

## PIPELINE DEVELOPMENT COUNCIL: PUBLISHED LITERATURE WORKING GROUP (PLWG)

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Organization	Role	Name
ABP	Past President	Karen Kaul, Co-Chair
APC	Executive Director	Priscilla Markwood
APC	Dir, Programs & Devlpt	Mel Limson
APC (PRODS)	PRODS Council Plus	Wesley Naritoku, Co-Chair
APC (PRODS)	PRODS Council Plus	Nadeem Zafar
ASIP	Past President	Daniel Remick
CAP	CPGA Chair	Donald Karcher
NAME	Past President	Kim Collins

With contributions from the PLWG, the list below is a compilation of publications (*publicly available resources*) as a starting point to develop an online directory of peer-reviewed and other articles, books and web-based content on:

- I. **Career Opportunities**
- II. **Workforce Trends**, and
- III. **The Future of Pathology Practice.**

To add contributions, please email: [info@apcprods.org](mailto:info@apcprods.org) for review by the PLWG.

### I. CAREER OPPORTUNITIES

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#### A. National organizations/professional associations, for example:

1. AAMC: Careers in Medicine: [www.aamc.org/cim/](http://www.aamc.org/cim/) (choose your specialty)
2. AMA FREIDA: [www.ama-assn.org/life-career/freida](http://www.ama-assn.org/life-career/freida) (residencies and fellowships)
3. APC: Opportunities in Pathology for Students: [www.apcprods.org/opportunities](http://www.apcprods.org/opportunities)  
*A compilation of pathology opportunities, such as high school and college summer internships, and post-sophomore fellowships for medical students.*
4. ASCP: Careers in the Medical Laboratory: [www.ascp.org/content/careers](http://www.ascp.org/content/careers)
5. ASIP:
  - a. Graduate Education in Pathology Programs: [asip.org/trainees/prods\\_programs.cfm](http://asip.org/trainees/prods_programs.cfm)
  - b. Career Development Resources: [asip.org/trainees/index.cfm](http://asip.org/trainees/index.cfm)
6. CAP Medical Student Forum:  
[www.cap.org/member-resources/residents/cap-for-medical-students](http://www.cap.org/member-resources/residents/cap-for-medical-students)
7. ICPI: Pathology: A Career in Medicine: [pathologytraining.org/a-career-in-medicine/](http://pathologytraining.org/a-career-in-medicine/)  
*Citations (pdf uploads) of ICPI presentation on Career Opportunities in Pathology:*  
[www.pathology.washington.edu/content/page-files/recruit.pdf](http://www.pathology.washington.edu/content/page-files/recruit.pdf)  
[www.ucdmc.ucdavis.edu/pathology/resource/PDF/ICPI\\_Why\\_Choose\\_Pathology\\_PPT\\_2013.pdf](http://www.ucdmc.ucdavis.edu/pathology/resource/PDF/ICPI_Why_Choose_Pathology_PPT_2013.pdf)
8. NAME: So You Want to be a Medical Detective?  
[www.thename.org/assets/docs/2f8ae9c9-39b0-49d2-a10f-5980e0770526.pdf](http://www.thename.org/assets/docs/2f8ae9c9-39b0-49d2-a10f-5980e0770526.pdf)

#### B. Local institutions, for example:

1. Univ of Iowa:
  - a. Pathology: A Career in Medicine  
[medicine.uiowa.edu/pathology/education/medical-student-education/pathology-career-medicine](http://medicine.uiowa.edu/pathology/education/medical-student-education/pathology-career-medicine)
  - b. Iowa's Medical Student Pathology Interest Group:  
<https://medicine.uiowa.edu/md/student-support/opportunities-growth/student-organizations/pathology-interest-group>
2. Univ of Rochester: [www.urmc.rochester.edu/pathology-labs/about-us/pathology-careers.aspx](http://www.urmc.rochester.edu/pathology-labs/about-us/pathology-careers.aspx)

### C. From a Google Search, “Career opportunities in pathology” or “Career in pathology”

1. (Journal literature) A career in pathology (UK)  
[www.bmj.com/content/338/sbmj.b629](http://www.bmj.com/content/338/sbmj.b629) (Child & Gupta, BMJ, 2009)
2. *Types of Careers Available in Pathology: Find Out if You Might Enjoy a Pathology Career*  
[www.verywellhealth.com/what-is-pathology-and-what-careers-are-available-1736275](http://www.verywellhealth.com/what-is-pathology-and-what-careers-are-available-1736275)
3. *From the College Board*  
[bigfuture.collegeboard.org/careers/health-diagnosis-treatment-pathologists](http://bigfuture.collegeboard.org/careers/health-diagnosis-treatment-pathologists)
4. *From Study.com*  
[study.com/articles/Medical\\_Pathologist\\_Job\\_Description\\_Salary\\_and\\_Career\\_Outlook.html](http://study.com/articles/Medical_Pathologist_Job_Description_Salary_and_Career_Outlook.html)

### D. Precollege targets/models (chronological)

1. Medical School Anatomy and Pathology Workshops for High School Students Enhance Learning and Provide Inspiration for Careers in Medicine  
<http://journals.sagepub.com/doi/full/10.1177/2374289516685323> (Acad Path, Zhang, 2016)
2. Pathology: A Satisfying Medical Profession  
<http://journals.sagepub.com/doi/full/10.1177/2374289516661559> (Acad Path, Xu & Remick, 2016)
3. Teaching High School Students About Pathology: Development of a Secondary School-Focused Enrichment Course in Pathology and Physiology.  
<https://academic.oup.com/ajcp/article/145/5/617/2195490> (AJCP, Rohr, 2016)
4. On being a pathologist: a pathway to pathology practice; the added value of supplemental vocational training and mentoring in college and medical school.  
<https://www.sciencedirect.com/science/article/pii/S0046817718303757?via%3Dihub>  
(Weinstein, Hum Pathol, 2018) *A unique “continuum” pathway that hybridizes vocational training with medical education.*
5. Seeing Is Understanding: Why Students Need Exposure to Radiology and Pathology (Doximity, 2019). *An Op-Ed by Yoo Jung Kim, a medical student.*  
<https://opmed.doximity.com/articles/seeing-is-understanding-why-students-need-exposure-to-radiology-and-pathology>
6. Dr. Strangelab...or, how I stopped worrying and learned to love pathology.  
<https://thepathologist.com/outside-the-lab/dr-strangelab> (Schubert, The Pathologist, March 10, 2020)

### E. Information for the General Public:

1. Australia: Know Pathology, Know Healthcare: <https://knowpathology.com.au/>

### F. Job Boards for Pathology positions (examples)

1. APC Job Board: [careers.apcprods.org](http://careers.apcprods.org)
2. ASCP Careers Board: [careers.ascp.org/jobs](http://careers.ascp.org/jobs)
3. ASIP Pathology Career Center: [www.pathologyjobstoday.org](http://www.pathologyjobstoday.org)
4. CAP Today: Career Center: [captoday-jobs.careerwebsite.com](http://captoday-jobs.careerwebsite.com)
5. JAMA Career Center: [careers.jamanetwork.com](http://careers.jamanetwork.com)
6. Pathology Outlines: [www.pathologyoutlines.com/jobs](http://www.pathologyoutlines.com/jobs)
7. USCAP Career Center: [careers.uscap.org](http://careers.uscap.org)

## II. WORKFORCE TRENDS (chronological)

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1. An Overview of United States Physician Training, Certification, and Career Pathways in Clinical Pathology (Laboratory Medicine). [www.ncbi.nlm.nih.gov/pubmed/27683436](http://www.ncbi.nlm.nih.gov/pubmed/27683436) (eJIFCC, Genzen, 2013) *Electronic Journal of the Int’l Federation of Clinical Chemistry*
2. Pathologist Workforce in the United States: I. Development of a Predictive Model to Examine Factors Influencing Supply  
[www.archivesofpathology.org/doi/abs/10.5858/arpa.2013-0200-OA?code=coap-site](http://www.archivesofpathology.org/doi/abs/10.5858/arpa.2013-0200-OA?code=coap-site)

- (Robboy, Archives, 2013)
3. The Pathologist Workforce in the United States: II. An Interactive Modeling Tool for Analyzing Future Qualitative and Quantitative Staffing Demands for Services  
[www.archivesofpathology.org/doi/10.5858/arpa.2014-0559-OA](http://www.archivesofpathology.org/doi/10.5858/arpa.2014-0559-OA) (Robboy, Archives, 2015)
  4. The Future of the Pathology Workforce  
[paperity.org/p/87807438/the-future-of-the-pathology-workforce](http://paperity.org/p/87807438/the-future-of-the-pathology-workforce)  
(column by Lewin in Critical Values, 2016...on ASCP outreach programs)
  5. The Pathologist Pipeline: Implications of Changes for Programs and Post-Sophomore Fellowships—Program Directors’ Section Perspective  
[journals.sagepub.com/doi/full/10.1177/2374289516646117](http://journals.sagepub.com/doi/full/10.1177/2374289516646117) (Naritoku & Timmons, Acad Path, 2016)
  6. Opportunity: Newly Created Physician-Scientist Research Pathway by the American Board of Pathology  
[journals.sagepub.com/doi/full/10.1177/2374289516632240](http://journals.sagepub.com/doi/full/10.1177/2374289516632240) (Remick et al, Acad Path, 2016)
  7. The Recent Pathology Residency Graduate Job Search Experience: A Synthesis of 5 Years of College of American Pathologists Job Market Surveys (Gratzinger et al, 2018)  
[www.archivesofpathology.org/doi/10.5858/arpa.2017-0207-CP](http://www.archivesofpathology.org/doi/10.5858/arpa.2017-0207-CP)
  8. The Job Market Outlook for Residency Graduates: Clear Weather Ahead for the Butterflies?  
<http://www.archivesofpathology.org/doi/abs/10.5858/arpa.2017-0540-ED> (Green et al, Archives, 2018)
  9. The Pathology Workforce and Clinical Licensure: The Role of the PhD Clinical Laboratorian in the United States.  
<http://journals.sagepub.com/doi/full/10.1177/2374289518775948> (Lorenz et al, Acad Path, 2018)
  10. **Subspecialties**
    - a. **Forensic Pathology** Fellowship Training Positions and Subsequent Forensic Pathology Work Effort of past Forensic Pathology Fellows  
[journals.sagepub.com/doi/full/10.23907/2011.043](http://journals.sagepub.com/doi/full/10.23907/2011.043) (Hanzlick & Haden-Pinneri, AFP, 2011)
    - b. The Future of the **Forensic Pathology** Workforce  
[journals.sagepub.com/doi/abs/10.23907/2015.058](http://journals.sagepub.com/doi/abs/10.23907/2015.058) (Collins, AFP, 2015)
    - c. How can we improve Science, Technology, Engineering, and Math education to encourage careers in Biomedical and **Pathology Informatics**?  
[www.ncbi.nlm.nih.gov/pubmed/26955500](http://www.ncbi.nlm.nih.gov/pubmed/26955500) (Uppal et al, J Pathol Inform, 2016)
  11. The State of the Job Market for Pathologists: Evidence From the College of American Pathologists Practice Leader Survey.  
<https://doi.org/10.5858/arpa.2019-0356-CP> (Gross et al, Archives, 2020)
  12. Pathologists Will Prevail.  
<https://doi.org/10.5858/arpa.2019-0680-ED> (Allen, Archives, 2020)
  13. Entry of Graduates of US Pathology Residency Programs Into the Workforce: Cohort Data Between 2008 and 2016 Remain Positive and Stable.  
<https://doi.org/10.1177/2374289520901833> (Timmons et al, Academic Pathology, 2020)
  14. Reevaluation of the US Pathologist Workforce Size.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2768341> (Robboy et al, Journal of the American Medical Association, 2020)
  15. Discrepancies in the Reporting of Pathology Workforce Data—Is Reevaluation Also Needed for Other Medical Specialties?  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2768281> (VandenBussche, Journal of the American Medical Association, 2020)

### III. THE FUTURE OF PATHOLOGY PRACTICE

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1. A National Agenda for the Future of Pathology in Personalized Medicine  
Report of the proceedings of a meeting at the Banbury Conference Center: Genome-Era Pathology, Precision Diagnostics and Pre-emptive Care: A Stakeholder Summit  
[academic.oup.com/ajcp/article/135/5/668/1765890](http://academic.oup.com/ajcp/article/135/5/668/1765890) (Tonellato, AJCP, 2011)
2. The Changing Face of Laboratory Medicine: A More Service and Less Academically Oriented Profession?  
[clinchem.aaccjnls.org/content/61/2/322](http://clinchem.aaccjnls.org/content/61/2/322) (Scott, Clin Chem, 2015)
3. National Academy of Medicine Report on Improving Diagnosis in Health Care  
[nationalacademies.org/HMD/Reports/2015/Improving-Diagnosis-in-Healthcare](http://nationalacademies.org/HMD/Reports/2015/Improving-Diagnosis-in-Healthcare) (2015)
4. The Future of Anatomic Pathology – 2 Possible Outcomes and More  
[tissuepathology.com/2017/01/31/the-future-of-anatomic-pathology-2-possible-outcomes-and-more/#axzz5So7yGBVm](http://tissuepathology.com/2017/01/31/the-future-of-anatomic-pathology-2-possible-outcomes-and-more/#axzz5So7yGBVm) (Kaplan, TissuePathology.com, 2017)
5. The Future of Pathology and Laboratory Medicine—Again  
[academic.oup.com/ajcp/article-abstract/150/2/93/5036822](http://academic.oup.com/ajcp/article-abstract/150/2/93/5036822) (Wilson, AJCP, 2018)
6. The Digital Future of Pathology  
[medicalfuturist.com/digital-future-pathology](http://medicalfuturist.com/digital-future-pathology) (The Medical Futurist, 2018)
7. So You Want to be a Pathologist... (The Pathologist interview with Nadeem Zafar and Jennifer Baccon, 2018): [thepathologist.com/issues/0518/so-you-want-to-be-a-pathologist/](http://thepathologist.com/issues/0518/so-you-want-to-be-a-pathologist/)  
*[discusses preparing for challenges in pathology and the need to leverage training on rapidly evolving technology]*