ABVD: OLD, BUT GOLD?

THE EVOLUTION FROM ABVD TO IMMUNOTHERAPY IN HODGKIN LYMPHOMA

By Victor Lisboa, MD

Hodgkin lymphoma (HL) is a rare malignancy, accounting for about 10% of lymphoma cases in the U.S. Its higher incidence in young adults and high curability have made it a focus of extensive research.[1]

First described in 1832 by British pathologist Thomas Hodgkin, HL is characterized by lymphadenopathy and systemic "B" symptoms such as fever, night sweats and weight loss.[2] Its defining neoplastic cells, first detailed by Carl Sternberg and Dorothy Reed in the early 1900s and later named Reed–Sternberg cells, were subsequently shown to originate from B lymphocytes.[3] This review will focus on classical HL, which represents the majority of cases.[4]

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Despite advances in understanding its biology, effective therapy remained elusive for more than a century. Surgery and radiotherapy offered only transient benefit, and most patients ultimately died of the disease.

The introduction of combination chemotherapy marked the first major advance, producing durable remissions but with significant toxicity. Subsequent refinements improved both efficacy and tolerability, establishing long-term cure for many patients and laying the foundation of modern management.

In the sections that follow, we trace this therapeutic evolution — from the earliest treatment approaches to the development of targeted agents and immunotherapies that are reshaping the therapeutic landscape.

ABVD quickly became the gold standard and has maintained this role for decades. It achieved high progression-free survival (PFS) rates, with outcomes varying by stage: ~90% for stages I/II and 60-70% in advanced stages III/IV at five years.

TREATMENT HISTORY AND THE ABVD ERA

After unsuccessful attempts with nodal radiotherapy alone in the 1950s and 1960s — causing significant toxicity from extensive irradiation and large doses — researchers turned to combination chemotherapy.

The main pre-ABVD regimens were MOPP (mechlorethamine, vincristine, procarbazine, prednisone) and ChlVPP (chlorambucil, vincristine, prednisone, procarbazine). Although these regimens produced better outcomes than radiotherapy, they were also associated with significant short- and long-term adverse effects.[5,6]

In 1975, Bonadonna et al. published a landmark study in Cancer Chemotherapy Reports comparing ABVD (doxorubicin, bleomycin, vinblastine, dacarbazine) with MOPP for the treatment of HL. ABVD induced complete remission in approximately 75% of patients — similar to MOPP — but with a more favorable toxicity profile.[7] Subsequent studies confirmed the efficacy and safety of ABVD, including its effectiveness in combination with radiotherapy in select early-stage patients.

Thus, ABVD quickly became the gold standard and has maintained this role for decades. It achieved high progression-free survival (PFS) rates, with outcomes varying by stage: ~90% for stages I/II and 60-70% in advanced stages III/IV at five years. The major toxicities of this regimen include pulmonary toxicity from bleomycin, doxorubicin-related cardiac toxicity and infertility risk associated with dacarbazine.[8]

ADVANCES IN INTENSIFIED REGIMENS

In pursuit of improved outcomes in advanced-stage HL, the German Hodgkin Study Group investigated intensified chemotherapy regimens. The HD9 study compared ABVD, standard BEACOPP, and escalated BEACOPP (eBEACOPP), reporting 10-year freedom from treatment failure rates of 64%, 70%, and 82%, respectively, with overall survival (OS) rates of 75%, 80%, and 86%.[9]

Notable drawbacks of BEACOPP include high rates of hematologic toxicity, prolonged high-dose corticosteroid exposure and infertility associated with procarbazine. These limitations raised questions about whether ABVD alone was sufficient for advanced-stage patients, despite its more favorable toxicity profile.

THE NEW ERA OF ANTIBODIES AND IMMUNOTHERAPY

Because of BEACOPP's significant toxicity, researchers accelerated efforts to identify strategies that could sustain efficacy while reducing adverse events. In this context, PET-adapted therapy studies emerged, testing cycle and drug reductions (e.g., RATHL trial) with notable success.[10,11]

Still, the true turning point in HL

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management came with the emergence of targeted agents and immunotherapies. Landmark studies in this era include ECHELON-1, which introduced brentuximab vedotin plus AVD, BrECADD, designed to preserve high efficacy while reducing treatment-related toxicity compared with escalated BEACOPP, and SWOG S1826 (Nivo + AVD), which incorporated the PD-1 checkpoint inhibitor nivolumab.

Brentuximab Vedotin (BV): BV is composed of an anti-CD30 monoclonal antibody conjugated to a cytotoxic agent called monomethyl auristatin E, a potent microtubule inhibitor. It was initially studied in relapsed/refractory HL, including as post-autologous stem cell transplant consolidation[12,13] and as part of pretransplant salvage therapy.[14] Subsequently, BV was evaluated in earlier treatment settings, ultimately advancing to frontline therapy.

The ECHELON-1 trial compared BV plus AVD (A + AVD) with ABVD in patients with stage III/IV classical HL. Two-year PFS was 82% with A+AVD vs. 77% with ABVD (HR 0.77), representing a 23% reduction in treatment failure risk. At six years, PFS remained superior with A + AVD (82.3% vs. 74.5%; HR 0.68; 95% CI, 0.53-0.86). And, for the first time in decades, a significant OS benefit was observed (93.9% vs. 89.4%; HR 0.59; 95% CI, 0.40-0.88; p=0.009).[15,16]

Limitations of A+AVD include higher rates of peripheral neuropathy and neutropenia, as well as reduced efficacy in patients >60 years, partly due to reduced tolerance.[15,16]

HD21 (BrECADD) and SWOG S1826: More recently, two pivotal phase 3 trials were highlighted at the 18th International Conference on Malignant Lymphoma (ICML 2025): HD21 (BrECADD) and SWOG S1826 (Nivo+AVD).[17,18]

The HD21 study compared PET-guided BrECADD with PET-guided eBEACOPP in adults with advanced HL (IIB with risk factors, III and IV). BrECADD incorporated BV, omitted bleomycin to avoid pulmonary toxicity and vincristine to reduce neuropathy, replaced procarbazine with dacarbazine to lower gonadotoxicity, and shortened corticosteroid exposure (prednisone for 14 days replaced by dexamethasone for four days).

HL therapy is shifting from traditional chemotherapy toward biologically driven and immunomodulatory approaches. Emerging tools such as refined prognostic models, PET/CT metrics and biomarkers are enabling more individualized risk assessment.

Four-year PFS was 94.3% with BrECADD vs. 90.9% with eBEACOPP (HR 0.66; 95% CI, 0.45–0.97; p=0.035), representing a 34% relative reduction in the risk of progression or death. Four-year OS was similarly high in both groups (98.6% with BrECADD vs. 98.2% with eBEACOPP).

Importantly, BrECADD substantially reduced treatment-related morbidity (42% vs. 59%; relative risk 0.72; 95% CI, 0.65–0.80; p<0.0001). As 64% of patients in both arms achieved PET negativity after two cycles, most received only four cycles total (12 weeks). HD21 therefore established BrECADD as a highly effective, less toxic alternative for adults aged 18 to 60 with advanced HL.[17]

The SWOG S1826 trial (Ansell et al., *NEJM* 2024; Evens, ICML 2025) compared nivolumab + AVD (N + AVD) with BV + AVD in nearly 1,000 patients ≥12 years with newly diagnosed advanced HL (stage III–IV).

Two-year PFS favored N + AVD (92% vs. 83%; HR 0.45; 95% CI, 0.30–0.65). Among patients >60 years, results were particularly striking: two-year PFS was 89% with N + AVD vs. 64% with BV + AVD (HR 0.24; p=0.001), and OS was 96% vs. 85% (HR 0.16; p=0.005). While OS data for the overall population remain immature, these subgroup findings highlight the superior efficacy and tolerability of N + AVD, especially in older patients.[18]

FUTURE PERSPECTIVES/CONCLUSION

HL therapy is shifting from traditional chemotherapy toward biologically driven and immunomodulatory approaches. Emerging tools such as refined prognostic models (EIPI and AIPI), PET/CT metrics like Total Metabolic Tumor Volume, and biomarkers including circulating tumor DNA are enabling more individualized risk assessment.

When combined with novel strategies such as anti-CD30 agents with checkpoint inhibitors, these advances hold promise for higher cure rates with reduced acute and late toxicities.

A critical global challenge remains ensuring equitable access to innovative therapies given their high cost. Physicians and care teams must continue to advocate for broad accessibility so that every patient, regardless of geography, has an equal opportunity for cure.

While celebrating scientific advances, the ultimate goal is to translate progress into durable cures for all patients.

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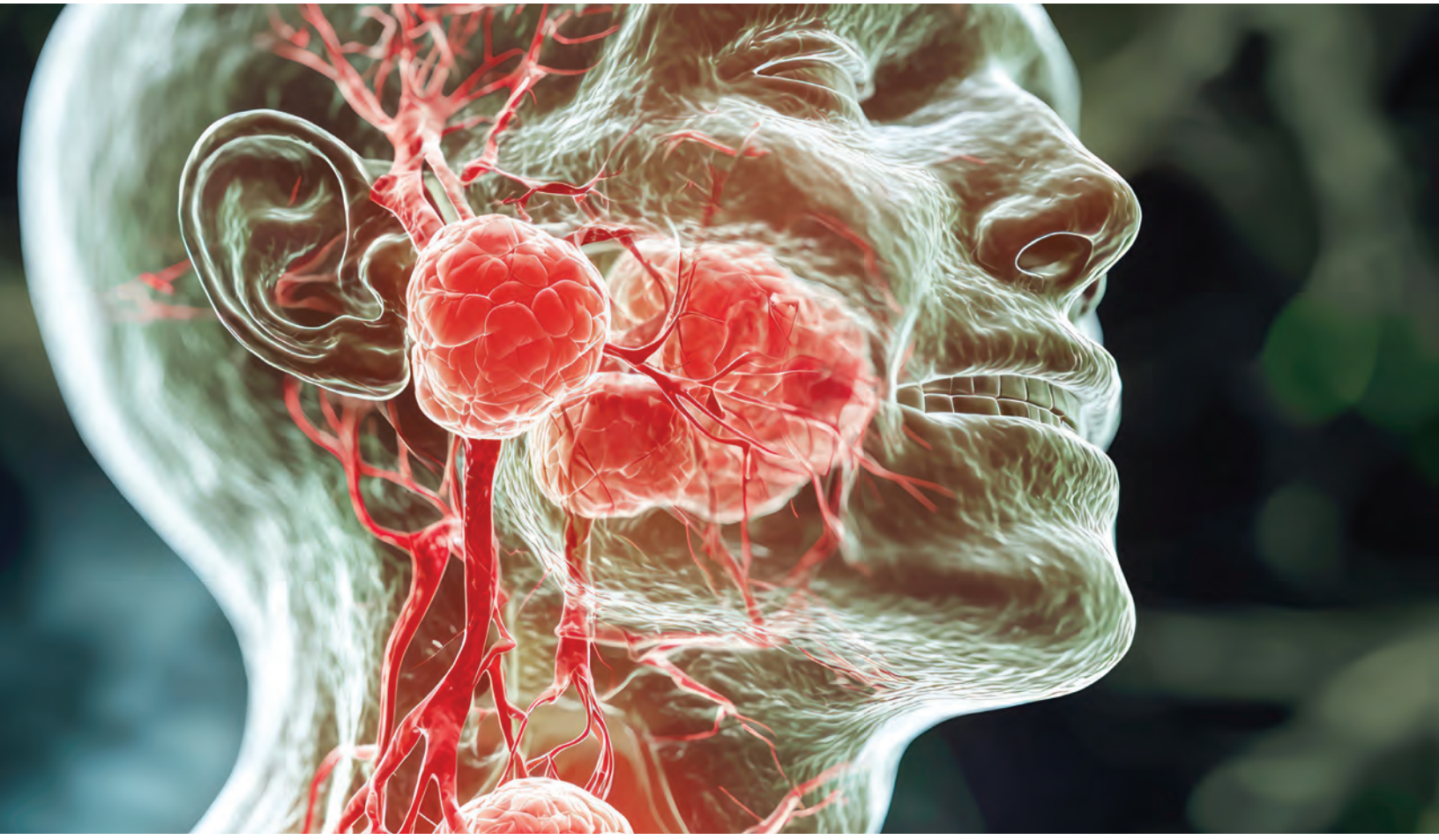

A medical illustration of Hodgkin lymphoma affecting lymph nodes.

TEACHING EVIDENCE-BASED PRACTICE EARLY CAN TRANSFORM PHARMACY

By Imane El Moussaoui & Khalid El Bairi, MD

Every day, patients walk into pharmacies with more than prescriptions — they bring questions, fears and unmet needs. Yet pharmacists are too often confined to the role of dispensers rather than recognized as frontline problem-solvers.

Imagine if, instead, pharmacists were equipped to integrate the best available research-based evidence with their clinical expertise to guide real-time decisions. That is the promise of Evidence-Based Pharmacy (EBPharm).

Unfortunately, while some countries have already incorporated this important field into their curricula, many underresourced regions of the globe continue to face significant challenges in providing such training to future pharmacists. In this paper, we explore potential alternative approaches for introducing this training into pharmacy education, offering insights from a student perspective.

THE RISE OF EVIDENCE-BASED PRACTICE IN PHARMACY

In essence, EBPharm is the conscientious use of current high-quality evidence and clinical expertise in making decisions to enhance patient care.

By embedding EBPharm and foundational research training from the first year of pharmacy school, we can graduate pharmacists who not only follow procedures but also generate solutions to emerging problems.

Since the 1990s, Evidence-Based Practice (EBP) has been introduced and gained momentum, championed by key figures such as David Sackett, MD, MSc, DSc, and Gordon Guyatt, professors of medicine and clinical epidemiology at McMaster University.[1]

WHY PharmD STUDENTS MUST LEARN RESEARCH FROM DAY ONE

Imane El Moussaoui

Khalid El Bairi

Its rise was driven by the ongoing evolution of modern healthcare, shifting from tradition-based practice to decision-making that integrates individual clinical expertise with the best available evidence from observational and interventional studies. Over time, EBP expanded into other clinical fields such as nursing. By the 2000s, it was adopted in pharmacy as well.

Despite its long history, the commitment to implementing EBPharm early in pharmacy training has only recently gained momentum. This movement received further support from the Accreditation Council for Pharmacy Education, which in 2016, updated its accreditation framework to embed EBP as a core competency for mastering scientific methods and understanding research design, thereby directly impacting pharmacy practice.[2]

Recommendations urged pharmacy schools to embed research training — such as biostatistics and methodology — into the PharmD curriculum, equipping students with critical thinking and lifelong learning skills.[3]

This training has shown tangible benefits. In fact, a study confirmed that the development of an elective EBP course was an effective method in developing PharmD students' EBP skills.[4]

Through these courses, students learn to formulate focused and searchable clinical questions using the Patient/Population, Intervention, Comparison & Outcome framework; conduct efficient literature searches to retrieve research evidence; evaluate the relevance and clinical significance; and integrate it with patient perspectives and clinical expertise in daily practice.

A recent systematic review and meta-analysis of 33 studies involving 9,722 providers assessed EBP among healthcare providers in Africa by analyzing information sources, implementation levels and influencing factors.[5]

The findings showed that low- and middle-income countries (LMICs) face barriers such as lack of support, resistance to change, poor communication and limited integration of EBP into continuing education. These challenges highlight the urgent need for systemic changes to strengthen the adoption and sustainability of EBP.

EARLY INTEGRATION OF EBP IN PHARMACY EDUCATION AND TRAINING

Engaging in EBP training — through lectures, workshops and evaluating clinical cases — empowers the interest of students as they become aware of its importance in the pharmaceutical field. Thus, they develop the habit of approaching every clinical question with critical thinking and evidence-based reasoning, regularly consulting evidence updates earlier during their training.

Furthermore, they become more interested in research as they develop their scientific curiosity by analyzing research publications in the field of pharmacy.

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Active learning–based courses on Evidence-Based Practice (EBP), developed at the Faculty of Medical Sciences at Mohammed VI Polytechnic University in Morocco, target medical, pharmacy and nursing students.

EVIDENCE-BASED PRACTICE

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At our institution in Morocco, this approach has already been embraced. As first-year pharmacy students, we were introduced early to EBP and research through active-learning courses on medical library skills and research methodology (**see above photograph**).

We learned to navigate scientific databases, develop evidence-based research questions and synthesize findings with our mentor. At the end of this course, we presented our evidence-based approaches.

This initiative demonstrates how early EBP exposure can cultivate a generation of future doctors who will make evidence-based decisions in implementing the best treatment plans for patients, as demonstrated in other parts of the world.[6]

More importantly, these courses included not only pharmacy students but also medical students, who worked together to address practice issues through multidisciplinary thinking and collaborative decision-making. This year, nursing students will also be included in the program, making it more inclusive and holistic in preparing us to better care for our future patients.

A LONGITUDINAL PHARMD–PHD TRACK FOR STRENGTHENING EBP IN LMICS

A longitudinal PharmD-PhD track designed to gradually immerse pharmacy students in research from their first year through advanced doctoral training represents an important vision for addressing the lack of EBPharm in LMICs (**see CHART 1 on next page**). The program progresses in three major steps, each anchored by mentorship and hands-on research experiences, and can be adapted to most countries that offer a six-year PharmD program, including LMICs.

STEP 1: EARLY EXPOSURE PHASE (YEARS 1-2)

Students are introduced to the foundations of research. They learn how to navigate medical library systems, access research resources and explore science journalism to strengthen their ability to communicate scientific ideas. During the summer, they participate in short observerships with research teams in academic hospitals or laboratories, giving them their first practical encounter with real-world inquiry. This stage is designed to spark curiosity and cultivate awareness of the role of research in modern pharmacy practice.

RESEARCH SKILL-BUILDING (YEARS 3-4):

At this stage, students acquire methodological competence. They take structured courses in research methodology, participate in journal clubs, and engage in EBPharm discussions. Students also begin developing research projects adapted to local healthcare needs that require minimal funding, such as cross-sectional studies.

Their summer commitments evolve into structured research internships, enabling them to apply newly acquired skills in a supervised environment. Mentorship remains central, with tailored guidance to help students build both confidence and competence. This can be facilitated through volunteer mentors from pharmacy societies such as NCODA, which can connect young students with experienced pharmacists from the U.S., Canada, or other countries with long traditions of pharmacy innovation.

ADVANCED RESEARCH AND PHD INITIATION (YEARS 5-6)

By the time students approach their PharmD thesis, they are prepared to transition from student researchers to emerging scholars. They receive advanced, project-specific training in research methods, and this stage marks the official predoctoral start of the PhD program while still completing their PharmD

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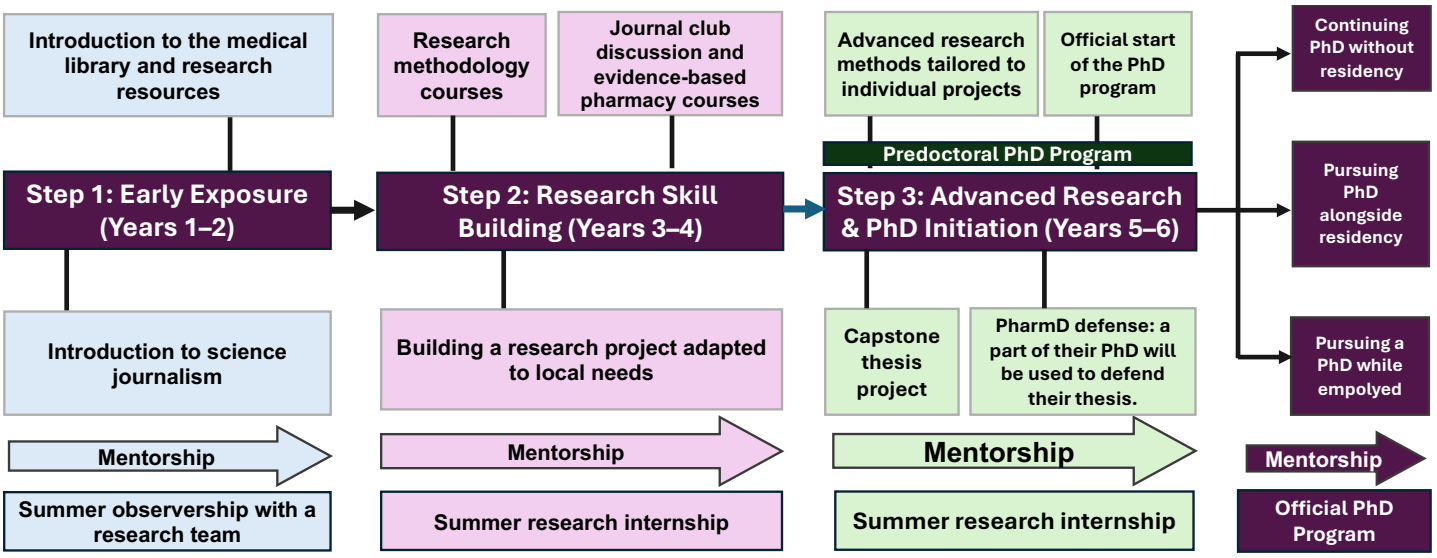
CHART 1: A PROPOSED VISION FOR INTEGRATING RESEARCH INTO THE PharmD CURRICULUM



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thesis. Deliverables include a capstone thesis project and a formal defense, which overlap with broader PhD requirements. Extended summer internships and close mentorship further strengthen their identity as clinician-researchers.

TRANSITION TO PHD

Upon entering the predoctoral PhD program, students have flexible options. Some may pursue the PhD full-time after graduation, while others may combine it with residency training or professional employment. This flexibility ensures diverse career paths remain open and academic rigor is maintained.

Across all phases, the program emphasizes continuity of mentorship and sustained immersion in active research environments. Rather than postponing research until postgraduate years, it progressively builds skills and responsibilities from the very beginning of the PharmD journey, ensuring that graduates are not only competent clinicians but also capable of generating and applying high-quality evidence to improve patient care.

However, this PharmD–PhD vision may face threats such as funding shortages, weak infrastructure and resistance to change, which could hinder progress. Yet LMICs are increasingly recognizing that research is essential for improving healthcare. Gradual curricular reforms, therefore, offer a practical pathway to overcome these barriers and sustain the programs in LMICs.

WHY EBP IMPLEMENTATION IN LMICS MATTERS NOW

EBP's benefits are not limited to the theoretical level. In practice, implementation saves lives and improves patients' outcomes.

For example, in British Columbia in Canada, community pharmacists developed an evidence-based asthma care program into action, focusing on patients' medications, adherence and potential side effects.[7] The results were quite impressive: Patients' symptom scores dropped by half and peak flow readings increased by 11%. People reported feeling healthier, needed fewer rescue medications, and experienced a better overall quality of life.[7]

This example highlights how introducing EBP in the pharmacy field can advance healthcare systems. The ability to critically appraise and apply evidence is not optional but essential. Training in EBP equips pharmacists to evaluate drug efficacy and safety, assess risks and economic implications, and develop practical strategies[8] to improve patient adherence along with collaborations with medical doctors and nurses, which are all challenges LMICs still face to date.

Pharmacy is rapidly evolving with emerging technologies such as artificial intelligence (AI) for drug discovery and precision medicine. This creates a unique opportunity to embrace these innovations and address the challenges and possibilities of modern pharmaceutical advancements by integrating EBP early into pharmacy education in regions that didn't benefit from such advances before.

This will also prepare PharmD students to handle the never-ending innovations in their field and keep up with latest advances in healthcare. Some might argue that pharmacy students are already drowning in heavy coursework, why burden them with more?

It is true that the pharmacy program is demanding with chemistry, pharmacology, biochemistry, botany and other courses. However, dedicating supplementary hours for EBP training tailored to the field of pharmacy would not overload the curriculum nor would it take any hours or replace another module. Moreover, EBP courses would offer a different learning experience. Students would get active, learning-based training as well as lectures.

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It helps students connect with future careers, especially in the first years focused on building foundations. Furthermore, some argue that not all LMICs have the resources to implement EBP in PharmD curricula.

In high-income countries such as the U.S., UK, and Australia, however, EBP is usually integrated, often through dedicated courses and hands-on research projects where students apply evidence-based skills. Despite facing challenges in introducing EBP early in pharmacy training — such as outdated curricula, insufficient faculty training, and reluctance from professional councils to update programs — LMICs should not allow these barriers to stand in the way of progress.

Even with limited resources, students can be effectively introduced to EBP through mentorship-based approaches and distance education, taking advantage of free online courses and webinars offered by scientific societies such as NCODA and other organizations.

Globalizing access to training materials is essential to reduce inequities and ensure that the latest evidence is available to improve patient care. Morocco and Ethiopia provide a clear example that, despite resource limitations, health institutions have actively promoted and encouraged the integration of EBP into pharmacy school curricula.

A recent study among health professionals in public hospitals found that, although the utilization of EBP remains limited, it has a significant positive impact on patient outcomes, clinical effectiveness and overall healthcare quality.[9] Thus, advocating for the inclusion of EBP in healthcare professionals' training should be a daily commitment for all of us.

Recognizing the importance of EBP is only the first step and ensuring its early inclusion in pharmacy education remains an unmet need. A structured approach is therefore essential. From the first year through graduation, an EBP module should be mandated. Such a module would teach the core principles of EBP, guide students in conducting research projects, and support them in completing their final-year thesis, equipping them with the skills and habits necessary for effective patient care and a successful pharmacy career.[10]

Although EBP may seem like a solitary learning process, it is not. Pairing PharmD students with mentors, practicing pharmacists, or communities of practice enables them to benefit from supervision, shared knowledge and coaching. Such mentorship fosters early mentor–mentee relationships that not only support research activities but also strengthen students' professional development.

This experience is particularly valuable for those considering a PhD after graduation, as mentors serve as both guides and compasses, helping students navigate the complexities of research and career growth.

Pharmacists become effective problem-solvers through early and comprehensive training in EBP. By building these skills from the outset, they are better prepared to critically evaluate evidence, remain current with emerging findings from clinical trials, and translate this knowledge into clinical decision-making. This not only enhances the quality of care they provide but also builds patient trust, as treatment decisions are grounded in the best available evidence.

FINAL TAKEAWAY

The profession of pharmacy in LMICs is evolving and now stands at a crossroads. It can either continue to rely on tradition and established routines, or it can fully embrace the principles of EBP and modernize. Choosing the latter means fostering a culture of continuous learning, innovation and adaptability, qualities essential to meeting the demands of an ever-changing healthcare system. Ultimately, the future of patient care and the sustainability of healthcare itself depend on whether pharmacy moves beyond tradition and firmly commits to evidence.

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JASPO & NCODA: EAST MEETS WEST

AN EVOLVING SYNERGY AMONG INTERCONTINENTAL HEALTHCARE PROFESSIONALS

By Shinya Suzuki, PhD, BCOP-JSPHCS

Shinya Suzuki (third from right), a board member of JASPO, is a member of NCODA's International Executive Council.

The Japanese Society of Pharmaceutical Oncology (JASPO) recently reached a Memorandum of Understanding (MoU) with NCODA this Fall.

I have been on the board of directors of JASPO, which has more than 6,000 members in Japan, since 2016. Board members are elected by vote. A young pharmacist at the time, I ran for election — and won — on a platform of expanding international exchange within JASPO. I feel that signing the MoU with NCODA is one of the outcomes of this effort.

When I became a new board member of JASPO, the main initiative was the establishment of an international study tour program for our members. The first program was delayed because of the COVID-19 pandemic, which disrupted international communication.

Shinya Suzuki

However, in 2022, JASPO held its first international visiting program, and I served as the first director and visited New York. The program was conducted at Touro College of Pharmacy (TCOP), Memorial Sloan Kettering Cancer Center (MSK), and New York Oncology Hematology Cancer Center (NYOH), a member practice of NCODA.

This was my second visit to MSK, as I had previously visited in 2015 as part of the Japanese Society of Hospital Pharmacists international visiting program. Unfortunately, the program only included a half-day visit to medical institutions, which was not a very satisfying experience.

I first met Nelly Adel, PharmD, BCOP, BCPS, who coordinated my visit to MSK, at a lecture in Japan. She later invited me to an MSK party at the American Society of Health-System Pharmacists Midyear Meeting in Los Angeles. This connection led to TCOP, which Adel later chaired, being included in the JASPO international training program.

In 2018, my team invited Larry W. Buie, PharmD, BCOP, from MSK to give a lecture at JASPO 2018 annual conference in Yokohama. That connection led to the international training at MSK.

In June 2022, just as overseas travel restrictions due to COVID-19 were beginning to ease, I had the opportunity to conduct a session on oral anticancer drug management with Natasha Khrystolubova, RPh, BCOP, at the European Congress of Oncology Pharmacy. NCODA Executive Director Michael Reff, RPh, MBA, and Chief Operating Officer Stephen Ziter, MBA, were in attendance.

This was my first encounter with the NCODA, and through this session, we discovered that JASPO's goal of multidisciplinary management of anticancer drugs in community-based healthcare aligned with the NCODA's objectives.

This led to a visit to NYOH, an NCODA member practice, in addition to MSK. This overseas training program, conducted for three consecutive years, is scheduled to take place again this year in November.

In addition to this overseas training, I am fortunate to be a member of the NCODA International Executive Council (IEC), where I participate in NCODA activities, although my contribution is small.

I met IEC leader Marko, Skelin, MPharm, PhD, at an oncology pharmacy conference in 2016 in Croatia. I am grateful that it was through this connection that I had the opportunity to join IEC.

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JASPO

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As the international affairs officer for JASPO, I have faced many obstacles and failures, and there have been sad moments. However, I am grateful that all these efforts have miraculously come together.

I also want to convey to NCODA members both in the U.S. and abroad that people and environments are constantly changing. International visiting programs are a panacea for understanding and feeling the differences in culture, systems, medical authorities, knowledge and skill levels. They are important opportunities, especially for people pursuing their careers and seeking to improve the status quo. On behalf of JASPO, I would like to express my gratitude to all.

Every time I attend an international conference, I realize that the challenges faced by different countries are similar.

For example, molecular targeted anticancer drugs, including immune checkpoint inhibitors, are revolutionizing cancer treatment worldwide.

Ambulatory cancer treatment in Japan places a burden on community pharmacists. Therefore, there is a need to develop community pharmacists, enhance the skills of hospital pharmacists, and strengthen collaboration between hospitals and community pharmacies.

According to 2011 data, prescription interventions for injection anticancer drugs by hospital pharmacists in Japan were checked almost 100%.[1,2] However, oral anticancer drugs could not be checked by hospital pharmacists in both specialized hospitals and nonspecialized hospitals (inpatient, 56% vs. 66%), and outpatient treatment is particularly vulnerable (outpatient, 11% vs. 17%).[2]

Even though the role of community pharmacists in managing oral anticancer drugs is important, it was clarified that only 6% to 10% of respondents felt that they had received adequate education in oncology or oral chemotherapy, according to a 2014 survey in Japan.[3]

Members of the JASPO International Visiting Training Program and NCODA toured Hematology-Oncology Associates of Central New York in November 2024.

Currently, national healthcare policies aimed at addressing weaknesses in collaboration between hospitals and community pharmacies, and in community pharmacists' knowledge and skills, are being implemented in Japan, and JASPO plays a role in this effort.

The Japanese government increases healthcare reimbursement fees for more essential medical procedures, while also advancing policies to promote community healthcare, such as multidisciplinary collaboration and patient interventions by outpatient pharmacists with specialized certification. I believe that through these policies, ambulatory cancer treatment in Japan has evolved year by year, and its safety has improved.

As the vice-chairman of the certification committee for specialized pharmacists in ambulatory cancer treatment, I deeply recognize the significance of this role. NCODA continues its activities to overcome barriers to multidisciplinary collaboration and treatment.

The pharmacists who participated in the international visiting program have been greatly inspired by the experience and are applying it to their subsequent activities.

One of my dreams is to improve healthcare by having the people cultivated through this initiative come together to plan larger-scale activities.

I believe that through collaboration with NCODA, we can contribute further to cancer patients in Japan and expand NCODA's activities in Asia.

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