Ghana Pharmaceutical Journal 26 (2026) Suppl. S1, S1–S24

Contents lists available at GPJ Online (Open Journal Systems)

Ghana Pharmaceutical Journal

journal homepage: https://ghanapharmaceuticaljournal.com

Official journal of the Pharmaceutical Society of Ghana

Selected Abstracts from the PSGH AGM 2026 Scientific Session

PSGH Scientific Review Committee

Pharmaceutical Society of Ghana, The Pharmacy Centre, Off the Spintex Road, Baatsonaa, Accra, Ghana
90th Anniversary Annual General Meeting and Scientific Conference, Accra, Ghana, 22–27 September 2026

ARTICLE INFO

Keywords:
Ghana
Pharmacy practice
Antimicrobial stewardship
Medicine quality
Pharmaceutical care
Conference abstracts

ABSTRACT

This supplement presents the abstracts selected for the scientific sessions of the 90th Anniversary Annual General Meeting and Scientific Conference of the Pharmaceutical Society of Ghana (PSGH), held in Accra in September 2026 under the theme "Science. Impact. Legacy. 90 Years of Pharmaceutical Excellence." Thirty-six abstracts, selected by the Scientific Review Committee for oral and poster presentation, report original work from teaching hospitals, district health services, community pharmacies, regulatory and public health programmes, and universities across Ghana. The largest group addresses antimicrobial stewardship, including antibiotic prescribing audits using WHO AWaRe and WHO/INRUD indicators, local antibiogram development, and stewardship programmes and training for clinicians and pharmacists. A second group assesses the quality of medicines on the Ghanaian market, chiefly through validated reverse-phase HPLC and pharmacopeial testing of cardiovascular, antidiabetic and antibiotic products. Other contributions cover medication safety and pharmacist-led interventions, malaria commodity security and supply chain integrity, expanded community pharmacy services (STI testing, hypertension screening, vaccination and adherence support), oncology outcomes and pharmacogenomics, mental health, regulatory confidentiality law, and the effects of illegal mining on the pharmaceutical sector. Together, the abstracts document the growing contribution of pharmacists to patient safety, medicine quality and health system strengthening in Ghana, and identify priorities for policy, practice and further research. Abstracts are published as accepted by the Scientific Review Committee and have not undergone full peer review.

Editor: Dr. Harry Amoaning Okyere (PharmD, MPH), Pharmaceutical Society of Ghana, Accra, Ghana.

https://doi.org/10.68768/gpj202603

Conference held 22–27 September 2026; Available online 05 October 2026

© 2026 Published by the Pharmaceutical Society of Ghana. This is an open access supplement under the CC BY-NC-ND licence (https://creativecommons.org/licenses/by-nc-nd/4.0/)

Publishing information

This supplement to the Ghana Pharmaceutical Journal is published by the Pharmaceutical Society of Ghana (PSGH), Off Victory Bible Junction, Spintex Rd, Accra.

Original material in this supplement may be reproduced with permission from the publisher, provided that:

1. The material is not reproduced for sale or commercial gain;
2. The author(s) is duly informed; and
3. The material is clearly identified as originating from *Selected Abstracts from the PSGH AGM 2026 Scientific Sessions, Ghana Pharmaceutical Journal 26 (2026) Suppl. S1*, and the author(s) duly acknowledged.

The authors take full responsibility for the content of their abstracts and affirm that the work submitted is original. Authors also confirm that all collaborators have consented to the submission of the abstract to the PSGH Conference. The views expressed in the abstracts are those of the individual authors and do not necessarily reflect those of the editors, reviewers, or the Pharmaceutical Society of Ghana. Abstracts were selected by the Scientific Review Committee and are published as accepted; they have not undergone full peer review.

How to cite this supplement

Selected Abstracts from the PSGH AGM 2026 Scientific Sessions. Ghana Pharmaceutical Journal 26 (2026) Suppl. S1, S1–S24.

How to cite an individual abstract

[Author Surname, Initials], Assessment of research thesis publication rates among graduates from postgraduate colleges of pharmacists in Ghana [Abstract PSGH 02], in: Selected Abstracts from the PSGH AGM 2026 Scientific Sessions, Ghana Pharmaceutical Journal 26 (2026) Suppl. S1, S5.

Abstracts selected for the PSGH AGM 2026 scientific sessions (n = 36)

Abstract	Title	First author	Page
PSGH 01	Public Health in Community Pharmacy: A Scoping Review of Pharmacist's and Client's Perspectives on STI Screening and Testing in Africa	Mauricia Biwiara-Duo	S5
PSGH 02	Assessment of research thesis publication rates among graduates from postgraduate colleges of pharmacists in Ghana	Mark Amankwah Harrison	S5
PSGH 03	Optimizing Malaria Commodity Management in Ghana: Bridging Distribution Inefficiencies, Treatment Limitations, and Documentation Gaps	Joel Jeffrey Idun-Acquah	S6
PSGH 04	Management of community-acquired pneumonia at a teaching hospital in Ghana	Josephine Mensah	S6
PSGH 05	Improving Clinician Knowledge of Urinary Tract Infection and Urosepsis through a Multidisciplinary Continuing Professional Development Programme: A Pre–Post Evaluation	Daniel Freeman Owusu Ansah	S7
PSGH 06	Prescription patterns of ocular medications and related requested diagnostic tests	Osborn Kpakpo Allotey Amanful	S8
PSGH 07	Treatment Outcomes among Triple Negative Breast Cancer Patients Treated with Platinum-Based Chemotherapy Vs Ac-Taxol at the Tamale Teaching Hospital	Frieda Abilba Ayinema	S8
PSGH 08	Implementing and Sustaining a Pharmacy-Led Antimicrobial Stewardship Programme at Tema Urban Hospital	Isabella Green-Harris	S9
PSGH 09	Quality Assessment of Amlodipine Besylate Tablets Available on the Ghanaian Market Using Reverse-Phase High-Performance Liquid Chromatography	Edward Appiah	S9
PSGH 10	Legal Remedies for Breach of Confidential Information by Public Health Regulatory Institutions in Ghana and Sub-Saharan Africa: Evaluating the Role of Non-Disclosure Agreements	Jerry Xola Sosu	S10
PSGH 11	Impact of Illegal Mining (Galamsey) on Ghana's Pharmaceutical Sector: A Systematic Review of Environmental, Manufacturing, Public Health, And Economic Implications	Peter Bekoe	S10
PSGH 12	Quality Assessment of Metformin Tablets Marketed in Accra, Ghana Using Pharmacopeial Tests and A Validated Reverse Phase-HPLC Method	Ibrahim Anyass Amin	S11
PSGH 13	The effects of Networks of Practice on the referral system and the availability of essential medicines within the Amansie West District in the Ashanti Region of Ghana	Badu Bernard Bediako	S11
PSGH 14	Analyzing The Pattern of Use of Antibiotics in a Ghanaian District Hospital, Across Two Different Years, Using the WHO AWaRe Classification	David Forson	S12
PSGH 15	Prevalence and predictors of prescribing errors in a primary care setting in Ghana	Richard Delali Agbeko Djochie	S13
PSGH 16	WHO/INRUD Prescribing Indicators with A Focus on Antibiotics Utilization Patterns at Family Medicine and Pediatric Outpatient Department at a Quaternary Hospital, Ghana; A Retrospective Cross-Sectional Study	Salomey Asaah Denkyira	S13
PSGH 17	Medication Adherence Factors among Patients with Diabetes and Provider Recommendations in Ghana	Mary Yeboah	S13

Abstract	Title	First author	Page
PSGH 18	Quality Assessment of Amlodipine Immediate Release and Nifedipine Extended-Release Tablets in Accra, a RP-HPLC Method	Ampomah Bright	S14
PSGH 19	Assessing the Barriers and Facilitators of Antimicrobial Stewardship Implementation among Community Pharmacists in Accra	Derrick Mawuena Asima	S14
PSGH 20	Assessing Initiatives in Promoting Green Procurement Among Pharmacists in Accra, Ghana	Maame Yaa Oforiwaa Dankyi	S15
PSGH 21	Evaluation of Hypertension Screening and Referral in Community Pharmacies: A Digitally Enabled initiative for Improved Cardiovascular Health	Afia Frimpomaa Asare Marfo	S16
PSGH 22	Quality Assessment of Different Brands of Atorvastatin Tablets in Accra by RP-HPLC	Charles Opoku	S16
PSGH 23	Safeguarding Antimalarial Supplies for Children: Post-Campaign Verification of Sulphadoxine - Pyrimethamine Plus Amodiaquine (SP-AQ) in Ghana's 2025 SMC Campaign	Joel Jeffrey Idun-Acquah	S17
PSGH 24	The Role of Community Pharmacists in Promoting Medication Adherence for Clients with Diabetes and Hypertension: A Qualitative Study Using the COM-B framework	Andrews Kwabena Dwomoh	S17
PSGH 25	Pharmacist-Led Medication Safety Interventions and Adverse Drug Reaction Characteristics at a Ghanaian Teaching Hospital: A Retrospective Registry Analysis	Charles Atiemo-Debrah	S18
PSGH 26	Association Between Targeted Single Nucleotide Polymorphisms and Treatment Outcomes among Triple -Negative Breast Cancer Patients at the Tamale Teaching Hospital	Frieda Abilba Ayinema	S18
PSGH 27	Prescribing Patterns of Antibiotics in Respiratory Tract Infections in a Paediatric Department at University of Ghana Medical Centre	George Boateng Kyei	S19
PSGH 28	A Case-Based Antimicrobial Stewardship Workshop on Rational Antibiotic-Use Among a Multidisciplinary Workforce at a Ghanaian Teaching Hospital	Vera Yomle Adamtey	S20
PSGH 29	Impact of Pharmacist-Led Interventions on Medication Errors in a Tertiary Hospital in Ghana: A Retrospective Analysis	Chris Mensah Nartey	S20
PSGH 30	Quality and Stability assessment of Reconstituted Cefuroxime Axetil Suspensions in Greater Accra Using Reverse-Phase HPLC	Francis Eshun	S21
PSGH 31	Widening the Access–Watch Gap: A Three-Month WHO AWaRe Analysis of The Bank Hospital Antimicrobial Consumption (April–June 2026)	Ohui Nyadubea Agbettor	S21
PSGH 32	Local Antibiogram Development for Enhanced Diagnosis and Treatment of Urinary Tract Infections: A Case Study from a teaching Hospital in Ghana	Nana Ama Buadiba Osei	S22
PSGH 33	Prevalence of Prostate Cancer and Management Outcomes at Tamale Teaching Hospital: A 5-Year Analysis	Baba Sulemana Mohammed	S22
PSGH 34	Adolescent Mental Health: Prevalence of Clinical Depression and Help-Seeking Behaviour Among Christian Youth	Irene Afriyie Boafo	S23
PSGH 35	Quality Assessment of Different Flavours of a Ghanaian Branded Fruit Juice	Kwame Omari-Anim Danful	S23
PSGH 36	Vaccination Services by Community Pharmacists in Ghana: Assessing Knowledge, Readiness, and Perceived Facilitators and Barriers to Service Provision	Eugene Afreku Boafo	S24

PSGH 01

Public Health in Community Pharmacy: A Scoping Review of Pharmacist's and Client's Perspectives on STI Screening and Testing in Africa

Mauricia Biwiara-Duo, Adwoa Oforiwaa Kwakye, Thelma Ohene-Agyei

University of Ghana, P.O.Box LG 43, Legon, Ghana

Background: Community pharmacists are increasingly recognized as frontline public health practitioners in Africa, with potential roles in sexually transmitted infection (STI) screening, testing, and early management. However, evidence regarding their contributions, clients' experiences and implementation challenges remain fragmented.

Aim: Hence, this scoping review mapped existing evidence on community pharmacists' roles in STI self-testing across Africa.

Methods: This review was conducted following the Arksey and O'Malley (2005) framework, with methodological enhancement from Levac et al (2010). Literature searches were performed across PubMed, Scopus, Web of Science, Google Scholar and African Journals Online (AJOL) for studies published between 2010 and 2025. The study selection process was conducted using the PRISMA-ScR to ensure reproducibility. Eligible studies focused on community pharmacy-based STI self-testing, service delivery, and stakeholder perspectives within African setting. From 41,723 records identified, 28 studies met the inclusion criteria. Studies included spanned across 12 African countries with most originating from East and South Africa.

Results: Evidence suggests that community pharmacies commonly served as first-point of contact for STI-related care, provision of counselling, syndromic management, HIV self-testing, and referrals. Clients patronized community pharmacies for their accessibility, confidentiality, convenience, and reduced stigma. HIV self-testing emerged as the most established self-testing service, while testing for non-HIV STIs remained limited. Key facilitators included accessibility, confidentiality and trust in pharmacists, whereas regulatory uncertainty, inadequate training, diagnostic limitation, affordability concerns and reliance on syndromic management limited-service implementation.

Conclusion: Overall, community pharmacies are strategically positioned to expand STI screening and testing services across Africa. Strengthening policy support, pharmacist training, diagnostic capacity and integration into national STI programmes could enhance early detection, improve access to care and support antimicrobial stewardship efforts. The review contributes to the legacy of pharmaceutical excellence by providing evidence that advances patient-centred care and reinforces the pharmacist's role as a key public health professional.

Keywords: Africa, Client perspective, Community Pharmacy, Public Health, Sexually Transmitted Infections

---

PSGH 02

Assessment of research thesis publication rates among graduates from postgraduate colleges of pharmacists in Ghana

Mark Amankwah Harrison[1,2], Frempomaa Nelson[1], Mercy N A Opare-Addo[3], Daniel N. A. Ankrah[4]

[1] *Korle-Bu Teaching Hospital, Korle Bu, Accra, Ghana;*
[2] *University of Utrecht, Utrecht, the Netherlands.*
[3] *Kwame Nkrumah University of Science and Technology, Kumasi, Ghana*
[4] *University of Cape Coast, Cape Coast, Ghana; Entrance University of Health Sciences, Accra, Ghana*

Background: Research is a pivotal component of residency training at the Ghana College of Pharmacists and the West African Postgraduate College of Pharmacists (Ghana Chapter).

Aim: This research aims to assess the current rate of research publications among graduates from the two colleges of pharmacists in Ghana, and to identify the barriers to low research publication.

Methods: This was a cross-sectional study conducted among alumni from the two colleges of pharmacy. The Kobotoolbox was used to design the questionnaire to collect data. Data were collected from Whatsapp® platforms of pharmacists only. Known alumni from the two colleges were also contacted to complete the questionnaire. Data were analysed using STATA version 17.

Results: The results involved 70 respondents with a mean age of 46 years (standard deviation (SD) of 7). About 64% of respondents from WAPCP completed the Fellowship programme compared to 29% from the GCP ($p = 0.004$), and 36% of alumni form WAPCP compared to 9% from GCP ($p = 0.009$) had published their thesis. Years since completion of college (<=5 years or >5 years) and level of graduation from college (Fellow or Specialist) were independently associated with thesis publication. In particular, Fellows were about 9 times as likely to publish their thesis compared to Specialists. Lack of training on publication (33.7% of responses), lack of funding (21.8% of responses) and stressful processes (2.4% of responses) were among reported barriers to publication.

Conclusion: Publication rates were higher among Fellows compared to Specialists. Pharmacists, who enroll with any of the postgraduate colleges, should aspire to complete their fellowship programmes. Lack of training, lack of funding and stressful procedures were among reported barriers for publication. It is important to support pharmacists from the colleges of pharmacists in Ghana to publish their thesis in the early years (first 3 years) post-qualification.

Keywords: Postgraduate colleges of pharmacists, research, thesis publication, Ghana

PSGH 03

Optimizing Malaria Commodity Management in Ghana: Bridging Distribution Inefficiencies, Treatment Limitations, and Documentation Gaps

Joel Jeffrey Idun-Acquah[1], Esenam Mawufemor Tagboto[1], Daniel Kwesi Ekwam[2], Kwaku Tieku Gyasi-Duku[3], Harriet Affran Bonful[4]

[1] *National Malaria Elimination Programme, Accra, Ghana*
[2] *Upper West Regional Hospital, Wa, Ghana*
[3] *Juaso District Hospital, Juaso, Ghana*
[4] *School of Public Health, University of Ghana, Accra, Ghana*

Background: Facility level malaria commodity security is essential for sustained malaria elimination in Ghana. This requires uninterrupted access to quality-assured antimalarials, rapid diagnostic tests (RDTs), and preventive commodities. Facility-level commodity security remains insufficiently characterized

Aim: To evaluate malaria commodity availability, stock adequacy, storage conditions, inventory documentation, and supply chain performance across Ghana's public health facilities, and to identify pharmacy-led corrective priorities.

Methods: A cross-sectional survey was conducted from 2nd to 27th March ,2026 in 144 facilities (health centres, hospitals, CHPS compounds, and polyclinics) across all 16 regions. Twenty-three commodities were assessed through physical inventory verification, record review, and direct observation using structured electronic tools (KoboCollect). Stock status reports from 11 Regional Medical Stores (RMS) provided upstream context.

Results: Availability: Sulphadoxine-pyrimethamine (87.5%), RDTs (85.4%), and artemether-lumefantrine 20/120mg (82.6%) were most available. Amodiaquine-artesunate (4.2–12.5%), dihydroartemisinin - piperaquine (2.8–20.8%), and artesunate suppositories (0–0.9%) were critically scarce, with the latter absent from all RMS. Distribution Efficiency: Only 44.4% of facilities received full orders; 28.8% were under-served, receiving ≤25% of requested quantities. Concurrent under- and over-stocking was observed (RDTs: 19.4% below minimum, 27.8% above maximum). Storage & Documentation: While 95.1% had designated stores, 33.3% had dusty commodities, 13.2% roof leakages, and 12.5% expired products in active stock. Inventory cards were present in 92.4% of facilities but correctly completed in only 75.0%. RDT availability was lowest in Northern (33%) and Central (56%) regions.

Conclusion: Ghana's malaria commodity system demonstrates strong infrastructure but weak distribution efficiency, limited treatment diversity, and documentation gaps. Pharmacist-led quantification, RMS fulfilment accountability, and mentorship of stores officers are critical to translating supply chain science into elimination impact.

Keywords: Antimalarials, Commodity Security, Ghana, Malaria, Pharmaceutical Supply Chain

PSGH 04

Management of community-acquired pneumonia at a teaching hospital in Ghana

Josephine Mensah[1,2], Nana Ama Buadiba Osei[1,2], Daniel Freeman Owusu Ansah[1], Ebo Hanson-Yamoah[3], Amos Amoako Adusei[4], Dorcas Poku Boateng[2], George Boateng Kyei[5]

[1]*Pharmacy Directorate, University of Ghana Medical Centre, Legon, Accra, Ghana;*
[2]*Ghana College of Pharmacists, Division of Pharmaceutical Care, Faculty of Clinical Pharmacy, Accra, Ghana*
[3] *Department of Pharmacy, University of Health and Allied Sciences, Ho, Ghana*
[4] *Kumasi Centre for Collaborative Research, Kumasi, Ghana*
[5]*Medical & Scientific Research Directorate, University of Ghana Medical Centre, Legon, Accra, Ghana*

Background: Community-acquired pneumonia (CAP) is the leading infectious cause of death and a major health problem with considerable implications for healthcare systems worldwide, according to the World Health Organization. Despite advances in prevention and management, significant challenges persist in Sub-Saharan Africa due to a lack of essential diagnostic tests, standardized guidelines, medications, and vaccines, leading to high morbidity and mortality.

Aim: This study investigated the aetiology, pharmacological management, and patient outcomes of CAP at the University of Ghana Medical Centre (UGMC).

Methods: A retrospective study was conducted at UGMC. Medical records of inpatients and outpatients managed for CAP from 1st May 2022 to 30th April 2023 were extracted from the Healthpro software using a designed data collection tool. Data on patient demographics, hospital stay, microbiology, pharmacological management, and outcomes were entered into Microsoft Excel 2021, and exported to STATA version 18 for analysis. Descriptive statistics summarized socio-demographic characteristics, with implicated organisms, medications, patient outcomes, and an antibiogram presented in figures and tables.

Results: Overall, 197 patients were treated for CAP. More than a third had bacterial pneumonia (73, 37.06%), and 153 (77.66%) received at least one antibiotic, of whom 84 (54.9%) were inpatients. The median number of antibiotics per patient was 2 (range 1–4), prescribed 284 times. Microbial tests were done for 50 (24.88%) patients, and organisms were isolated from 23 (46.00%) samples. Among inpatients, 14 (21.88%) received azithromycin and ceftriaxone; among outpatients, 13 (48.15%) received azithromycin and amoxicillin-clavulanate. Cephalosporins were most prescribed (109, 38.38%). Pharmaceutical care issues were identified on 16 (5.64%) prescriptions. Overall, 83 (42%) patients were admitted and discharged home, and 126 (64.29%) revisited for review.

Conclusion: Antibiotic use varied significantly, with cephalosporins most prescribed. Identified pharmaceutical care issues highlight the need for optimized antibiotic stewardship and the inclusion of pharmacists in infectious disease management.

Keywords: community-acquired pneumonia, antimicrobial stewardship, antibiotic prescribing, Ghana

PSGH 05

Improving Clinician Knowledge of Urinary Tract Infection and Urosepsis through a Multidisciplinary Continuing Professional Development Programme: A Pre–Post Evaluation

Daniel Freeman Owusu Ansah, Nana Ama Buadiba Osei, Josephine Mensah, Yvonne Gyamea Agyare, Salomey Asaah Denkyira, George Boateng Kyei

University of Ghana Medical Centre, Legon, Accra, Ghana

Background: Urinary tract infections (UTIs) and urosepsis are major causes of antimicrobial exposure, where inappropriate prescribing drives antimicrobial resistance and avoidable harm. Improving clinicians' knowledge of evidence-based diagnosis and treatment is essential for antimicrobial stewardship.

Aim: To evaluate changes in clinician knowledge following a one-day multidisciplinary, stewardship-focused CPD programme on evidence-based UTI and urosepsis management at a tertiary teaching hospital in Accra, Ghana.

Methods: A pre–post evaluation was conducted among clinicians with participants completing an identical 11-item assessment before and immediately after training, covering UTI and urosepsis aetiology, diagnosis, antimicrobial therapy, catheter-associated UTI prevention, and stewardship principles. A structured evaluation assessed perceptions of relevance, organisation, facilitation, and self-rated knowledge using Likert scales. Duplicate responses were excluded and pre–post assessments matched by name or email. Changes in mean scores among matched participants were analysed using paired-samples t-tests; item-level changes and satisfaction were summarised descriptively.

Results: A total of 257 clinicians participated, including medical doctors (n=142; 55%), pharmacists (n=78; 30%), nurses (n=18; 7%), and allied-health professionals (n=6; 2.3%) from 140 institutions. 79 participants were matched across both assessments. Among these, mean scores rose from 7.4 to 9.9 out of 11 (mean difference 2.5 points; $t=13.3$, $p<0.001$), with 71 (90%) improving. The largest gains were in indications for urine culture and sensitivity (+66 percentage points), asymptomatic bacteriuria management (+45), and first-line empiric therapy (+39). One item, on empiric therapy before culture results, decreased (85% to 55%), suggesting a need to review message delivery. Over 90% rated the programme positively, self-rated knowledge rose from 3.5 to 4.5/5, and 98% (89/91) would recommend it to colleagues.

Conclusion: A single multidisciplinary CPD session produced significant, measurable improvement in clinician knowledge and was well received. Findings support brief, targeted, stewardship-oriented training while highlighting the need to reinforce specific concepts and adopt matched pre–post designs in future work.

Keywords: Antimicrobial stewardship, Continuing Professional Development, Knowledge assessment, Urinary tract infection

PSGH 06

Prescription patterns of ocular medications and related requested diagnostic tests

Osborn Kpakpo Allotey Amanful, Constance Boahemaa Appiah, Adom Boadi

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Background: Diagnostic tests are significant for ocular diagnoses and appropriate drug prescriptions. Understanding patterns of ocular medication prescriptions and related diagnostic test requests can inform clinical decision making and policy development. However, there is dearth of information in this key clinical aspect.

Aim: To determine the common ocular medications prescribed and related diagnostic tests requested.

Methods: A retrospective review of patient records was conducted across four (one public and three private) healthcare facilities in Kumasi, capital of the Ashanti region of Ghana. Patient records from January to December 2024 were conveniently included if they met a preset eligibility criterion. Prescribed drugs were grouped under standard pharmaceutic drug classes for analyses. Statistical analyses included descriptive statistics and chi-square tests to evaluate associations between categorical variables. A p-value < 0.05 was considered statistically significant.

Results: A total of 8 drug classes were identified with the most prescribed being artificial tears (34.21%). This was followed by antiallergic (18.34%), antibiotics (15.10%) and antiglaucoma drugs (13.21%). NSAIDs (1.12%), steroids (0.55%), and antibiotic/steroid combinations (6.80%) were the least frequently prescribed. Ocular diagnostic tests (92.73%) were the most frequently requested. Out of this, tonometry (46.26%) was the most requested, while tear break-up time test (TBUT) (2.85%) was the least requested. Among biochemical tests, Fasting Blood Sugar (FBS)/Glycated Hemoglobin (HbA1C) (85.70%) was predominant and Angiotensin converting enzyme (ACE) test 14.29% was the least requested. Commonest serological tests included Venereal Disease Research Laboratory (VDRL) and Treponema Pallidum Hemagglutination (TPHA) (53.85%) with tests for Immunoglobulin G (IgG) and Immunoglobulin M(IgM) (46.15%) being the least requested.

Conclusion: Artificial tears were the most prescribed ocular medication, while tonometry and FBS/HbA1c were the most commonly performed or requested diagnostic tests. Findings of the study provide foundational knowledge in ocular drug prescription and diagnostic test patterns supporting clinical practice and future standardized prescribing patterns

Keywords: Artificial Tears, Diagnostic Tests, Ocular Medications, Tonometry

PSGH 07

Treatment Outcomes among Triple Negative Breast Cancer Patients Treated with Platinum-Based Chemotherapy Vs Ac-Taxol at the Tamale Teaching Hospital

Frieda Abilba Ayinema[1], Cynthia Amaning Danquah[2], Gideon Kofi Helegbe[3]

[1] *Tamale Teaching Hospital, Pharmacy Directorate, Tamale*
[2] *Kwame Nkrumah University of Science and Technology, department of Pharmacology, Kumasi- Ghana*
[3] *University for Development studies, Department of biochemistry and molecular biology, Tamale*

Background: Triple negative breast cancer (TNBC) is an aggressive molecular subtype of breast cancer characterized by poor prognosis with limited treatment options. Platinum based chemotherapy has showed promising therapeutic strategy due to its enhanced activity in DNA repair- deficient tumors. However, evidence comparing treatment outcomes of platinum-based chemotherapy with conventional anthracycline -taxane (AC-Taxol) regimens in Ghana as well as Northern region remains unknown.

Aim: This study therefore assessed the treatment outcomes among TNBC patients who received treatment at the Tamale Teaching Hospital.

Methods: A retrospective cohort study was conducted among 127 female patients with histologically confirmed TNBC patients been managed at the Tamale Teaching Hospital. Clinical records were extracted to obtain demographic characteristics, tumor features, treatment regimen, surgery and treatment outcomes. Descriptive statistics were used to summarize patient characteristics and treatment outcomes.

Results: The median age of patients was 47years (range; 30-89 years), with 58.3% aged above 45 years. Slightly more than half the participants (51%) received platinum-based chemotherapy while 48.8% received AC-Taxol chemotherapy. Most of the Patients presented with grade III (72.40%) and 33.9 % underwent surgery. Overall, 76.4% of the patients were alive at the end of the follow-up whereas 23.6% died. Survival analysis showed a favorable trend among patients who received Platinum based chemotherapy with a 36% reduction in mortality compared with AC-Taxol group (HR =0.63;95%Cl:0.30-1.34, p=0.24), although the difference was not statistically significant.

Conclusion: Platinum-based chemotherapy demonstrated encouraging treatment outcomes compared to conventional chemotherapy among TNC. Nevertheless, mortality remains considerable emphasizing the need for early diagnosis and treatment.

Keywords: Ac-Taxol, Platinum-based chemotherapy, Tamale Teaching Hospital, Treatment outcomes, Triple negative breast cancer

PSGH 08

Implementing and Sustaining a Pharmacy-Led Antimicrobial Stewardship Programme at Tema Urban Hospital

Isabella Green-Harris, Cynthia Amoah

Tema Urban Hospital, Tema

Background: Antimicrobial resistance (AMR) is a growing health threat requiring coordinated antimicrobial stewardship (AMS) programmes to optimise antimicrobial use and improve patient outcomes. In response, the Pharmacy Department at Tema Urban Hospital led implementation of a structured, multidisciplinary AMS programme to strengthen antimicrobial governance, promote rational antimicrobial use and foster collaborative stewardship.

Aim: The AMS programme was initiated in 2023 through the Commonwealth Partnerships for Antimicrobial Stewardship (CwPAMS) 2.0 project and subsequently expanded through CwPAMS 2.5.

Methods: An AMS Committee was established as a subcommittee of the Drug and Therapeutics Committee (DTC) to provide governance and oversight. Stewardship champions were identified across pharmacy, medicine, nursing, laboratory, and infection prevention and control to form a multidisciplinary AMS team. The programme was strengthened through multidisciplinary AMS training, orientation and refresher training for newly recruited staff, outpatient Global Point Prevalence Surveys (Global-PPS), development and use of a local antibiogram, multidisciplinary AMS ward rounds, prescription audit and feedback, behaviour-focused micro-learning, and integration of microbiology data into prescribing decisions.

Results: Between 2023 and 2026, more than 300 healthcare workers were trained. Mean AMS knowledge scores improved from 54.2% to 77.5%, while outpatient antibiotic use declined from 39.8% to 20.0%. During multidisciplinary AMS ward rounds, 92% of stewardship recommendations were accepted by clinicians, strengthening evidence-informed antimicrobial prescribing. The programme enhanced multidisciplinary collaboration, embedded stewardship into routine practice, and increased use of local antimicrobial susceptibility data.

Conclusion: Embedding AMS within existing hospital governance structures, empowering multidisciplinary champions, and providing continuous education, surveillance, audit and feedback were fundamental to sustainability. Integrating AMS into routine workflows and staff orientation promoted long-term ownership and institutionalisation. Relevance to AGM Theme This initiative demonstrates how pharmacy leadership translates scientific evidence into sustainable practice, creating impact through strengthened antimicrobial stewardship, multidisciplinary collaboration, and improved patient care.

Keywords: Antimicrobial resistance, antimicrobial stewardship, antimicrobial stewardship programme, Hospital Pharmacy, Pharmacist-led intervention

PSGH 09

Quality Assessment of Amlodipine Besylate Tablets Available on the Ghanaian Market Using Reverse-Phase High-Performance Liquid Chromatography

Edward Appiah, Mahmood Brobbey Oppong

Department of Pharmaceutical Chemistry, School of Pharmacy, University of Ghana, Accra, Ghana

Background: Amlodipine besylate is a long-acting calcium channel blocker widely used for hypertension and angina. Numerous brands of amlodipine on the Ghanaian market with varying prices raises concerns regarding the presence of substandard products especially when counterfeiting keep rising. Substandard amlodipine compromises therapeutic outcomes and patient safety. Continuous quality assessment is therefore essential to ensure compliance with pharmacopeial standards.

Aim: The study developed, optimized, and validated a cost-effective RP-HPLC method for assessing the quality of multiple brands of amlodipine besylate tablets.

Methods: 10 brands of amlodipine tablets were sampled from Accra. Pharmacopeial guidelines were used to perform quality assessment: physical inspection, uniformity of weight, disintegration testing and content analysis. A RP-HPLC method was developed using a C18 column with a mobile phase consisting of acetonitrile and phosphate buffer at an acidic pH in a 60:40 ratio with detection at 240 nm. Nifedipine was employed as an internal standard. The method was validated to confirm its linearity, precision, accuracy, robustness, and specificity.

Results: All brands complied with pharmacopeial requirements for uniformity of weight and disintegration. Content analysis showed nine out of ten brands met the acceptable specification for amlodipine content, while one brand failed to meet required limits (95–105% label claim) and exhibited an additional chromatographic peak suggestive of possible instability or impurity.

Conclusion: The developed RP-HPLC method proved to be reliable, robust, and suitable for routine quality assessment of amlodipine besylate tablets. Although most brands analyzed were of acceptable quality, the detection of a substandard product highlights the need for continuous post-market surveillance to ensure the safety, efficacy, and quality of antihypertensive medicines on the Ghanaian market.

Keywords: Amlodipine, Assessment, Quality, Substandard, Ghana

PSGH 10

Legal Remedies for Breach of Confidential Information by Public Health Regulatory Institutions in Ghana and Sub-Saharan Africa: Evaluating the Role of Non-Disclosure Agreements

Jerry Xola Sosu[1], Musharaf Kenyiti Ibrahim[2], Cynthia Akumanue[3]

[1] *Department of Pharmaceutical Chemistry, School of Pharmacy and Pharmaceutical Sciences, University for Development Studies, Tamale*
[2] *Controller and Accountant- General's Department, Akuapem South Municipal Assembly, Aburi*
[3] *Department of Pharmacy Practice Experiences, School of Pharmacy and Pharmaceutical Sciences, University for Development Studies, Tamale*

Background: Public health regulatory authorities routinely receive commercially sensitive information, including trade secrets, clinical trial data, and proprietary pharmaceutical formulations, during product registration processes. Protecting the confidentiality of these submissions is essential for promoting pharmaceutical innovation, maintaining regulatory integrity, and ensuring compliance with national and international legal obligations.

Aim: To examine the legal remedies available when public health regulators breach confidentiality in Ghana and selected Sub-Saharan African jurisdictions, and to evaluate the role of non-disclosure agreements (NDAs) in strengthening the protection of confidential regulatory submissions.

Methods: A doctrinal and comparative legal research approach was employed through the analysis of legislation, case law, international legal instruments, and regulatory policies relating to confidentiality, intellectual property, data protection, and freedom of information in Ghana, Nigeria, Kenya, South Africa, and Egypt.

Results: Ghana demonstrated the most comprehensive legal framework for protecting confidential regulatory submissions through multiple statutory and common law mechanisms, although judicial precedent involving regulatory authorities remains limited. South Africa had the strongest enforcement framework, supported by established judicial remedies. Nigeria and Kenya relied on fragmented statutory provisions with weaker enforcement mechanisms, while Egypt provided explicit statutory protection but limited evidence of practical enforcement. Across all jurisdictions, fragmented legal frameworks, procedural barriers to litigation, and cybersecurity risks limited effective legal remedies. Although NDAs strengthened contractual confidentiality, their enforceability against public institutions remained constrained by statutory disclosure obligations and public policy considerations.

Conclusion: Current legal frameworks in Sub-Saharan Africa provide important protections for confidential regulatory submissions but remain fragmented and inconsistently enforced. Strengthening statutory harmonisation, clarifying regulatory confidentiality obligations, and integrating enforceable contractual and institutional safeguards would improve the protection of confidential regulatory information, enhance regulatory accountability, and increase confidence among innovators and industry stakeholders.

Keywords: Confidentiality, Public Health Regulation, Non-Disclosure Agreements, Legal Remedies, Sub-Saharan Africa.

PSGH 11

Impact of Illegal Mining (Galamsey) on Ghana's Pharmaceutical Sector: A Systematic Review of Environmental, Manufacturing, Public Health, And Economic Implications

Peter Bekoe[1], Hadikatu Rashid Hamza[2], Kelvin Aboni[3], Sandra Dankwah Ampofo[1], Benedict Kwame Selor Tordzro[3], Phoebe Akua Ababio[1], Irabor Irene Efe-Oise[3], Miracle Abla Dickson[1], Christabel Asinor Nyarko[3], Addai Kwabena Brobbey[3], Akosua Afriyie Andoh[2], Derrick Boateng Kofi Addo[2], Christiana Nanevie[3], Appiah-Kubi Sarkodie[4], Afram-Buah Nana Yaa Aferwaah[1], Obed Asare[3], Ibrahim Yasir Pumaya[5]

[1]*Ghana Pharmaceutical Students Association-KNUST*
[2]*University of Ghana Pharmaceutical Students Association*
[3]*Ghana Pharmaceutical Students Association-UHAS*
[4]*Ghana Pharmaceutical Students Association-UCC*
[5]*Ghana Pharmaceutical Students Association-UDS*

Background: Galamsey has become an ecological disaster in Ghana. Although ecological and direct health consequences have been reported, no data has been provided on how such practice affects pharmaceutical sector in general. This systematic review aimed to explore the mechanisms through which galamsey-induced pollution affects pharmaceutical manufacturing operations, raw material safety, distribution and drug demand.

Aim: To evaluate how galamsey driven pollution affects Ghana's Pharmaceutical Sector across medicine demand, raw material safety, manufacturing costs and supply chain resilience

Methods: Using PRISMA protocol, a systematic search of scientific literature across PubMed, Web of Science, Scopus, Google Scholar, and grey literature on galamsey and its health/industrial effects in Ghana was performed. Out of 44 identified papers, 13 studies met the inclusion criteria. Data extraction and synthesis was done based on the systems perspective of the link between environmental pollution and pharmaceutical effects.

Results: Geographically, 54% of studies covered the Ashanti region. Heavy metal pollution (mercury, arsenic, cadmium, lead up to more than 4,000% above WHO guidelines) seriously contaminates major river basins (Pra, Ankobra, Birim rivers) and medicinal plants. As a result, downstream health conditions (prevalence of dermatitis reaches 27%, chronic kidney disease, respiratory diseases) directly drive increased antimicrobial, analgesics and renal care drug use. Industrially, high turbidity of polluted water has already led to municipal water treatment plants closure (for example, Bonsa Headworks) and therefore increases the chance of imposing higher financial burden (capital and operation) on pharmaceutical producers in terms of advanced water purification methods (RO/ultrafiltration). Also, contamination results in heavy metal bioaccumulation in local plants (Khaya senegalensis), affecting pharmaceutical Active Ingredients' (API) quality.

Conclusion: The galamsey menace is increasingly becoming a challenge to the Ghanaian pharmaceutical sector. This can be addressed through strict environmental regulations, regular monitoring of heavy metals in herbs and raw materials, and supply chain management.

Keywords: Heavy metal contamination, Illegal mining, Illegal mining, pharmaceutical production, Pharmaceutical raw materials

PSGH 12

Quality Assessment of Metformin Tablets Marketed in Accra, Ghana Using Pharmacopeial Tests and A Validated Reverse Phase-HPLC Method

Ibrahim Anyass Amin, Mahmood Brobbey-Oppong, Lawrence Asamoah Adutwum, Michael Lartey, Kwabena Frimpong-Manso Opuni, Michael Worlako Klu

University of Ghana, Accra Ghana

Background: Metformin, an anti-diabetic agent, is the first-line therapy for type 2 diabetes due to its efficacy and safety. Ensuring that the quality of marketed metformin tablets are consistent is critical, as substandard formulations can cause negative therapeutic outcomes. Post-marketing quality assessment using pharmacopeial standards and validated analytical methods is therefore essential to protect health of patients.

Methods: Ten brands of immediate-release metformin tablets marketed in Accra, were randomly sampled from registered pharmacies. Tablets were subjected to pharmacopeial quality control tests including uniformity of weight, disintegration, and assay of active pharmaceutical ingredient (API) content using a validated reverse phase high-performance liquid chromatography (RP-HPLC) method. Diazepam served as the internal standard, with detection at 220 nm. The RP-HPLC method was validated according to ICH guidelines for linearity, precision, accuracy, robustness, specificity, and sensitivity.

Results: The RP-HPLC method demonstrated excellent linearity ($r^2 = 0.9997$), precision (%RSD < 2%), and recovery within 98–102%, confirming its reliability. All ten brands complied with pharmacopeial requirements for API content (95–105% of label claim) and disintegration times. Nine brands passed the uniformity of weight test, while one brand (MB) failed, showing deviations beyond the ±5% British Pharmacopoeia limit.

Conclusion: Most metformin tablets marketed in Accra meet established pharmacopeial quality standards, reflecting satisfactory manufacturing practices. However, the failure of one brand in the uniformity of weight test highlights the need for continuous surveillance to ensure consistency. Continuous quality monitoring is important to maintain patient confidence in anti-diabetic therapy.

Keywords: Accra, Metformin, Pharmacopeial tests, Quality assessment, Reverse phase-HPLC

PSGH 13

The effects of Networks of Practice on the referral system and the availability of essential medicines within the Amansie West District in the Ashanti Region of Ghana

Badu Bernard Bediako[1], Amidu Mariam[1], Victor Ayoma[2], Asare Kwasi Sarfo[3], Ebenezer Osei Memsah[4]

[1]*Amansie West District Health Directorate, Manso Nkwanta, Ashanti Region, Ghana*
[2]*Essuowin Model Health Center, Amansie West District Health Directorate, Manso Nkwanta, Ashanti Region, Ghana*
[3]*Antoakrom Model Health Center, Amansie West District Health Directorate, Manso Nkwanta, Ashanti Region, Ghana*
Mpatuam Health Center, Amansie West District Health Directorate, Manso Nkwanta, Ashanti Region, Ghana

Background: Healthcare systems are increasingly adopting collaborative approaches such as Networks of Practice to improve coordination, information sharing, resource management, and service delivery across different levels of care. Effective referral systems rely on strong provider relationships, timely communication, availability of essential resources, and coordinated patient movement.

Aim: To assess the effects of Networks of Practice on the referral system and the availability of essential medicines within the Amansie West District in the Ashanti Region of Ghana.

Methods: A quantitative cross-sectional study was conducted among 341 healthcare workers and clients in selected healthcare facilities. Data were collected using structured questionnaires and an observational checklist to examine healthcare workers' perceptions of Networks of Practice and the presence of key referral system components. Descriptive statistics (frequencies and percentages) were used to summarize the results.

Results: Most participants were aged 31–40 years (203; 59.6%), among them were nurses (165; 48.3%). The majority (316; 92.7%) reported receiving training on the referral system. Findings showed that respondents largely agreed that healthcare workers collaborate effectively during referrals (285; 83.5%), emergency referrals are managed effectively (301; 88.3%), networks improve medicine distribution across facilities (296; 86.8%), and patients receive timely care after referral (301; 88.3%). However, many respondents also indicated that inadequate staffing affects referral coordination (285; 83.5%).

Conclusion: Networks of Practice significantly support improved referral coordination and enhance essential medicine availability, leading to better patient outcomes. Strengthening these networks is recommended to improve health service delivery in the district.

Keywords: Network, System, Referral, Essential, Medicines.

PSGH 14

Analyzing The Pattern of Use of Antibiotics in a Ghanaian District Hospital, Across Two Different Years, Using the WHO AWaRe Classification

David Forson[1,2], Daniel Addo[3,4], Kwame Opoku-Agyeman[1], Gerald Anim Acheampong[5], Thomas Afrifa[1], Cameron Nejat[6]

[1] *Pharmacy Unit, Seventh-Day Advenist (SDA) Hospital, Kwadaso-Kumasi, Ashanti Region,Ghana*
[2] *Heinz College of Information Systems and Public Policy, Carnegie Mellon University, USA*
[3] *Department of Public and Ecosystem Health, College of Veterinary Medicine, Cornell University, Ithaca, NY, USA(Current)*
[4] *37 Military Hospital, Accra, Greater Accra Region, Ghana*
[5] *Pharmacy Unit, Greater Accra Regional Hospital (Ridge Hospital), Accra, Greater Accra Region, Ghana*
[6] *Department of Public and Ecosystem Health, College of Veterinary Medicine, Cornell University, Ithaca, NY, USA and Rutgers New Jersey Medical School, Newark, NJ, USA*

Background: Antimicrobial resistance is a leading global health threat, with the greatest burden falling on sub-Saharan Africa. The World Health Organisation's (WHO) Access, Watch, and Reserve (AWaRe) classification is designed to support antibiotic stewardship, optimize prescription practices, and curb antimicrobial resistance by grouping antibiotics by resistance potential and sets a country-level target of at least 60% of consumption from the Access group. Facility-level prescribing data from Ghanaian district hospitals remain limited.

Aim: To characterise antibiotic use at a Ghanaian district hospital across two years using the 2021 WHO AWaRe classification and to determine whether Access-group consumption met the 60% target.

Methods: In this retrospective descriptive study, 783 patient records from 2021 and 2022 were systematically sampled from the database of SDA Hospital, Kwadaso (Hospital Administration and Management Systems). Prescribed antibiotics were classified as Access, Watch, or Reserve, and their distribution was analyzed overall and by patient status, sex, and age.

Results: Access-group antibiotics accounted for 47% of use in 2021 and 51% in 2022, below the WHO 60% benchmark, with the remainder composed largely of Watch-group agents; no Reserve antibiotics were recorded. The target was met only among patients under 18 in 2022. Metronidazole and amoxicillin-clavulanate were the most frequently prescribed Access agents, and cefuroxime the most frequent Watch agent. Watch agents predominated for urinary tract infections and gastritis.

Conclusion: Access-group use fell short of the WHO target in both years, indicating overreliance on Watch antibiotics. Institution-specific prescribing guidelines informed by the AWaRe framework and local resistance patterns are needed to promote rational antibiotic use.

Keywords: Antimicrobial Resistance, Antimicrobial Stewardship

PSGH 15

Prevalence and predictors of prescribing errors in a primary care setting in Ghana

Richard Delali Agbeko Djochie[1], Jonathan Boakye-Yiadom[2], Adwoa Oforiwaa Kwakye[3], Kwaku Gyamfi Oppong[4], Ivan Eduku Mozu[1], Constance Caroline Cobbold[1], Robert Peter Biney[1]

[1]*Department of Pharmacotherapeutics and Pharmacy Practice, School of Pharmacy and Pharmaceutical Sciences, University of Cape Coast, Cape Coast, Ghana.*
[2] *Department of Epidemiology and Biostatistics, School of Public Health, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.*
[3] *Department of Pharmacy Practice, School of Pharmacy, University of Ghana, Accra, Ghana.*
[4] *Department of Pharmacy Practice, Faculty of Pharmacy and Pharmaceutical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.*

Background: Prescribing errors are a significant cause of preventable harm in healthcare, particularly in low- and middle-income countries where system-level safeguards are often lacking. However, data on their prevalence and predictors in Ghana's primary healthcare facilities remain limited.

Aim: To determine the prevalence, types, and predictors of prescribing errors in a primary-level health facility in a peri-urban municipality in Ghana.

Methods: This retrospective analytical cross-sectional study analysed data from the hospital's pre-existing prescribing error incident reporting database, which contains errors identified by pharmacists and documented during routine care between June 2021 and June 2024. Prescribing errors were classified using a structured tool based on the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) guidelines. Logistic regression analysis was conducted to identify predictors of prescribing errors, with statistical significance set at $p<0.05$.

Results: The prevalence of prescribing errors was 1.92% (95% CI: 1.71%–2.13%). The most common errors were frequency (27.8%), commission (26.2%), and dose errors (25.2%). Dose errors were more frequent among nurse prescribers (OR = 3.02; p = 0.022) and less common in patients aged 41–65 years (OR = 0.24; p < 0.001). Commission errors were higher among doctors (OR = 2.79; p = 0.001), while frequency errors were less likely with doctors (OR = 0.28; p = 0.006). Incorrect drug selection occurred more often among nurse prescribers (OR = 6.35; p = 0.012) and non-insured patients (OR = 6.05; p = 0.006).

Conclusion: Although prescribing errors were relatively infrequent, they were significantly influenced by prescriber type, patient age, and health insurance status. These findings highlight the importance of continuous prescriber training, enhanced pharmacist participation in the medication-use process, and the establishment of robust prescription monitoring systems to strengthen medication safety and optimize patient outcomes.

Keywords: Medication safety, Pharmacist-led intervention, Prescribing mistakes, Primary healthcare

PSGH 16

WHO/INRUD Prescribing Indicators with A Focus on Antibiotics Utilization Patterns at Family Medicine and Pediatric Outpatient Department at a Quaternary Hospital, Ghana; A Retrospective Cross-Sectional Study

Salomey Asaah Denkyira, Nana Ama Buadiba Osei, Afriyie Karikari Bempah, Daniel Freeman Owusu-Ansah, Angela Appiah Kuffuor, Beryl Opoku Amankwah, Isaac Nartei-Yoe, Josephine Mensah

University Of Ghana Medical Center, Accra, Ghana

Background: The World Health Organization (WHO) promotes rational medicine use to improve healthcare quality and curb antimicrobial resistance. Inappropriate prescribing, particularly of antibiotics, remains common worldwide and contributes to the growing AMR burden.

Aim(s): To evaluate the prescribing patterns in the Family Medicine and Paediatric outpatient departments of a quaternary hospital in Ghana, applying the WHO/INRUD prescribing indicators and the WHO AWaRe classification.

Methods: A retrospective cross-sectional study analyzed 1,460 outpatient prescription encounters from the Family Medicine and Paediatric OPDs of the University of Ghana Medical Centre (UGMC), recorded between 1st January and 31st December 2025. Data were extracted from routine Rational Use of Medicines monitoring logs and assessed against the five WHO/INRUD core prescribing indicators. Antibiotics were classified by Anatomical Therapeutic Chemical (ATC) class and the 2025 WHO AWaRe framework. Binary and multivariate logistic regression identified predictors of antibiotic prescribing.

Results: Out of 1,460 encounters, 2,883 medicines were prescribed (mean 1.97 ± 1.18 per encounter). Generic-name and Essential Medicines List prescribing reached 98.8% and 99.8%, respectively. Encounters with at least one antibiotic or injection were 19.0% and 4.5%, respectively. Among 308 classified antibiotic mentions, beta-lactam/beta-lactamase-inhibitor combinations (31.2%), macrolides (17.2%), and penicillins (14.3%) predominated, with amoxicillin-clavulanate the single most prescribed agent (31.2%). Access, Watch, and Reserve group antibiotics accounted for 55.2%, 44.2%, and 0.6%, respectively. Antibiotic prescribing declined across the year (22.1% to 16.0%, p=0.004) and varied by department: Pediatric prescribing (24.4%) exceeded the WHO-recommended threshold of ≤20% whereas Family Medicine (13.7%) remained well below it. Number of medicines per encounter was the strongest independent predictor of antibiotic prescribing (AOR 4.81 for ≥ 4 vs. 1 medicine; CI 3.17–7.32).

Conclusion: Prescribing at UGMC showed mixed adherence to WHO/INRUD standards. Findings highlight the need for continued stewardship, particularly within pediatrics, and identify polypharmacy as a key correlate warranting further investigation.

Keywords: Antibiotics prescribing, AWaRe, WHO/INRUD prescribing indicators, outpatient department, Ghana

PSGH 17

Medication Adherence Factors among Patients with Diabetes and Provider Recommendations in Ghana

Mary Yeboah[1], Emmanuel Sarkodie[2]

[1] *Ejisu Government Hospital, Ejisu, Ashanti, Ghana*
[2] *Kwame Nkrumah University of Science and Technology (KNUST) Hospital, Kumasi, Ashanti, Ghana*

Background: Medication adherence is central to achieving glycemic control in type 2 diabetes yet remains suboptimal in many low- and middle-income settings, contributing to poor clinical outcomes, increased healthcare costs, and a greater burden on already constrained health systems.

Aim: This study assessed medication adherence and its associated factors among patients with type 2 diabetes in Ghana and explored healthcare professionals' perspectives on adherence-enhancing strategies.

Methods: A cross-sectional survey was conducted among 203 adult patients with type 2 diabetes attending the outpatient department of Ejisu Government Hospital, Ashanti Region, Ghana, and 53 healthcare professionals involved in their care. Adherence was assessed using a combined MARS-5 and Hill-Bone Compliance Scale. Associations between patient characteristics and adherence were examined using binary logistic regression and chi-square tests.

Results: Overall, 126 of 203 patients (62.1%) were classified as adherent. Educational attainment, monthly income, and insurance status were independently associated with adherence, as were the presence of diabetic complications, treatment regimen, smoking, and alcohol use. Forgetfulness (43.5%), medication cost, side effects, and busy schedules (each 12.3%) were the barriers most frequently reported by non-adherent patients. Healthcare professionals rated patient adherence as generally good and recommended patient education, regular follow-up, family involvement, and technology-based tools, particularly mobile reminders, as strategies to improve adherence.

Conclusion: Medication adherence among patients with type 2 diabetes in this setting was moderate and shaped largely by socio-economic and clinical factors rather than demographic characteristics. Interventions addressing affordability, forgetfulness, and regimen complexity, potentially supported by mobile reminder tools, may be reasonable starting points for improving adherence, though prospective evaluation is needed to confirm their effectiveness.

Keywords: adherence, diabetes, Ghana, medication

PSGH 18

Quality Assessment of Amlodipine Immediate Release and Nifedipine Extended-Release Tablets in Accra, a RP-HPLC Method

Ampomah Bright, Mahmood Brobbey Oppong, Lawrence Asamoah Adutwum, Michael Worlako Klu, Kwabena Frimpong Manso Opuni, Michael Lartey

Department of Pharmaceutical Chemistry, School of Pharmacy, College of Health Sciences, University of Ghana

Background: Amlodipine and Nifedipine are dihydropyridine calcium channel blockers used in the management of hypertension and angina pectoris. They are among the most prescribed cardiovascular medicines in Ghana. Therapeutic success depends on the consistent quality of these medicines. However, reports of variability among marketed products necessitate thorough evaluation. This study developed and validated a reverse-phase high-performance liquid chromatography (RP-HPLC) method to assess the quality of Amlodipine immediate-release and Nifedipine extended-release tablets sourced from pharmacies across Accra.

Aim: To assess the quality of various brands of Amlodipine and Nifedipine tablets available in Accra by determining weight uniformity, disintegration, dissolution, and active pharmaceutical ingredient (API) content.

Methods: Ten brands of Amlodipine and five brands of Nifedipine extended-release tablets were sampled from pharmacies in Accra. Samples were evaluated for weight uniformity, disintegration, dissolution, and API content using a validated RP-HPLC method.

Results: Nine of fifteen samples (60%) comprising seven Amlodipine and two Nifedipine brands complied with the BP assay specification of 95–105% of the labelled amount, while six samples (40%) failed. Of the failed samples, two contained API above and four below the labelled claim. All samples met BP requirements for weight uniformity. In dissolution testing, ten samples (66.7%) comprising six Amlodipine and four Nifedipine brands passed, while five samples (33.3%) comprising four Amlodipine and one Nifedipine brand failed.

Conclusion: Significant variability was observed in the assay and dissolution performance of both Amlodipine and Nifedipine tablets despite compliance with BP standards for weight uniformity. These findings highlight the need for strengthened regulatory oversight, stricter adherence to Good Manufacturing Practices (GMP), and routine post-market surveillance to ensure consistent product quality.

Keywords: Amlodipine, Nifedipine, RP-HPLC, Drug Quality Assessment, Post-Market Surveillance

PSGH 19

Assessing the Barriers and Facilitators of Antimicrobial Stewardship Implementation among Community Pharmacists in Accra

Derrick Mawuena Asima

University of Ghana, Legon, Accra

Background: Antimicrobial resistance (AMR) is a significant public health challenge that threatens the efficacy of antibiotics worldwide. Despite efforts to combat AMR, inappropriate antibiotic use persists, particularly in community pharmacy settings where over-the-counter (OTC) antibiotics sales are common. Antimicrobial stewardship (AMS) programmes are critical in promoting optimal use, yet community pharmacists remain underutilized in these initiatives.

Aim: This study assessed the knowledge, barriers and facilitators influencing AMS implementation among community pharmacists in Accra.

Methods: A mixed-method cross-sectional study design was utilized, combining quantitative surveys and qualitative semi-structured interviews. A stratified random sampling technique was used to recruit 314 community pharmacists from various pharmacy types in Accra. Data analysis included statistical techniques for quantitative data and thematic analysis for qualitative data. Ethical approval sought, and participants' confidentiality was ensured.

Results: The majority are under 30 years old (40.1%) and a little above half (56.1%) were females. Most pharmacists had less than 6 years of experience (44.6%) and held a Bachelor's degree (49.7%). Most of community pharmacist operated in independent pharmacies (43.3%), followed by Chain pharmacies (34.4%). Regarding AMS, (57.3%) have had a formal training on AMS. Results indicated that 93% of pharmacists had strong awareness of AMS, with 97.5% recognizing it as a strategy to improve antimicrobial use. While 94.3% felt responsible for promoting rational antibiotic use, only 65.6% believed they had received adequate training for AMS. Barriers included patient demands for unnecessary antibiotics (91.7%) and weak regulatory enforcement (86.6%). Facilitators for AMS included integrating AMS protocols into operations (92.4%) and improving communication with doctors (92.4%). The qualitative findings are categorized into five thematic areas: knowledge on AMS, implementation strategies, challenges, promotion factors, and necessary strategies.

Conclusion: Public education campaigns can play a significant role in shifting patient perceptions regarding antibiotic use, while stronger regulatory frameworks can enforce adherence to AMS practices.

Keywords: Antibiotics, Antimicrobial Resistance, Antimicrobial Stewardship, Community Pharmacist, Public Health

PSGH 20

Assessing Initiatives in Promoting Green Procurement Among Pharmacists in Accra, Ghana

Maame Yaa Oforiwaa Dankyi, Philip Debrah

University of Ghana School of Pharmacy, Legon, Ghana

Background: Green procurement practices form an important aspect of sustainable pharmaceutical supply chains, but their use in low- and middle-income countries remains limited. In Ghana, environmental sustainability is increasingly recognized as a health system priority. Understanding pharmacists' awareness and preparedness regarding green procurement is essential to promoting sustainable pharmaceutical practice. This study addresses a research gap by examining initiatives and challenges influencing community pharmacists in Accra to adopt sustainable procurement practices.

Aim: To evaluate initiatives promoting green procurement among community pharmacists in Accra, Ghana.

Methods: A qualitative study design was adopted using semi-structured, in-depth interviews guided by the study objectives. Qualified pharmacists were purposively sampled from community pharmacies within Accra Metropolitan Assembly. Sixteen pharmacists responsible for pharmaceutical procurement were interviewed and audio-recorded. Data were transcribed verbatim and analysed using thematic analysis to identify patterns related to awareness, educational needs, and implementation barriers.

Results: The study found generally low awareness of green procurement among community pharmacists, with some respondents encountering the concept for the first time during interviews. Pharmacists interpreted green procurement as selecting environmentally friendly supplies and ensuring proper waste disposal. Participants identified seminars, workshops, online programmes, and continuing professional development as effective strategies for promoting sustainable procurement. Key barriers included limited integration of green procurement content in pharmacy education, absence of government-led sustainability initiatives, and insufficient practitioner knowledge of implementation strategies. Despite these challenges, pharmacists expressed willingness to adopt green procurement practices given adequate training and institutional support.

Conclusion: Community pharmacists in Accra demonstrate limited understanding of green procurement, despite recognising its importance for environmental protection. Lack of structured institutional support and insufficient integration of sustainable procurement concepts into pharmacy education represent significant barriers. Strengthening awareness initiatives and incorporating sustainable procurement principles into pharmacy curricula may accelerate adoption of green procurement within Ghana's pharmaceutical sector.

Keywords: Community pharmacists, Green procurement

PSGH 21

Evaluation of Hypertension Screening and Referral in Community Pharmacies: A Digitally Enabled initiative for Improved Cardiovascular Health

Afia Frimpomaa Asare Marfo[1], Torben Uhrenholt[2], Ivan Eduku Mozu[3], Magdalena Stachowicz[4], Pauline Boachie Ansah[1], Adwoa Anima Ohene[5]

[1]*KNUST, Kumasi, Ghana*
[2] *University of Southern Denmark, Movement Health Foundation*
[3] *University of Cape Coast, Ghana*
[4] *Movement Health Foundation Switzerland*
[5] *Movement Health Foundation, Ghana.*

Background: Hypertension affects an estimated 27.0% of Ghanaian adults, yet only 35% are aware of their condition and 6% achieve adequate control. Community pharmacies are accessible entry points for early detection, but screening has historically been informal and weakly integrated into referral systems. The Hypertension Screening and Referral Initiative was implemented through Ghana's National Electronic Pharmacy Platform (NEPP) to standardize blood pressure (BP) screening, automate referrals and strengthen continuity of care.

Aim: To evaluate the implementation, performance and acceptability of a digitally enabled community pharmacy-based hypertension screening and referral programme in Ghana.

Methods: A mixed-methods evaluation drew on routine NEPP dashboard data and referral tracking records from January to December 2025, complemented by a patient satisfaction survey (n=135), six key informant interviews, focus group discussions with 21 community pharmacists in Accra and Kumasi, and six one-on-one pharmacist interviews. Quantitative data were analyzed descriptively; qualitative data underwent framework-informed thematic analysis. Findings were triangulated across reach, referral performance, patient experience and health-system integration.

Results: 4,056 individuals were screened across 196 community pharmacies; 55.0% were female. On initial screening, 50.9% recorded abnormal BP readings; after repeat screening, 1,939 met referral criteria, of whom 902 (46.5%) had referrals documented in NEPP. Satisfaction was high: 89.1% reported easy access to services and 73.9% understood their BP results. Referral communication remained suboptimal, with only 32.6% understanding their referral destination and purpose. Qualitatively, the platform improved documentation, standardized BP classification and enhanced data visibility. Barriers included incomplete referral follow-through, workflow burden, connectivity challenges, staff turnover and limited financial incentives.

Conclusion: The initiative demonstrated feasibility and reach, but sustained impact requires stronger referral systems, digital integration, financing and health-system coordination. Relevance to AGM theme: The study demonstrates pharmacists' contribution to primary healthcare and NCD prevention through early detection, strengthened referrals and policy-relevant data.

Keywords: Community Pharmacists, Screening, Detection, Digital Health, Hypertension

PSGH 22

Quality Assessment of Different Brands of Atorvastatin Tablets in Accra by RP-HPLC

Charles Opoku[1], Lois Adomako[2], Michael Worlako Klu[1], Lawrence Asamoah Adutwum[1], Michael Lartey[1] Kwabena Frimpong Manso-Opuni[1], Mahmood Brobbey Oppong[2]

[1] *University of Ghana, Legon, Accra, Ghana.*
[2] *Entrance University of Health Science, Accra, Ghana*

Background: Atorvastatin is a widely prescribed lipid-lowering medicine whose therapeutic efficacy depends on the quality and content of its active pharmaceutical ingredient.

Aim: This study evaluated the quality of different brands of atorvastatin tablets marketed in Accra using a validated reverse-phase high-performance liquid chromatography (RP-HPLC) method and pharmacopeial quality tests.

Methods: An RP-HPLC method was developed and validated according to International Council for Harmonisation (ICH) guidelines. Validation assessed linearity, precision, accuracy, robustness, limit of detection (LOD), and limit of quantification (LOQ). The validated method was applied to assay ten commercial brands of atorvastatin tablets. Weight uniformity and dissolution tests were performed according to British Pharmacopoeia (BP) specifications.

Results: The method demonstrated excellent linearity ($R^2 = 0.998$), high precision (intra- and inter-day %RSD $\leq 0.40\%$), acceptable accuracy (98.3–102% recovery), and robustness (%RSD < 2%). The LOD and LOQ were 0.001346% w/v and 0.004079% w/v, respectively. Content assay showed that six of the ten brands complied with BP specifications, while four failed. All brands passed the weight uniformity test. Dissolution testing showed that nine brands released at least 80% of the drug within 30 minutes, whereas one brand failed to meet the pharmacopeial requirement.

Conclusion: The validated RP-HPLC method proved suitable for routine quality assessment of atorvastatin tablets. Although all brands met weight uniformity requirements and most complied with dissolution standards, only 60% passed the content assay, highlighting the need for continuous post-market surveillance, strict adherence to Good Manufacturing Practices, and strengthened regulatory oversight to ensure medicine quality and patient safety.

Keywords: Atorvastatin, Method Validation, Quality Assessment, RP-HPLC

PSGH 23

Safeguarding Antimalarial Supplies for Children: Post-Campaign Verification of Sulphadoxine - Pyrimethamine Plus Amodiaquine (SP-AQ) in Ghana's 2025 SMC Campaign

Joel Jeffrey Idun-Acquah[1], Innocent Ibegbunam[2], Irene Andoh[2], Nathaniel Tettey Nartey[2], Sika Amoah-Kwakye[2]

[1] *National Malaria Elimination Programme, Accra, Ghana*
[2] *Global Health Supply Chain-PSM Project, Accra, Ghana*

Background: Seasonal Malaria Chemoprevention (SMC) reduces malaria morbidity and mortality among children aged 3–59 months during peak transmission seasons. Ghana delivers SMC in six regions using Sulphadoxine-Pyrimethamine plus Amodiaquine (SP-AQ) over five monthly cycles. However, weaknesses in post-campaign commodity management such as inaccurate reporting, poor adherence to First-Expired, First-Out (FEFO), and inadequate storage undermine supply chain integrity and risk wastage. Reliable post-campaign inventory data are essential for equitable allocation and accurate quantification for subsequent campaigns.

Aim: To independently verify post campaign SP AQ stock balances against district reports, identify commodity management gaps, and ensure accurate supply planning for the 2026 SMC campaign.

Methods: A cross-sectional verification was conducted from 10th to 14th November 2025 by the National Malaria Elimination Programme and GHSC-PSM. Thirty District Health Directorates across Northern, Oti, and Upper West regions, representing 57.4% of reported national balances, were purposively selected. Teams physically counted SP-AQ blisters by product type and expiry date, compared findings with district reports, assessed compliance with return protocols, and evaluated storage conditions. Ancillary commodities were also quantified. Data were captured electronically and analyzed descriptively.

Results: Of 1,158,076 blisters verified, 101,715 (8.8%) were near-expiry and unusable for 2026, representing a financial loss of US$27,832. Discrepancies were substantial: Northern Region underreported by 36.7%, while Upper West overreported by 36.0%. Sub-district compliance with the 10 day return protocol was low (47.4%). Storage assessments revealed widespread deficiencies, including moisture exposure, termite damage, and FEFO non-adherence.

Conclusion: Verification revealed systemic weaknesses in SP-AQ management, including inaccurate reporting, poor reverse logistics, and FEFO non-compliance. Corrective actions such as segregating near-expiry stock, expanding verification nationwide, and reorienting managers on FEFO and documentation, are urgently required. Institutionalizing annual post-campaign verification is critical to safeguarding supplies, minimizing wastage, and ensuring uninterrupted malaria protection for vulnerable children.

Keywords: Commodity Management, FEFO, Reverse Logistics, Seasonal Malaria Chemoprevention (SMC), Supply Chain Integrity

PSGH 24

The Role of Community Pharmacists in Promoting Medication Adherence for Clients with Diabetes and Hypertension: A Qualitative Study Using the COM-B framework

Andrews Kwabena Dwomoh, Andy Kelvin Partey, Adwoa Oforiwa Kwakye, Augustina Koduah, Irene Kretchy

University of Ghana, School of Pharmacy

Background: Diabetes and hypertension are leading causes of morbidity in Ghana, and poor medication adherence remains a major barrier to their control. Community pharmacists play a key role in supporting medication adherence for chronic conditions such as diabetes and hypertension, yet their role in this area is underexplored, particularly in sub-Saharan Africa.

Aim: This study examines how pharmacists' capabilities, opportunities, and motivations influence their behaviour in promoting adherence among clients with diabetes and hypertension in the Greater Accra region of Ghana.

Methods: A qualitative study guided by the COM-B framework was conducted among 30 community pharmacists in the Greater Accra Region, recruited through maximum variation sampling between May and July 2023. Data were collected via semi-structured interviews, audio-recorded, and analysed using Braun and Clarke's thematic analysis approach to identify factors influencing adherence support.

Results: Participants were predominantly male (60%), with an average age of 30 years, 5.83 years of experience, and most held a Bachelor of Pharmacy degree (66.67%). Pharmacists demonstrated capability to support adherence through training, professional development, experience, and collaboration with healthcare professionals. Barriers included limited counselling training, competing demands, and restricted access to clients' clinical information. Opportunities such as counselling spaces, communication aids, and adherence tools supported practice but were inconsistent. Additional barriers included language challenges and limited access to essential medicines. Motivation was strengthened by positive patient outcomes and professional recognition, but hindered by negative client attitudes, inadequate remuneration, and burnout.

Conclusion: Strengthening community pharmacists' role in medication adherence requires enhanced counselling training, better access to digital and clinical resources, improved working conditions, and greater formal recognition within Ghana's primary healthcare system.

Keywords: COM-B framework, Community pharmacists, Diabetes, Hypertension, Medication adherence

PSGH 25

Pharmacist-Led Medication Safety Interventions and Adverse Drug Reaction Characteristics at a Ghanaian Teaching Hospital: A Retrospective Registry Analysis

Charles Atiemo-Debrah, Basilia Sabina Engmann, Angela Appiah Kuffour, Audrey Sika Geraldo, Nicholas Kumi, Bishop Essuah Essien, Theresa Agyapong, Richard Amanor, Fareeda Serwaa Brobbey, Josephine Mensah

University of Ghana Medical Centre, P. O. Box LG 25, Legon-Accra, Ghana

Background: Pharmacist-led medication review and spontaneous adverse drug reaction (ADR) reporting are complementary hospital medication-safety activities, rarely analysed together, particularly in sub-Saharan African settings.

Aim: To describe the pattern of pharmaceutical interventions and adverse drug reaction reports at a Ghanaian teaching hospital over six months, and to test associations between key intervention and reaction characteristics and their respective safety outcomes.

Methods: Retrospective, cross-sectional analytical review of two institutional registers (1st January – 30 June 2026): a pharmaceutical intervention log (313 records) and an ADR/AEFI/product-quality reporting form (81 unique cases), each case coded against ICH E2A seriousness, WHO-UMC causality, Modified Hartwig and Siegel severity, and Schumock and Thornton preventability criteria. Associations were tested with Pearson's chi-square and Fisher's exact test for 2×2 comparisons, with conditional maximum-likelihood odds ratios and exact 95% confidence intervals; alpha set at 0.05.

Results: Dosing problems (109, 34.8%) and drug choice problems (102, 32.6%) were the leading intervention categories; 282 (90.1%) of recommendations were fully accepted. Errors identified at dispensing were substantially less likely to have already reached the patient than errors identified through other routes (OR 28.3, 95% CI 6.95–249.07, $p < .001$; interval wide, reflecting a small numerator cell). Among 81 ADR/AEFI/product-quality cases, 26 (32.1%) were serious (ICH E2A) and 24 (29.6%) were preventable; causality was probable or certain in 48/62 (77.4%) ADR cases specifically. Non-opioid analgesics (notably nefopam and dexketoprofen) recurred across both registers, with administration-technique errors identified among their contributing causes. A cluster of four related intravenous fluid/injectable product-quality incidents, three traced to one manufacturer, was identified as a discrete safety signal.

Conclusion: Dispensing-stage pharmacist verification was strongly associated with interception of errors before they reached patients. Approximately 30% of adverse-event reports were preventable. Findings support continued investment in ward-based pharmacist review, administration-technique counselling, and urgent supplier-level investigation of the intravenous product-quality signal.

Keywords: adverse drug reactions, medication errors, patient safety, pharmaceutical care, pharmacovigilance

PSGH 26

Association Between Targeted Single Nucleotide Polymorphisms and Treatment Outcomes among Triple -Negative Breast Cancer Patients at the Tamale Teaching Hospital

Frieda Abilba Ayinema[1], Cynthia Amaning Danquah[2], Gideon Kofi Helegbe[3], Raphael N Alolga[4]

[1] *Tamale Teaching Hospital, Pharmacy Directorate, Tamale*
[2] *KNUST, Department of Pharmacology, Kumasi*
[3] *UDS, Department of Biochemistry and molecular biology, Tamale*
[4] *China Pharmaceutical University, Department of Pharmaceutical science Nanjing*

Background: Genetic variation within DNA repair pathways has been implicated in differential response to platinum- based chemotherapy among patients with triple negative breast cancer (TNBC). Single nucleotide polymorphism among patients with triple negative breast cancer in homologous recombination repair, DNA damage response, mismatch repair and other DNA repair pathways may influence treatment response, survival and disease progression. However, evidence describing these pharmacogenomic associations in Ghanaian TNBC patients is scarce.

Aim: This study assessed the association between targeted SNP variants and treatment outcomes among TNBC patients treated at Tamale Teaching Hospital

Methods: A retrospective pharmacogenomic cohort study was conducted among 82 TNBC patients with available formalin-fixed paraffin embedded tumor tissue. Targeted SNP genotyping was performed for variants within BRCA1, BRCA2, PALB2. RAD51C, RAD51D, ATM, CHEK2, TP53, ERCC1, MLH1, MSH2, FANCD2, ARID1A and PTEN. Genotype frequencies, allele distributions and genotype call rates were determined. Associations between SNP genotypes and treatment outcomes including mortality and survival were evaluated using chi-square analysis, multivariable logistic regression and Cox proportional hazard regression.

Results: The study showed moderate genotyping success, with SNP call rates ranging from 65.9% t0 78.0%. The highest levels of polymorphism were observed in BRCA2 rs1801426, TP53rs1042522, ERCC1 rs3212986 and MSH2 rs3732183 while several variants in BRCA1, RAD51D, ATM, CHEK2 and FANCD2 demonstrated limited variability. At the genetic marker level, multivariable Cox regression identified PTEN- related genotypes to have significant association with mortality (adjusted HR = 9.80; 95% CI: 1.85–51.90; p = 0.007). However, ATM, BRCA2, MLH1, and XRCC1-related genetic variables were not significantly associated with mortality after adjustment.

Conclusion: Targeted SNP variation within DNA repair pathways contributes to inter-individual differences in treatment outcomes among TNBC patients. Pharmacogenomic profiling may improve risk stratification and support individualized chemotherapy selection in Ghanaian patients. Larger prospective studies are warranted to validate these biomarkers before routine clinical implementation.

Keywords: DNA, pharmacogenomics, Tamale Teaching Hospital, Triple-negative breast cancer, ingle nucleotide polymorphisms

PSGH 27

Prescribing Patterns of Antibiotics in Respiratory Tract Infections in a Paediatric Department at University of Ghana Medical Centre

George Boateng Kyei[1], Nana Ama Buadiba Osei[1], Daniel Freeman Owusu Ansah[1], Stephen Adjei[2]

[1] *University of Ghana, Legon, Accra*
[2] *Tamale Teaching Hospital, Tamale, Ghana*

Background: Upper Respiratory Tract Infections (URTIs) are a leading cause of pediatric morbidity globally and account for a substantial proportion of healthcare visits among children. Although most URTIs are viral and do not require antibiotic therapy, antibiotics are frequently prescribed, contributing to antimicrobial resistance (AMR), unnecessary healthcare costs, and potential adverse drug events. Understanding the factors influencing antibiotic prescribing is therefore essential for strengthening antimicrobial stewardship.

Aim: This study assessed antibiotic prescribing patterns and explored factors influencing prescribing decisions for URTIs among children under five years at the University of Ghana Medical Centre (UGMC).

Methods: A retrospective cross-sectional study was conducted using electronic medical records of children aged 0–5 years who presented with URTIs at UGMC between May 2022 and May 2023. Additionally, key informant interviews were conducted with 19 prescribers to explore factors influencing prescribing decisions. The data was analysed using STATA Version 16.1.

Results: Most patients were male (n=211, 55.38%) and were seen at the Outpatient Department (OPD) Clinic (n=332, 87.14%). Otitis media was the most frequently documented diagnosis (n=187, 49.08%). Of the eligible patients, 69.29% (n=264) received at least one antibiotic. Amoxicillin/clavulanic acid was the most frequently prescribed antibiotic (n=138, 46.46%), followed by cefuroxime (n=76, 25.59%). Most prescribers (n=16, 84.2%) reported relying on previous clinical experience when making prescribing decisions. Diagnostic uncertainty and uncertainty regarding treatment decisions were the most commonly reported challenges (n=4, 21.05% each).

Conclusion: The study demonstrates a high rate of antibiotic use among children with URTIs, with considerable reliance on broad-spectrum antibiotics. Prescribers' dependence on previous experience and challenges with diagnosis and treatment decisions underscore the need to strengthen antimicrobial stewardship interventions, promote adherence to evidence-based clinical guidelines, and support appropriate antibiotic prescribing practices in paediatric care.

Keywords: URTI, Antibiotics Usage Pattern, Antimicrobial Resistance, Paediatrics

PSGH 28

A Case-Based Antimicrobial Stewardship Workshop on Rational Antibiotic-Use Among a Multidisciplinary Workforce at a Ghanaian Teaching Hospital

Vera Yomle Adamtey, Nana Ama Buadiba Osei, Daniel Freeman Owusu Ansah, Josephine Mensah, Fareeda Serwaa Brobbey, Sandra Awugah, Yvonne Gyamea Agyare, Christian Owoo, George Boateng Kyei

University of Ghana Medical Centre, P.O.BOX LG 25, Legon-Accra, Ghana

Background: Antimicrobial resistance (AMR) is driven by irrational prescribing, and continuing professional development (CPD) is important for strengthening antimicrobial stewardship (AMS) competency. We evaluated the effect of a case-based AMS workshop on knowledge among a multidisciplinary healthcare workforce at the University of Ghana Medical Centre (UGMC).

Aim: To evaluate the effect of a case-based AMS workshop on rational antibiotic-use knowledge among a multidisciplinary healthcare workforce at UGMC.

Methods: A one-day workshop was held on 28 July 2026, in person and online via Microsoft Teams, using clinical vignettes spanning empiric therapy, de-escalation, resistance mechanisms, diagnostic stewardship and infection prevention and control (IPC). Knowledge was assessed with an identical 20-item pre- and post-workshop questionnaire. Item-level accuracy was compared for all responses, and total scores were compared for participants using the paired t-test and Wilcoxon signed-rank test.

Results: A total of 466 professionals participated: pharmacists (n=174; 37.3%), medical doctors (n=47; 10%), nurses (n=72; 15.5%), laboratory scientists (n=23; 5.0%), pharmacy interns (n=14; 3%) and other professionals (n=136; 29.2%). The assessment yielded 439 pre-test and 269 post-test responses, with 189 matched responses available for paired pre-test/post-test analysis. Mean item accuracy rose from 81.2% to 92.6% (+11.4 percentage points), with reduced score variance (standard deviation [SD] 3.03 to 1.89). Every one of the 20 items improved. The largest gains occurred in areas of weakest baseline knowledge: the definition of AMS (n=40; 21.3% to n=104; 55.0%), empiric antibiotic selection under multiple drug allergies (n=85; 45.7% to n=151; 79.9%), distinguishing colonization from infection (n=114; 60.5% to n=162; 85.5%), and resistance mechanisms (n=118; 62.4% to n=157; 82.9%). High-baseline IPC and diagnostic-stewardship items (>96%) showed minimal change owing to a ceiling effect.

Conclusion: A single case-based AMS workshop significantly improved rational antibiotic-use knowledge across a multidisciplinary healthcare workforce, supporting case-based CPD for strengthening AMS capacity.

Keywords: antimicrobial stewardship, case-based learning, continuing professional development, multidisciplinary training, rational antibiotic use

PSGH 29

Impact of Pharmacist-Led Interventions on Medication Errors in a Tertiary Hospital in Ghana: A Retrospective Analysis

Chris Mensah Nartey[1], Obedia Akweeley Seaneke[1], Annabelle Hammond[1], Seth Kwabena Amponsah[2]

[1] *Department of Child Health, Korle Bu Teaching Hospital, Accra, Ghana*
[2] *School of Basic and Biomedical Sciences, University of Health and Allied Sciences, Ho, Ghana*

Background: Medication errors (MEs) pose a significant threat to patient safety, particularly in tertiary care settings where patients may be critically ill and may be on multiple medications. While pharmacist-led interventions are established as effective in reducing MEs in high-income countries, there is a paucity of documented evidence from resource-limited settings such as sub-Saharan Africa.

Aim: This study aimed to assess the impact of pharmacist-led interventions on medication errors at Korle Bu Teaching Hospital, Ghana, and to analyze the characteristics and outcomes of these interventions.

Methods: This was a five-year retrospective observational study (January 2020 – December 2024). Documented medication-related problems (MRPs) and corresponding pharmacist interventions were extracted from the hospital's electronic Health Management Information System (LHIMNS). Descriptive statistics summarized frequency and types of MRP (classified by process stage and NCC MERP severity), pharmacist intervention types, and prescriber acceptance rates.

Results: Among the 6777 MRPs, prescribing errors were the most prevalent (46.1%). The most common error types were omissions (33%), compliance/counselling needs (21%), and dosing errors (21%). Most errors had reached the patient with no harm (NCC MERP Category C, 36%) or reached the patient requiring interventions (Category D, 32%). Prescriber acceptance of pharmacist recommendations was exceptionally high (98.9% combined full and partial acceptance).

Conclusion: The findings highlight the process of prescribing as the most error-prone stage and omissions as the commonest type of error. High concentration of the documented MRPs were at the orthopedics/trauma ward. The study also provides evidence that pharmacist-led interventions are highly effective and well-accepted, significantly contributing to medication error mitigation.

Keywords: Medication Errors, Medication-Related Problems, Prescriber Acceptance, Pharmacist Intervention, Patient Safety

PSGH 30

Quality and Stability assessment of Reconstituted Cefuroxime Axetil Suspensions in Greater Accra Using Reverse-Phase HPLC

Francis Eshun, Michael Lartey, Lawrence Asamoah Adutwum, Michael Worlako Klu, Kwabena Frimpong Manso Opuni, Mahmood Brobbey Oppong

Department of Pharmaceutical Chemistry, School of Pharmacy, University of Ghana, Accra.

Background: Substandard and falsified medicines remain a major public health challenge in developing countries. Pediatric populations are especially vulnerable to treatment failure. Cefuroxime axetil suspension, a widely prescribed second-generation cephalosporin in Ghana, has been reported to exhibit quality concerns, yet systematic evaluations of its formulations are limited.

Aim: The study was designed to evaluate the quality and compliance of oral cefuroxime axetil suspensions with pharmacopeial standards. In addition, stability testing was carried out after seven days of storage in a refrigerator to determine whether the formulations retained the required specifications.

Methods: A reverse-phase HPLC method was developed and validated. Chromatographic separation was achieved on a C18 column using a methanol–water mobile phase (75:25, v/v) adjusted to pH 2.5–3.5, with a flow rate of 1.0 mL/min and ultraviolet detection at 278 nm. Ten commercial brands of cefuroxime axetil suspensions were reconstituted and analyzed using high-performance liquid chromatography (HPLC). The measured concentrations of the active pharmaceutical ingredient (API) were compared against pharmacopeial specifications to determine compliance over a seven-day period, with assessments conducted on the first and seventh day of storage.

Results: The HPLC method demonstrated excellent linearity ($R^2 = 0.9984$), along with acceptable precision, accuracy, robustness, and specificity in accordance with International Council for Harmonization (ICH) validation guidelines. All products complied with physical inspection and pH requirements. For content analysis, 8 out of 10 samples met pharmacopeial specifications on Day 1. After seven days of storage, 6 out of 10 samples were still within specifications.

Conclusion: This study revealed that, 8 out of 10 samples (80%) were compliant on the first day, but only 60% maintained compliance by the seventh day. These results reflect the variations in the quality of the cefuroxime axetil suspensions and therefore the need for routine surveillance.

Keywords: Cefuroxime axetil, High-performance liquid chromatography (HPLC), Oral suspension, Pediatric medicines, Pharmacopeial compliance

PSGH 31

Widening the Access–Watch Gap: A Three-Month WHO AWaRe Analysis of The Bank Hospital Antimicrobial Consumption (April–June 2026)

Ohui Nyadubea Agbettor, Desmond Nii Adjetey Osenda, Samuel Ntow-Aninkora, Asantewaa Owusu-Agyei

The Bank Hospital, Cantonments, Accra, Ghana

Background: Antimicrobial resistance threatens global health systems, making routine monitoring foundational for effective stewardship. The World Health Organization AWaRe classification recommends that Access-category antibiotics constitute at least 60% of total consumption to guide rational prescribing and contain resistance.

Aim: To describe the bank hospital's antimicrobial consumption trends over three consecutive months using WHO AWaRe methodology and assess alignment with the recommended Access-category consumption target.

Methods: We retrospectively analysed monthly antimicrobial utilisation data for April, May and June 2026 from routine hospital surveillance records, quantified using Defined Daily Dose methodology per the World Health Organization ATC/DDD Index. Consumption was normalised to Defined Daily Dose per 100 bed-days and per 100 prescriptions, and each agent was classified as Access, Watch or Reserve.

Results: Total antimicrobial consumption rose from 9,978 Defined Daily Doses in April to 12,888 in June, a 29% increase. Watch-category antibiotics consistently exceeded Access-category use, accounting for 54%, 51% and 59% of monthly consumption in April, May and June respectively, against 45%, 49% and 41% for Access agents, missing the recommended 60% Access target in every month studied. Reserve-category use remained minimal throughout (0.1–0.3% of monthly consumption).

Conclusion: The bank hospital's consumption patterns show a persistent inversion of the recommended Access-Watch balance alongside rising overall use, indicating overreliance on broader-spectrum agents. These findings identify a concrete target for antimicrobial stewardship intervention, including audit-and-feedback on Watch-category prescribing and reinforcement of Access-first empirical protocols. Furthermore, this data-driven surveillance translates scientific methodology into measurable clinical impact. This initiative strengthens the stewardship legacy of the profession in the ongoing fight against antimicrobial resistance.

Keywords: antimicrobial consumption, antimicrobial stewardship, Defined Daily Dose, WHO AWaRe classification

PSGH 32

Local Antibiogram Development for Enhanced Diagnosis and Treatment of Urinary Tract Infections: A Case Study from a teaching Hospital in Ghana

Nana Ama Buadiba Osei[1], Daniel Freeman Owusu Ansah[1], Salomey Asaah Denkyira[1], Josephine Mensah[1], Kofi Bedu Tetteh[2], Ronald Andrew Seaton[3,4], Amanj Kurdi[5,6,7,8], George Boateng Kyei[1]

[1]*University of Ghana Medical Centre, Legon, Greater Accra, Ghana*
[2] *The Trust Hospital Company Limited 2*
[3] *Queen Elizabeth University Hospital, NHS Greater Glasgow*
[4] *Clyde & Scottish Antimicrobial Prescribing Group, Healthcare Improvement Scotland*
[5] *Strathclyde Institute of Pharmacy & Biomedical Sciences, University of Strathclyde, Glasgow, Scotland, UK*
[6] *Department of Pharmacology and Toxicology, College of Pharmacy, Hawler Medical University, Erbil, Iraq*
[7] *College of Pharmacy, Al-Kitab University, Kirkuk, Iraq*
[8] *School of Pharmacy, Sefako Makgatho Health Sciences University, Pretoria, South Africa*

Background: An estimated 150 million urinary tract infections (UTIs) occur worldwide each year. Understanding local pathogen susceptibility ensures effective treatment and better patient outcomes. In Ghana, rising antibiotic resistance worsened by limited diagnostics and antibiotic misuse has caused treatment failures, higher costs, and severe complications such as urosepsis.

Aim: This study aimed to describe the prevalence and susceptibility patterns of uropathogens among patients attending the University of Ghana Medical Centre (UGMC) to establish an antibiogram for UTI management.

Methods: This retrospective observational study assessed all urine culture samples collected at UGMC between 1st January and 31st December 2023. Culture results, antimicrobial susceptibility data, and patient demographics (age and sex) were extracted from electronic medical records. Data were analyzed using descriptive statistics to determine demographic variables and susceptibility percentages, calculated using the number of isolates with a valid result per organism–antibiotic pair. Multidrug resistance was defined as resistance to at least one antibiotic in three or more antibiotic classes.

Results: Of 3,426 samples analyzed, 19.3% (n=663) showed significant uropathogen growth ($\geq 10^5$ CFU/mL), with higher prevalence in women (72.4%, n=480/663) and individuals aged 20–39 years (34.5%, n=229/663). Twenty-one bacterial isolates were identified, with Escherichia coli the most prevalent (56.41%, n=374). Other significant organisms included Klebsiella spp. (10.71%, n=71) and Pseudomonas spp. (6.03%, n=40). Susceptibility testing showed poor activity of commonly used antibiotics against Gram-negative isolates, particularly ciprofloxacin, with low susceptibility for E. coli (41.9%) and Pseudomonas aeruginosa (59%). High multidrug resistance was observed, with 455 isolates (68.6%) non-susceptible to at least one agent in three or more antimicrobial categories.

Conclusion: This study offers baseline data for UGMC, supporting effective treatment strategies and urgent antimicrobial stewardship in UTI management.

Keywords: UTI, Antibiogram

PSGH 33

Prevalence of Prostate Cancer and Management Outcomes at Tamale Teaching Hospital: A 5-Year Analysis

Baba Sulemana Mohammed, Joseph Annan, Matthew Aidoo

University for Development Studies, Tamale UDS Dungu campus, Tamale, Ghana

Background: Sub-Saharan Africa faces a high prostate cancer (PCa) mortality, yet northern Ghana lacks comprehensive data regarding clinical outcomes and survival expectations.

Aim: This study aimed to assess the prevalence and management outcomes for PCa patients at Tamale Teaching Hospital (TTH).

Methods: A hospital-based retrospective cross-sectional design was employed to evaluate 127 men histologically diagnosed with PCa between January, 2021, and September, 2025. Data were analyzed using Kaplan-Meier survival estimates, log-rank tests, and multivariable regression models to identify determinants of mortality and favorable discharge.

Results: Between these years, an average volume of ~25 new PCa cases per year was identified. The study population is primarily older, with a mean age of 71.58 years (SD = 11.23), and the overall favorable treatment outcome was 85%. Surgical management was identified as the most significant factor for treatment success; patients undergoing surgery demonstrated a 93% favorable outcome rate compared to 75% for those managed non-surgically (p = 0.005). Median overall survival was 0.95 months (0.00-1.58 months), and surgical intervention provided a significant survival advantage (p= 0.025). Non-surgical management carried 4.40 times higher odds of an unfavorable outcome (95% CI 1.476 – 13.112, p = 0.005). A critical gap of 17% exists between prescribed and dispensed medications, with no inpatient fulfillment for LHRH agonists.

Conclusion: Surgical management is the primary determinant of acute survival in this resource-constrained setting. National policies must prioritize strengthening oncological supply chains and promoting cost-effective surgical interventions, such as bilateral orchidectomy, to mitigate the "pharmacy gap" and improve regional fatality-to-incidence ratios.

Keywords: Prostate Cancer, Survival Predictors, Northern Ghana, Therapeutic Gaps, Surgical Management

PSGH 34

Adolescent Mental Health: Prevalence of Clinical Depression and Help-Seeking Behaviour Among Christian Youth

Irene Afriyie Boafo[1], Audrey Nkansah Ansong[2], Jennifer Boatemaa Kyei[3]

[1] *Two-F Pharmacy, 115 Melcom Road, Kumasi, Ghana*
[2] *Presbyterian Hospital, Agogo High Street, Asante Akyem Agogo, Ghana*
[3] *University of Ghana Medical Centre, P.O. Box LG 25 Legon, Accra, Ghana*

Background: Adolescent depression is an escalating public health concern with well-documented consequences for physical, social and academic functioning. Despite this, empirical data on depression within faith-based adolescent populations remains limited.

Aim: The study examined the prevalence of Clinical Depression and associated help-seeking behaviour among Junior Youth of Mt. of Olives Presbyterian Church (aged 12 to 18 years).

Methods: This study adopted a convergent mixed-method research design with the quantitative data collected via the Patient Health Questionnaire for Adolescents (PHQ-A; N=70). Ethical approval for the study was obtained through permission from the leadership of the Junior Youth and church, while informed assent was secured from all participating minors and appropriate helpline information was also provided for participants who experienced any emotional discomfort.

Results: The study results indicated a high prevalence of depressive symptoms: 75.7% (n=53) reported feeling depressed or sad most days over the past year and 15.9% (n=11) met the PHQ-A criteria for depression. Female respondents reported substantially higher depression scores than their male counterparts. 18.6% (n=13) reported having serious thoughts about ending their life within the past month which underscores the urgency of early identification. Despite the high symptomatic prevalence, participants also showed a generally moderately positive orientation toward help-seeking which expresses a willingness to consult mental health professionals.

Conclusion: These findings extend the discourse on adolescent mental health to a religious minority context, demonstrating that depressive symptomatology is prevalent even within structured faith communities. The results highlight a critical gap between symptom burden and treatment-seeking, with implications for early screening, mental health literacy programming, and the integration of psychological support within faith-based youth ministries.

Keywords: adolescent depression, Christian adolescents, clinical depression, help-seeking behaviour

PSGH 35

Quality Assessment of Different Flavours of a Ghanaian Branded Fruit Juice

Kwame Omari-Anim Danful[1,2], Raphael Johnson[1]

[1] *Kwame Nkrumah University of Science and Technology, Kumasi, Ghana /*
[2] *University of Ghana School of Pharmacy*

Background: The fruit juice processing industry has experienced significant growth in recent years due to changing consumer preferences, increased health consciousness, and evolving dietary habits. Fruit juices are among the most consumed beverages in Ghana, with over 100 brands available on the market. This study assessed the quality of a Ghanaian branded fruit juice.

Aim: To determine the quality of different flavours of a Ghanaian branded fruit juice.

Methods: A laboratory-based cross-sectional study was conducted to evaluate commercially available branded fruit juices purchased from the Kumasi City Mall, Ghana. Three samples each of seven fruit juice flavours (multifruit, pineapple, orange, fruit mix, ananas-coconut, orange-ananas, and apple) were analysed, giving a total of 21 samples. Organoleptic and physicochemical parameters, including total dissolved solids (TDS), electrical conductivity, turbidity, refractive index, pH, and Brix, were determined using standard analytical procedures. Vitamin C and benzoic acid contents were quantified using validated titrimetric methods. All analyses were performed in triplicate and compared with relevant quality standards.

Results: Vitamin C concentrations in the sampled fruit juices exceeded the values declared on the product labels. Benzoic acid was detected in all samples at concentrations within acceptable regulatory limits despite the products being labelled "No Preservative." Turbidity, electrical conductivity, and TDS were within the recommended limits, with TDS values below 1000 mg/L. However, the pH values of the fruit juice samples were outside the recommended range of 2.0–4.5.

Conclusion: The sampled fruit juice met most physicochemical quality specifications; however, discrepancies were observed between laboratory findings and product label claims. Benzoic acid was detected despite the "No Preservative" declaration, while vitamin C levels exceeded the labelled values. These findings highlight the need for the Ghana Food and Drugs Authority to verify label claims and strengthen regulatory surveillance to ensure accurate product labelling and protect consumers.

Keywords: food additives, fruit juices, preservatives, quality assessment, regulatory compliance

PSGH 36

Vaccination Services by Community Pharmacists in Ghana: Assessing Knowledge, Readiness, and Perceived Facilitators and Barriers to Service Provision

Eugene Afreku Boafo, Lydia Owusu-Osafo, Augustina Koduah, Irene A. Kretchy

Department of Pharmacy Practice and Clinical Pharmacy, University of Ghana, Legon, Accra, Ghana

Background: Ghana has invested in training pharmacists as vaccinators and engaging them during the COVID-19 vaccination response, yet pharmacy-based vaccination services have not transitioned into routine community practice. Identifying community pharmacists' knowledge, readiness, barriers and facilitators is critical to informing national scale-up of pharmacist-delivered vaccination services.

Aim: To assess community pharmacists' knowledge, readiness, perceived barriers and facilitators to providing vaccination services, and factors associated with readiness in Ghana.

Methods: A cross-sectional survey was conducted among 388 community pharmacists during the 2024 Pharmaceutical Society of Ghana Annual General Meeting. A structured, validated questionnaire assessed vaccination knowledge, readiness, perceived barriers and facilitators. Descriptive statistics and binary logistic regression were used to identify factors associated with readiness.

Results: Overall, 98.2% of pharmacists demonstrated high vaccination knowledge, while 68.8% reported high readiness to provide vaccination services. Knowledge gaps remained regarding adult vaccination recommendations, with 37.4% unaware that annual vaccination is recommended for adults in contact with high-risk individuals. Major perceived barriers included inadequate vaccination training (88.9%), patient safety concerns (73.7%), increased workload (53.8%), and cold-chain and vaccine handling requirements (54.9%). Key facilitators included pharmacist certification (98.2%), support from medical and nursing associations (94.9%), remuneration (97.1%), continuous professional development, and strengthened interprofessional collaboration. Pharmacists working in independent community pharmacies were more likely to report readiness than those in chain pharmacies (adjusted odds ratio [aOR]=2.40, 95% CI:1.45–3.98; p=0.001).

Conclusion: Although community pharmacists demonstrated high knowledge and readiness to deliver vaccination services, implementation is likely to depend on addressing system-level barriers, including training, infrastructure, remuneration and interprofessional support.

Keywords: Community pharmacy, Ghana, Pharmacists, Readiness, Vaccination services