master's Degree	\$86,960	24.4	380	37.5	4	14	9,000	240

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29-1071	Physician Assistants	Master's Degree	\$95,207	25.3	380	25.0	2	4	8,300	80
19-3039	Psychologists	Master's Degree	\$101,402	11.8	70	N/A	N/A	N/A	1,700	N/A
29-1127	Speech-Language Pathologists	Master's Degree	\$84,861	13.9	380	22.9	7	15	11,500	350
29-1128	Therapists, All Other	Master's Degree	\$42,454	22.5	180	N/A	N/A	N/A	4,000	N/A
29-1061	Anesthesiologists	Doctoral Degree	N/A	17.2	220	N/A	N/A	N/A	5,800	N/A
29-1181	Audiologists	Doctoral Degree	\$74,231	20.0	40	N/A	N/A	N/A	1,500	N/A
19-1021	Biochemists and Biophysicists	Doctoral Degree	\$81,515	37.5	390	22.2	4	4	6,400	90
29-1011	Chiropractors	Doctoral Degree	\$66,731	5.1	100	25.0	2	4	3,900	80
29-1029	Dentists, All Other Specialists	Doctoral Degree	\$138,971	0.0	50	N/A	N/A	N/A	1,300	N/A
29-1021	Dentists, General	Doctoral Degree	\$134,204	4.1	580	15.4	8	12	17,000	260
29-1062	Family and General Practitioners	Doctoral Degree	\$167,470	22.0	510	N/A	N/A	N/A	12,300	N/A
29-1063	Internists, General	Doctoral Degree	\$186,395	20.5	340	N/A	N/A	N/A	8,300	N/A
19-1042	Medical Scientists, Except Epidemiologists	Doctoral Degree	\$83,430	41.4	1,320	N/A	N/A	N/A	27,800	N/A
29-1064	Obstetricians and Gynecologists	Doctoral Degree	N/A	21.9	130	N/A	N/A	N/A	3,200	N/A
29-1041	Optometrists	Doctoral Degree	\$91,913	17.1	220	26.7	5	9	4,100	150
29-1023	Orthodontists	Doctoral Degree	N/A	9.1	30	N/A	N/A	N/A	1,100	N/A
29-1065	Pediatricians, General	Doctoral Degree	\$162,286	19.7	250	N/A	N/A	N/A	6,100	N/A
29-1051	Pharmacists	Doctoral Degree	\$130,563	26.7	1,230	21.4	11	20	23,600	420
29-1123	Physical Therapists	Doctoral Degree	\$87,194	23.6	580	38.1	5	21	16,500	420
29-1069	Physicians and Surgeons, All Other	Doctoral Degree	>\$187,200	15.7	1,060	17.9	5	10	29,900	280
29-1081	Podiatrists	Doctoral Degree	\$112,513	0.0	30	N/A	N/A	N/A	1,100	N/A
29-1066	Psychiatrists	Doctoral Degree	N/A	14.6	170	N/A	N/A	N/A	4,800	N/A
29-1067	Surgeons	Doctoral Degree	N/A	19.3	220	N/A	N/A	N/A	5,700	N/A
29-1131	Veterinarians	Doctoral Degree	\$91,950	17.2	210	33.3	4	11	5,800	210

*2010 Standard Occupational Classifications and Occupational Information Network provided by the Department of Labor

**Median Annual Wages are the estimated 50th percentile of the distribution of wages; 50 percent of workers in an occupation earn wages below, and 50 percent earn wages above the median wage.

The wages are from 2010-1st quarter and do not include self-employed or unpaid family workers.

***Occupational training and education classifications were developed by the Bureau of Labor Statistics (BLS).

****Average Annual Job Openings includes new jobs and replacement needs.

Data Source: State of California Employment Development Department - Labor Market Info

Ventura County Occupational Employment Data Growth Projections
HEALTHCARE

		2013 Education and Training Level***	2010 VENTURA COUNTY Median Annual Wages**	2020 CALIFORNIA Employment Growth Projection	CALIFORNIA Average Annual Job Openings****	2020 VENTURA COUNTY Employment Growth Projection	VENTURA COUNTY Average Annual Job Replacement Openings	VENTURA COUNTY Average Annual Job Openings****	2010 CALIFORNIA Average Annual Employment	2010 VENTURA COUNTY Average Annual Employment
SOC Code*	Occupations									

Additional Information:

Living Wage in Ventura County as of December 2013 (California Budget Project)

\$34,109.00 Single Adult

\$79,549.00 Single-Parent Family*

\$64,203.00 Two-Parent Family* (one working)

\$85,713.00 Two-Working-Parent Family*

*All family types are assumed to have two children.

Current Employment Data

	2020 Growth Projection Data
	Top 20 In-Demand Occupations Identified by Living Wages & Employment Growth
	WIB Allied Health Committee: Critical, Hard-to-Fill Occupations/Resource Matrix (Sept. 2012)



HEALTHCARE WORK READINESS: SKILLS CATEGORIES

Workforce Investment Board of Ventura County

SAFETY	MATH CONCEPTS	EMPLOYABILITY SKILLS	HEALTHCARE EQUIPMENT
<ul style="list-style-type: none">• General workplace safety• Lock-out/Tag-out procedures• Worker safety• Equipment safety• Body mechanics• Safety data sheets• First aid/CPR/AED• Infection control (contact/ airborne)	<ul style="list-style-type: none">• Multiplication, division, addition and subtraction• Combined operations of fractions and mixed numbers• Units of measurement• Mass and weight measurement• Measuring fluids• Ratios and proportions• Table of decimal equivalents and combined operations of decimals	<ul style="list-style-type: none">• Basics of interviewing• Work ethic• Oral communication• Written communication• Time management• Task prioritization• Worker, supervisor, manager etiquette and protocol basics• Basic company policy understanding	<ul style="list-style-type: none">• Blood pressure cuff• Vital signs monitor• Oxygen saturation monitor• Proper use of patient lift & transport equipment• Proper use of other medical equipment
LEGAL/ ETHICS	COMPUTER SKILLS		
<ul style="list-style-type: none">• HIPAA• Medical record documentation• Intro to basic ethics• Customer service/ people skills	<ul style="list-style-type: none">• Excel• Word• OS basics• Computer navigation• Computer security• File extension basics• Overview of e-medical records software programs		



HEALTHCARE WORK READINESS: SKILLS CATEGORIES

Workforce Investment Board of Ventura County

SAFETY	MATH CONCEPTS	EMPLOYABILITY SKILLS	HEALTHCARE EQUIPMENT
<ul style="list-style-type: none"> • General workplace safety • Lock-out/Tag-out procedures • Worker safety • Equipment safety • Body mechanics • Safety data sheets • First aid/CPR/AED • Infection control (contact/ airborne) 	<ul style="list-style-type: none"> • Multiplication, division, addition and subtraction • Combined operations of fractions and mixed numbers • Units of measurement • Mass and weight measurement • Measuring fluids • Ratios and proportions • Table of decimal equivalents and combined operations of decimals 	<ul style="list-style-type: none"> • Basics of interviewing • Work ethic • Oral communication • Written communication • Time management • Task prioritization • Worker, supervisor, manager etiquette and protocol basics • Basic company policy understanding 	<ul style="list-style-type: none"> • Blood pressure cuff • Vital signs monitor • Oxygen saturation monitor • Proper use of patient lift & transport equipment • Proper use of other medical equipment
LEGAL/ ETHICS	COMPUTER SKILLS		
<ul style="list-style-type: none"> • HIPAA • Medical record documentation • Intro to basic ethics • Customer service/ people skills 	<ul style="list-style-type: none"> • Excel • Word • OS basics • Computer navigation • Computer security • File extension basics • Overview of e-medical records software programs 		

A. Biotechnology Pathway

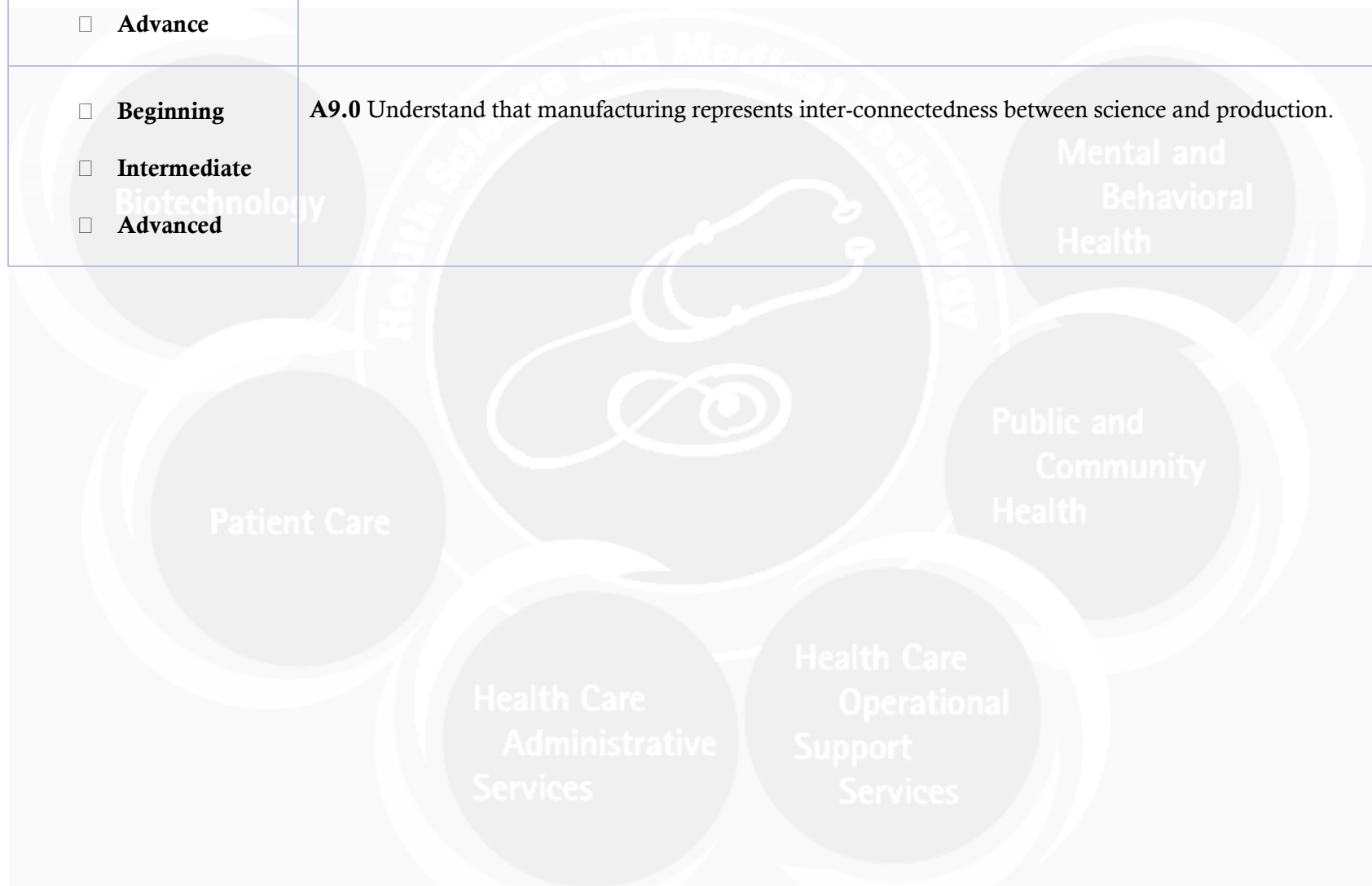
The standards for the applications of the Biotechnology pathway relate to occupations and functions relevant for understanding and solving biomedical problems and creating products to improve the quality of human life. The standards represent knowledge and skills necessary to succeed in diverse careers in this pathway.

Please check the appropriate level for the standards below

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A1.0 Define and assess biotechnology and recognize the diverse applications and impact on society.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A2.0 Understand the ethical, moral, legal, and cultural issues related to the use of biotechnology research and product development.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A3.0 Demonstrate competencies in the fundamentals of molecular cell biology, including deoxyribonucleic acid (DNA) and proteins and standard techniques for their purification and manipulation.

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A4.0 Recognize basic concepts in cell biology and become familiar with the laboratory tools used for their analysis.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A5.0 Integrate computer skills into program components.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A6.0 Implement use of the metric system, orders of magnitude, and the pH scale in preparation of reagents, analysis of data, and graphing.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A7.0 Understand the function of regulatory agencies for the biotechnology industry and the lasting impact of routine laboratory and communication practices on product development and manufacturing.

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advance	A8.0 Follow sustainable and safe practices with high regard for quality control.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	A9.0 Understand that manufacturing represents inter-connectedness between science and production.



B. Patient Care Pathway

The standards for the Patient Care pathway apply to occupations or functions involved in the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions. The standards specify the knowledge and skills needed by professional and technical personnel pursuing careers in this pathway.

Please check the appropriate level for the standards below

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B1.0 Recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B2.0 Understand the basic structure and function of the human body and relate normal function to common disorders.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B3.0 Know how to apply mathematical computations used in health care delivery system.

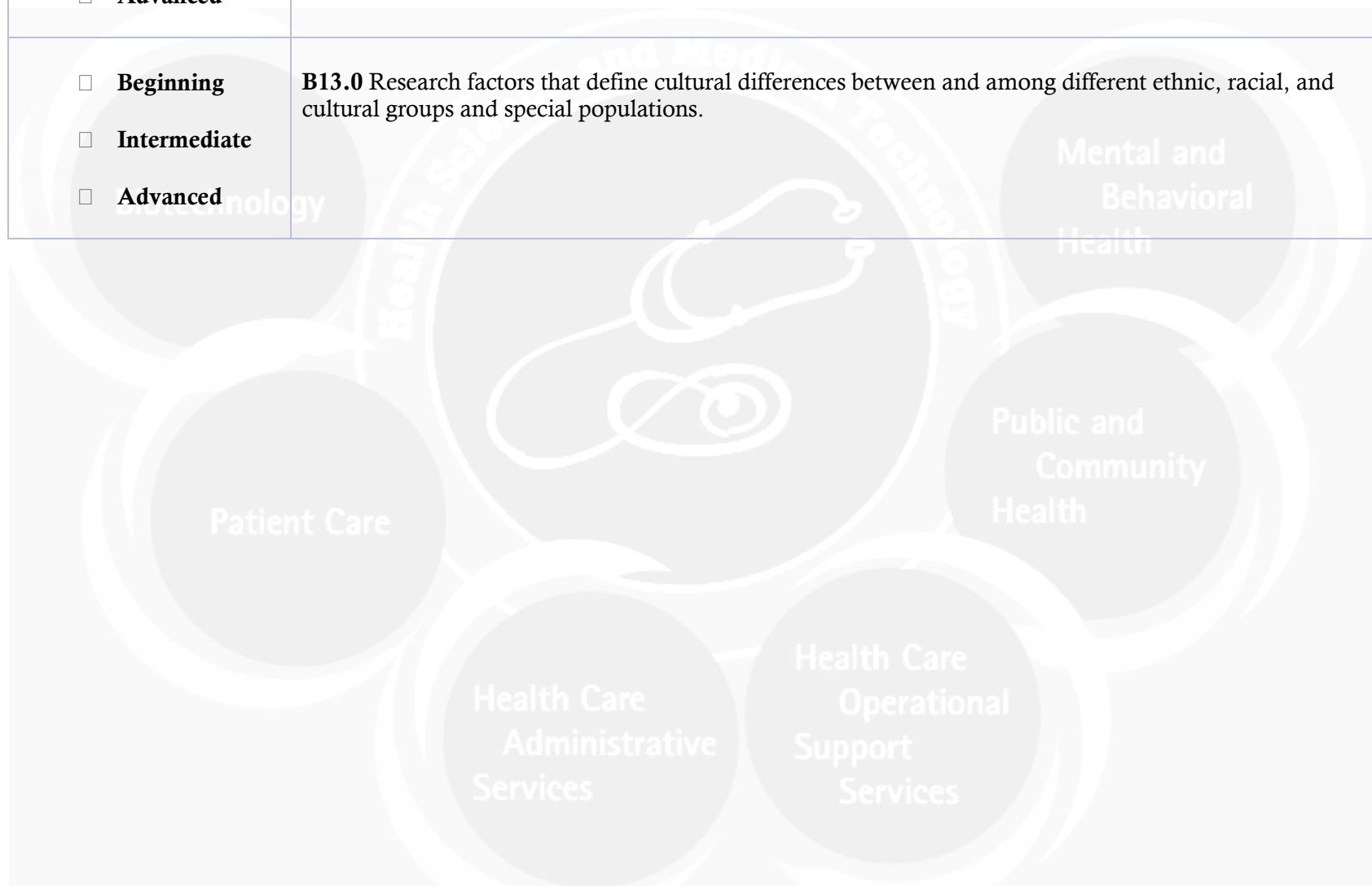
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B4.0 Recognize and practice components of an intake assessment relevant to patient care.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B5.0 Know the definition, spelling, pronunciation, and use of appropriate terminology in the health care setting.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B6.0 Communicate procedures and goals to patients using various communication strategies to respond to questions and concerns.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B7.0 Apply observation techniques to detect changes in the health status of patients.



HEALTH & SCIENCE MEDICAL TECHNOLOGY PATIENT CARE PATHWAY

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advance	B8.0 Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting of patients.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B9.0 Implement wellness strategies for the prevention of injury and disease.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B10.0 Comply with protocols and preventative health practices necessary to maintain a safe and healthy environment for patients, health care workers, coworkers, and self within the health care setting.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B11.0 Comply with hazardous waste disposal policies and procedures, including documentation, to ensure that regulated waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations.

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B12.0 Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	B13.0 Research factors that define cultural differences between and among different ethnic, racial, and cultural groups and special populations.



C. Health Care Administrative Services Pathway

Health care administrative workers include site administrators, managers, attorneys, receptionists, secretaries, billing and coding specialists, health informatics technicians, accountants, managers, and other knowledge workers that support the process of patient care. Health care administrative workers are the invisible backbone of health care; without appropriately skilled workers in these fields, health care systems simply could not function.

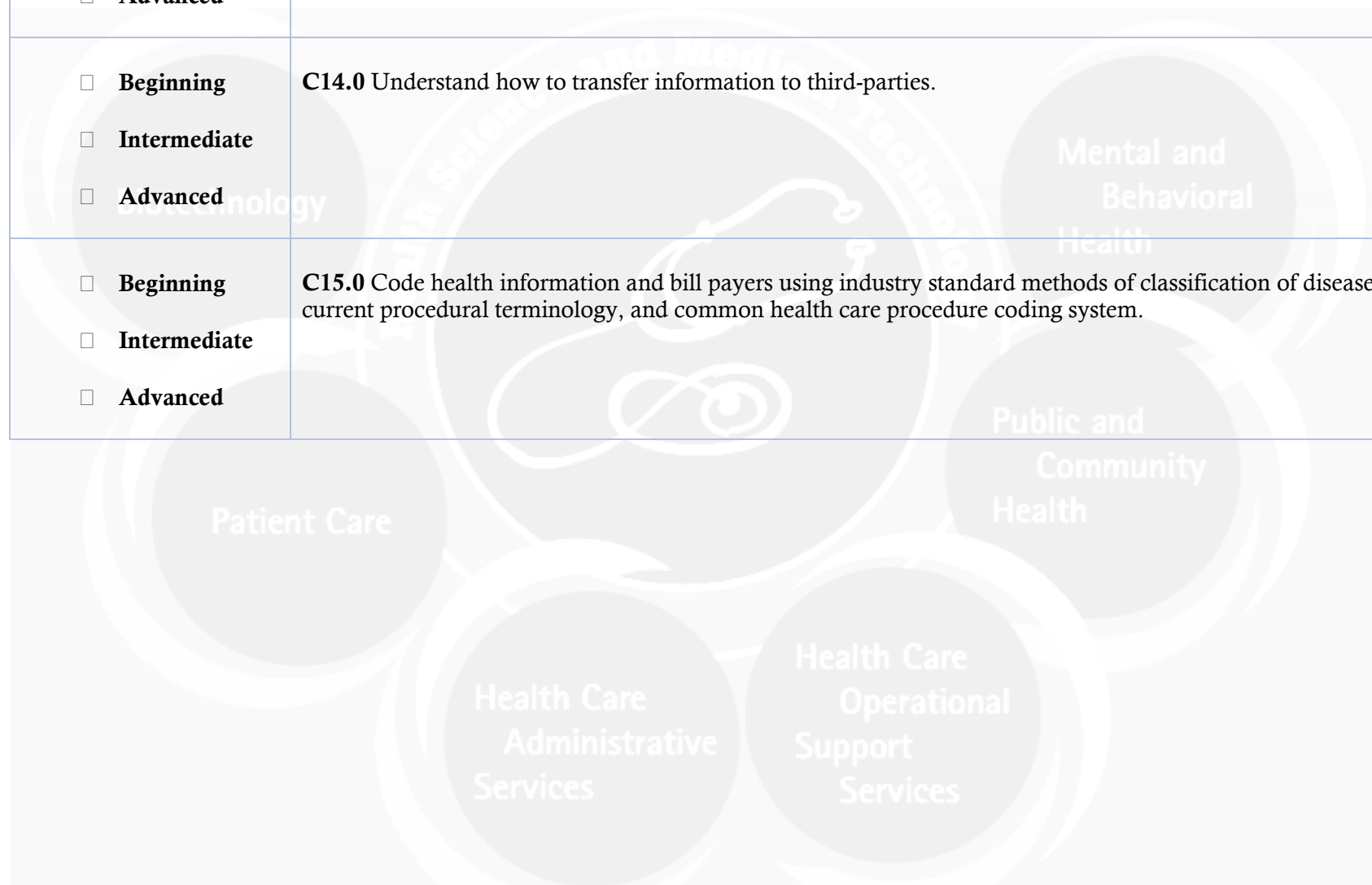
Please check the appropriate level for the standards below

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C1.0 Understand health care systems as the organization of people, institutions, funding, and resources as well as the broad scope of operations in which health care services are delivered to meet the health needs of target populations.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C2.0 Understand the various health care provider and support roles in patient care as an integrated, comprehensive health care system, to offer the very best options for treatment of patients.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C3.0 Understand the overarching concepts of economic and financial management systems, system and information management, and the latest innovations in health care as they affect health care delivery.

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C4.0 Know the role and relationship of public policies and community engagement on the health care delivery system.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C5.0 Understand and maintain standards of excellence, professional, ethical, and moral conduct required in management of personnel and policy within the health care delivery system.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C6.0 Understand the dynamics of human relations, self-management, organizational, and professional leadership skills necessary within the health care administrative system.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C7.0 Follow the model of medical safety practices and processes that can help prevent system medication errors and understand the consequences of mistakes.

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advance	C8.0 Understand the resources, routes and flow of information within the health care system and participate in the design and implementation of effective systems or processes.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C9.0 Use an electronic health care patient information system to optimize the acquisition, storage, retrieval, and use of information in health and biomedicine.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C10.0 Understand common file formats for document and medical imaging, digitizing paper records, and storing medical images.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C11.0 Know how to schedule and manage appointments for providers.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C12.0 Understand how to use health information effectively.

<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C13.0 Understand the need to communicate health/medical information accurately and within legal/regulatory bounds across the organization
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C14.0 Understand how to transfer information to third-parties.
<input type="checkbox"/> Beginning <input type="checkbox"/> Intermediate <input type="checkbox"/> Advanced	C15.0 Code health information and bill payers using industry standard methods of classification of diseases, current procedural terminology, and common health care procedure coding system.





A. Biotechnology Pathway

The standards for the applications of the Biotechnology pathway relate to occupations and functions relevant for understanding and solving biomedical problems and creating products to improve the quality of human life. The standards represent knowledge and skills necessary to succeed in diverse careers in this pathway.

Sample occupations associated with this pathway:

-  Clinical Trials Research Coordinator
-  Forensic Pathologist
-  Biostatistician
-  Geneticist Lab Assistant

- A1.0 Define and assess biotechnology and recognize the diverse applications and impact on society.
 - A1.1 Use data to explain how biotechnology fields such as pharmaceuticals, agriculture, diagnostics, industrial products, instrumentation, and research and development are impacting human life.
 - A1.2 Describe the use of model organisms in biotechnology research and manufacturing.
 - A1.3 Recognize the role of innovation in creation of emerging biotechnology careers, including those in nanotechnology, biofuels, and forensics.
 - A1.4 Research and identify public misunderstandings related to biotechnology and discern the source of these misunderstandings.
 - A1.5 Evaluate the impact of biotechnological applications on both developing and industrial societies, including legal and judicial practices.
 - A1.6 Explore and outline the various science and non-science fields and careers associated with biotechnology.
- A2.0 Understand the ethical, moral, legal, and cultural issues related to the use of biotechnology research and product development.
 - A2.1 Know the relationship between morality and ethics in the development of biotechnology health care products.
 - A2.2 Know the difference between personal, professional, and organizational ethics.
 - A2.3 Understand the necessity for accurate documentation and record keeping.
 - A2.4 Understand the critical need for ethical policies and procedures for institutions engaged in biotechnology research and product development.
 - A2.5 Describe the dilemma of health care costs related to advancements in biotechnology and public access to treatments.
 - A2.6 Prepare a presentation comparing the benefits and harm that can be the result of biotechnology innovations in both the research and application phases and which course of action will result in the best outcomes.



- A3.0 Demonstrate competencies in the fundamentals of molecular cell biology, including deoxyribonucleic acid (DNA) and proteins and standard techniques for their purification and manipulation.
 - A3.1 Define and describe the structure and function of DNA ribonucleic acid (RNA) and proteins, explain the consequences of DNA mutations on proteins.
 - A3.2 Describe enzyme structure and function, diagram the impact of enzymes and catalysis on reaction rates, and recognize the emerging role of enzymes in replacing industrial chemicals.
 - A3.3 Employ standard techniques of DNA extraction, purification, restriction digests, bacterial cell culture, and agarose gel electrophoresis and document and evaluate results.
 - A3.4 Employ standard protein techniques, including antibody production, enzyme assays, spectrophotometry, gel electrophoresis, and chromatography and document and evaluate results.
 - A3.5 Predict outcomes of DNA and protein separation protocols.
- A4.0 Recognize basic concepts in cell biology and become familiar with the laboratory tools used for their analysis.
 - A4.1 List and describe the structure and function of cellular organelle.
 - A4.2 Describe conditions that promote cell growth under aseptic conditions in the laboratory and workplace.
 - A4.3 Use various methods to monitor the growth of cell cultures.
 - A4.4 Explain the basic concepts of cell growth and reproduction, DNA replication, mitosis, meiosis, and protein synthesis.
 - A4.5 Discuss the structure and function of the macromolecules that compose cells, including carbohydrates, lipids, DNA, RNA, and protein molecules.
 - A4.6 Distinguish between prokaryotic cells, eukaryotic cells, and viruses.
 - A4.7 Conduct indicator tests for the common macromolecules of the cell.
- A5.0 Integrate computer skills into program components.
 - A5.1 Use the Internet and World Wide Web to collect and share scientific information.
 - A5.2 Use a variety of methods, including literature searches in libraries, computer databases, and online for gathering background information, making observations, and collecting and organizing data.
 - A5.3 Compile labs (results, tables, graphs) in a legal scientific notebook and/or an Internet site or Web page.
- A6.0 Implement use of the metric system, orders of magnitude, and the pH scale in preparation of reagents, analysis of data, and graphing.
 - A6.1 Apply knowledge of symbols, algebra, and statistics to graphical data presentation.



- A6.2 Prepare solutions based on both percent and weight composition to demonstrate proficiency in use of mechanical and digital microbalances.
- A6.3 Calculate and prepare solutions of various molarity; calculate and prepare buffers of various pH; and prepare serial dilutions.
- A6.4 Create data tables and graphs using Excel for the purpose of collecting and analyzing data.
- A7.0 Understand the function of regulatory agencies for the biotechnology industry and the lasting impact of routine laboratory and communication practices on product development and manufacturing.
 - A7.1 Identify agencies at the local, state, and federal levels.
 - A7.2 Be aware of the role of agencies in promoting patient safety, quality control, and entrepreneurship.
 - A7.3 Describe intellectual property.
 - A7.4 Understand a patent and use online resources to search a patent database.
 - A7.5 Demonstrate accurate record keeping and follow good laboratory practice (GLP) for lab notebooks.
 - A7.6 Articulate issues of ethical concern, including plagiarism, copyrights, trademarks, and patents and use online data resources and searchable databases to investigate a copyright, trademark, or patent.
- A8.0 Follow sustainable and safe practices with high regard for quality control.
 - A8.1 Follow written protocols and oral directions to perform a variety of laboratory and technical tasks.
 - A8.2 Recognize laboratory safety hazards using safe practices to avoid accidents.
 - A8.3 Locate and use Material Safety Data Sheets (MSDS).
 - A8.4 Outline the appropriate responses to a laboratory accident including identification of location and use of emergency equipment.
 - A8.5 Practice laboratory and personal safety including the location and use of emergency equipment (personal protective equipment, no food or drink, no open-toe shoes).
 - A8.6 Properly and safely use and monitor a variety of scientific equipment, including pH meters, microscopes, spectrophotometers, pipets, micropipets, and balances.
 - A8.7 Determine which equipment is appropriate to use for a given task and the units of measurement used.
 - A8.8 Perform specimen collection, label samples, and prepare samples for testing.
 - A8.9 Handle, transport, and store samples safely.








- A9.0 Understand that manufacturing represents inter-connectedness between science and production.
- A9.1 Describe the major steps of a product's move through a company's product pipeline.
- A9.2 Identify several products obtained through recombinant DNA technology.
- A9.3 Outline the steps in production and delivery of a product made through recombinant DNA technology.
- A9.4 Cite examples of plant parts or extracts used as pharmaceuticals.
- A9.5 Use the Internet to find information about traditional pharmaceuticals, herbal remedies, and recombinant pharmaceuticals.
- A9.6 Evaluate the impact of robotics and automation on aseptic processes.
- A9.7 Design a flow chart describing the steps for creating a new drug from hypothesis to distribution.



B. Patient Care Pathway

The standards for the Patient Care pathway apply to occupations or functions involved in the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions. The standards specify the knowledge and skills needed by professional and technical personnel pursuing careers in this pathway.

Sample occupations associated with this pathway:

-  Kinesiotherapist
-  Nurse Anesthetist
-  Respiratory Therapist
-  Radiologic Technician
-  Dental Hygienist

- B1.0 Recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment
 - B1.1 Know relationship and use of an integrated health care delivery system.
 - B1.2 Understand the range between prevention, diagnosis, pathology, and treatment procedures.
 - B1.3 Understand the significance of nontraditional approaches to health care in relationship to delivery systems.
 - B1.4 Illustrate the value of preventive and early intervention in relationship to health care practices.
 - B1.5 Describe the importance of reimbursement systems in relationship to the delivery of patient care.
- B2.0 Understand the basic structure and function of the human body and relate normal function to common disorders.
 - B2.1 Know basic human body structure and function in relationship to specific care between prevention, diagnosis, pathology, and treatment.
 - B2.2 Describe basic stages of growth and development.
 - B2.3 Recognize common disease and disorders of the human body.
 - B2.4 Compare normal function of the human body to the diagnosis and treatment of disease and disorders.
- B3.0 Know how to apply mathematical computations used in health care delivery system.
 - B3.1 Apply mathematical computations related to health care procedures (metric and household, conversions and measurements).
 - B3.2 Analyze diagrams, charts, graphs, and tables to interpret health care results.
 - B3.3 Record time using the 24-hour clock.



- B4.0 Recognize and practice components of an intake assessment relevant to patient care.
 - B4.1 Conduct basic interview to acquire new knowledge (e.g., medical and family histories).
 - B4.2 Identify and summarize major life events as they impact health care practices and patient outcomes.
 - B4.3 Observe patient actions, interests, and behaviors while documenting responses.
 - B4.4 Collect and synthesize information or data about the patient's symptoms and vital signs.
 - B4.5 Evaluate information gathered and connect patient data to appropriate system of care.
- B5.0 Know the definition, spelling, pronunciation, and use of appropriate terminology in the health care setting.
 - B5.1 Use medical terminology in patient care appropriate to communicate information and observations.
 - B5.2 Accurately spell and define occupationally specific terms related to health care.
 - B5.3 Use roots, prefixes, and suffixes to communicate information.
 - B5.4 Use medical abbreviations to communicate information.
 - B5.5 Know the basic structure of medical terms.
 - B5.6 Demonstrate the correct pronunciation of medical terms.
 - B5.7 Practice word building medical terminology skills.
- B6.0 Communicate procedures and goals to patients using various communication strategies to respond to questions and concerns.
 - B6.1 Observe and document the ability of patients to comprehend and understand procedures and determine how to adjust communication techniques.
 - B6.2 Use active listening skills (e.g., reflection, restatement, and clarification) and communication techniques to gather information from the patient.
 - B6.3 Formulate appropriate responses to address the patients concerns and questions in a positive manner.
 - B6.4 Employ sensitivity and withhold bias when communicating with patients.
 - B6.5 Report patient's progress and response to treatment goals.
 - B6.6 Maintain written guidelines of the Health Insurance Portability and Accountability Act (HIPAA) in all communications.
- B7.0 Apply observation techniques to detect changes in the health status of patients.
 - B7.1 Demonstrate observation techniques.
 - B7.2 Differentiate between normal and abnormal patient health status.
 - B7.3 Document the patient findings and report information appropriately.
 - B7.4 Plan basic care procedures within the scope of practice to assist with patient comfort.



- B8.0 Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting of patients.
 - B8.1 Explain the principles of body mechanics.
 - B8.2 Determine appropriate equipment for transportation and transfer, including the modification of equipment and techniques to accommodate the health status of the patient.
 - B8.3 Demonstrate appropriate transport and transfer methods to accommodate the health status of the patient.
 - B8.4 Evaluate equipment for possible hazards.
 - B8.5 Integrate proper body mechanics, ergonomics, safety equipment, and techniques to prevent personal injury to patients and clients.
- B9.0 Implement wellness strategies for the prevention of injury and disease.
 - B9.1 Know and implement practices to prevent injury and protect health for self and others.
 - B9.2 Determine effective health and wellness routines for health care workers (i.e., stress management, hygiene, diet, rest, and drug use).
 - B9.3 Identify practices to prevent injuries and protect health, for self and others (i.e., seatbelts, helmets, and body mechanics).
 - B9.4 Know how to access available wellness services (i.e., screening, exams, and immunizations).
 - B9.5 Identify alternative/complementary health practices as used for injury and disease prevention.
 - B9.6 Explore consequences of not utilizing available wellness services and behaviors that prevent injury and illness.
- B10.0 Comply with protocols and preventative health practices necessary to maintain a safe and healthy environment for patients, health care workers, coworkers, and self within the health care setting.
 - B10.1 Describe the infection control cycle with consideration of the various types of microorganisms.
 - B10.2 Demonstrate use of facility policies and procedures of infection control while performing patient care.
 - B10.3 Evaluate potential causes and methods of transmitting infections and how to apply standard precautionary guidelines.
 - B10.4 Demonstrate the use of appropriate personal protective equipment (PPE).
 - B10.5 Practice proper hand hygiene.
 - B10.6 Use various manual and mechanical decontamination and sterilization techniques and procedures.
 - B10.7 Document and analyze sanitation and infection control procedures.



- B11.0 Comply with hazardous waste disposal policies and procedures, including documentation, to ensure that regulated waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations.
 - B11.1 Describe basic emergency procedures used to respond to a hazardous spill.
 - B11.2 Explain how waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations including hazardous chemicals, biohazards, and radioactive materials.
 - B11.3 Adhere to the health care setting's waste management program (e.g., recycling and reduction of regulated medical, solid, hazardous, chemical, and radioactive waste materials).
 - B11.4 Apply protective practices and procedure for airborne and blood-borne pathogens for equipment and facilities and identify unsafe conditions for corrective action.
- B12.0 Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning.
 - B12.1 Understand scope of practice and related skills within prevention, diagnosis, pathology, and treatment occupations.
 - B12.2 Describe the various roles and responsibilities of health care workers as team members in an integrated health care delivery system
 - B12.3 Demonstrate the knowledge and delivery of specific skills and procedures as outlined within the scope of practice appropriate for patient care in prevention, diagnosis, pathology, and treatment.
 - B12.4 Follow appropriate guidelines for implementation of various procedures.
- B13.0 Research factors that define cultural differences between and among different ethnic, racial, and cultural groups and special populations.
 - B13.1 Utilize culturally appropriate community resources.
 - B13.2 Recognize complementary and alternative medicine as practiced within various cultures.
 - B13.3 Develop ethnographic skills, by location and information retrieval, carefully observe social behavior, and manage stress and time.
 - B13.4 Ask questions and explore aspects of global significance.
 - B13.5 Analyze data using relevant concepts.
 - B13.6 Know when and how to incorporate trained interpreters to facilitate communication and improve patient outcomes.



C. Health Care Administrative Services Pathway

Health care administrative workers include site administrators, managers, attorneys, receptionists, secretaries, billing and coding specialists, health informatics technicians, accountants, managers, and other knowledge workers that support the process of patient care. Health care administrative workers are the invisible backbone of health care; without appropriately skilled workers in these fields, health care systems simply could not function.

Sample occupations associated with this pathway:

-  Clinical Data Specialist
-  Ethicist
-  Medical Illustrator
-  Health Care Administrator

- C1.0 Understand health care systems as the organization of people, institutions, funding, and resources as well as the broad scope of operations in which health care services are delivered to meet the health needs of target populations.
 - C1.1 Understand the specific roles and responsibilities of health care workers, including the health care administrative role of leadership for individuals and the organization within a variety of health care delivery systems.
 - C1.2 Recognize the resources necessary for a health system (e.g., financial, health informatics, diagnostic equipment, pharmaceuticals, and other therapeutic resources).
 - C1.3 Recognize the different general methods of funding health care (e.g., out-of-pocket payments, health insurance, government funding, charities).
 - C1.4 Recognize major specific payment systems (e.g., Medicare, Medicaid, Workers Compensation).
 - C1.5 Recognize the varied vital roles that health care administrative workers serve in the health care process.
 - C1.6 Understand the full process of health care delivery (e.g., from patient illness or injury to recovery).
 - C1.7 Understand common U.S. models for structuring health care funding (e.g., Health Maintenance Organizations [HMOs], Preferred Provider Organization [PPOs], Managed Care Organization [MCOs], and Independent Physician Association [IPAs]).
 - C1.8 Diagram a selected health care organization.
- C2.0 Understand the various health care provider and support roles in patient care as an integrated, comprehensive health care system, to offer the very best options for treatment of patients.
 - C2.1 Recognize health care identifiers (e.g., National Provider Indicator [NPI], Drug Enforcement Administration [DEA] numbers, and Clinical Laboratory Improvement Amendments [CLIA] numbers).



- C2.2 Describe common medical record documentation formats (e.g., Subjective, Objective, Assessment, and Plan [SOAP] notes, admission notes).
- C2.3 Understand the major forms of health care interventions (e.g., preventive, curative, palliative).
- C2.4 Understand the difference between different patient care provider and support roles (e.g., health care administrator, clinical data specialist, health informatics technician, and billing and coding specialist).
- C3.0 Understand the overarching concepts of economic and financial management systems, system and information management, and the latest innovations in health care as they affect health care delivery.
 - C3.1 Understand the basics of business principles, systems thinking, and business management.
 - C3.2 Understand operational planning and management tools for performance and quality improvement.
 - C3.3 Understand development of financial statements, statement generation, reimbursement systems, costing process, measurement, and control.
 - C3.4 Execute financial mathematics, e.g., time value of money calculations, capital budgeting, return on investment, and project risk analyses.
 - C3.5 Perform differential reimbursement calculations by payers (e.g., Medicare/Medicaid, self-pay, managed care) and describe the major principles of health insurance.
 - C3.6 Understand and explain economic evaluation (e.g., cost benefit/cost effectiveness analysis).
- C4.0 Know the role and relationship of public policies and community engagement on the health care delivery system.
 - C4.1 Understand community needs and values and the role of external relations (e.g., demographic/population contexts for development and management of health care services).
 - C4.2 Comprehend and explain the legal and regulatory environment for health services.
 - C4.3 Recognize and explain quantity of health care services.
 - C4.4 Analyze public policy context and choices relating to specific health care delivery systems.
- C5.0 Understand and maintain standards of excellence, professional, ethical, and moral conduct required in management of personnel and policy within the health care delivery system.
 - C5.1 Understand the alignment of personal and organizational conduct management with ethical and professional standards.
 - C5.2 Know the organizational responsibility to the patient and community and a commitment to lifelong learning and improvement.



- C5.3 Practice the philosophy of respect for life and the need for a balance of benefit over harm resulting from any intervention.
- C6.0 Understand the dynamics of human relations, self-management, organizational, and professional leadership skills necessary within the health care administrative system.
 - C6.1 Identify leadership skills and explain their value to an organization.
 - C6.2 Understand image building and public relations techniques.
 - C6.3 Know and assess decision-making skills.
 - C6.4 Demonstrate effective teamwork and critical analysis applying conflict-resolution techniques.
 - C6.5 Examine the value of leadership skills, self-initiation, and confidence through personal reflection.
 - C6.6 Demonstrate parliamentary procedure skills through team activities.
 - C6.7 Describe human resource management and its importance to the successful operation of an organization.
- C7.0 Follow the model of medical safety practices and processes that can help prevent system medication errors and understand the consequences of mistakes.
 - C7.1 Recognize the major consequences mistakes in health care may cause (e.g., deaths, lawsuits).
 - C7.2 Recognize the critical nature of accurate and complete documentation (e.g., medical allergies, conflicting prescriptions).
 - C7.3 Identify patients accurately using appropriate strategies (e.g., continual verification).
 - C7.4 Delineate the process for assessing information required by patients, staff, and the community to determine the best course of action.
- C8.0 Understand the resources, routes and flow of information within the health care system and participate in the design and implementation of effective systems or processes.
 - C8.1 Describe an effective health care information system, including resources, routes, and flow of information.
 - C8.2 Enter information within the parameters of the information system. (e.g., entering appropriate data types in the appropriate fields).
 - C8.3 Follow security guidelines to protect patient data.
 - C8.4 Evaluate the effectiveness of health information systems and determine improvement strategies.
- C9.0 Use an electronic health care patient information system to optimize the acquisition, storage, retrieval, and use of information in health and biomedicine.
 - C9.1 File records using various methodologies (e.g., alphabetically, by patient record number).
 - C9.2 Enter information within the parameters of the information system. (e.g., entering appropriate data types in the appropriate fields).



- C9.3 Archive and purge documents following policies and regulatory guidelines.
- C9.4 Compose a rationale that compares and contrasts the relative advantages and disadvantages of paper versus electronic records.
- C9.5 Distinguish which type of documents must have hard copies retained, and which may be stored only in digital form.
- C10.0 Understand common file formats for document and medical imaging, digitizing paper records, and storing medical images.
 - C10.1 Understand basic document and medical imaging concepts (e.g., resolution, color-depth, compression).
 - C10.2 Understand common file formats for document and medical imaging (e.g., tagged image file format [TIFF], joint photographic experts group [JPEG], 2000).
 - C10.3 Demonstrate how to scan paper records.
 - C10.4 Calculate the approximate storage needs for digitized records and images.
 - C10.5 Attach digitized records and medical images to patient records.
- C11.0 Know how to schedule and manage appointments for providers.
 - C11.1 Understand prioritizing methods (e.g., first-come, first-served; emergency appointments; types of procedures).
 - C11.2 Recognize the logistical challenges of appointments (e.g., quality of care versus cost of care).
 - C11.3 Manage provider general schedules (e.g., what days and times providers are available).
 - C11.4 Understand how to schedule patient appointments for providers.
 - C11.5 Explain how to communicate the status of an appointment to the provider.
- C12.0 Understand how to use health information effectively.
 - C12.1 Recognize the major uses of health information (e.g., patient care, billing, research).
 - C12.2 Determine which data components are necessary for the successful completion of tasks.
 - C12.3 Formulate and report information clearly and concisely.
 - C12.4 Disseminate information to various audiences.
- C13.0 Understand the need to communicate health/medical information accurately and within legal/regulatory bounds across the organization.
 - C13.1 Determine which communication methods patients have approved (e.g., e-mail, phone, voicemails).
 - C13.2 Determine who has been approved for receiving patient communications beyond the patient (e.g., family members, lawyers).
 - C13.3 Communicate with patients compassionately, accurately, and effectively.
 - C13.4 Use information technology for mass communications (e.g., mail merge, e-mail, auto-dialers).



- C14.0 Understand how to transfer information to third-parties.
 - C14.1 Recognize the types of third parties that may need patient information (e.g., specialists, pharmacies, insurance companies).
 - C14.2 Understand the laws and regulations regarding the transfer of information to a third party (e.g., when a company is a covered entity, when a business agreement is required).
 - C14.3 Use various technologies to transmit information securely (e.g., fax, electronic and postal mail).
- C15.0 Code health information and bill payers using industry standard methods of classification of diseases, current procedural terminology, and common health care procedure coding system.
 - C15.1 Understand the basic concepts of accrual-based accounting (e.g., accounts payable, accounts receivable, credits, debits).
 - C15.2 Understand medical record documentation (e.g., chart notes, injections, medications, lab reports).
 - C15.3 Synthesize required information from a medical record and other medical documents for a variety of purposes upon regulatory or legal request.
 - C15.4 Translate code services (e.g., diagnostic procedures, surgeries) using industry standard methods (e.g., International Classification of Diseases-ninth Ed. [ICD-9], Current Procedural Terminology-fourth Ed. [CPT-4], Healthcare Common Procedure Coding System [HCPCS]).
 - C15.5 Demonstrate how to bill third-party payers (e.g., insurance companies, Medicare).
 - C15.6 Receive and process information from third-party payers (e.g., Explanation of Benefits [EOB], Remittance Advice).
 - C15.7 Audit and analyze coding done by others to determine proper billing.
- C16.0 Use a systematic method of continual process improvement.
 - C16.1 Learn new knowledge and skills regularly (e.g., on-the-job-training [OJT], continuing education).
 - C16.2 Discover new knowledge through primary research methodologies (e.g., experiments, surveys, data analysis).

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